

SPLH 660: Research methods in Speech-Language-Hearing

Spring 2018

Class Meetings: Tuesdays and Thursdays 8:00 AM to 9:15; Dole 2094

Class Instructor: Steve Warren, Ph.D.; sfwarren@ku.edu; 785-864-0632

Office hours: By appointment...or see me right after class.

Contact Policy: I will make every attempt to respond to your email messages within 24 hours Monday-Friday. If I do not respond within 24 hours, feel free to re-send your message. I get a large number of emails every day and sometimes a message will get lost. I generally do **not** check my email on weekends.

I will occasionally send reminder announcements. All information related to the class will typically be available via Blackboard. I will note upcoming deadlines in class.

Graduate Teaching Assistant Shadi Pir Hosseinloo, (shadi@ku.edu)

Pre-/Co-requisites: English 102 and 9 credits of SPLH coursework

Course Description:

This course is about the methods used to conduct, describe and evaluate science in the context of communication disorders. The field of speech pathology and audiology is built upon a foundation of science and objectivity. Current practices are based on previous research that has addressed questions such as:

- Is someone's communication difference a disorder or just a difference that should be considered within normal variation?
- What types of interventions have been proven to benefit individuals with various types of communication disorders?
- How much improvement should I expect with a given treatment?
- Who is likely to respond to a specific type of treatment?
- Which treatment is best for a particular type of disorder?
- Is there an association between certain illnesses or disorders and communication disorders?
- These and other questions and issues form the foundation of this class.

This class should help you develop a more sophisticated and analytical approach to the field. It should also help you to further develop your critical thinking skills.

Cell Phone and Laptop Computer Policy: There may be activities in class that require use of smart phones/cell phones or a computer application. For example, there may be some in-class time devoted to literature searches that will require use of computer search engines. Outside of these activities, **please do not text, check Facebook or shop during class because these activities are very distracting to myself and other students.** In addition, **these activities are**

negatively correlated with class performance. Taking verbatim notes on your computer has been shown by several research studies to be significantly less effective in terms of understanding and retaining critical information provided in class compared to making notes in longhand.

The emphasis of this class is on how research can lead to more effective clinical services. Goals for this class include:

1. How to evaluate research, including: a) identifying components of a research study; b) evaluating how well researchers planned and conducted research; c) determining if the reported effects are significant and meaningful; d) determining if research results should guide clinical practice and/or future research.
2. How to read, summarize and describe research in a particular area, including: a) how to find research for a literature review; b) how to summarize research for a literature review; c) how to share/describe research with patients, parents, insurance companies, and other stakeholders.
3. How to plan a research study to address a specific problem in communication disorders including: a) formulating a specific, testable hypothesis; b) how to design a study to minimize threats to external and internal validity; c) how to describe methods in sufficient detail to facilitate replication; d) how to determine the reliability of the methods used and the data collected; e) how to communicate results in a clear concise manner.

Course Materials:

Patten, M. (2009). Understanding Research Methods. Pyczak Publishing, Glendale, CA. The page numbers in the syllabus correspond to the 9th edition, but there is little variation between editions so you can use edition 8, 9, or 10, just match up the topics (italicized page numbers correspond to the 8th edition).

Offit, P. 2008). Autism's False Prophets: Bad Science, Risky Medicine, and the Search for a Cure. Columbia University Press, New York.

On-line Resources:

1. Blackboard course website at <http://courseware.ku.edu>
2. Readings, quizzes and additional and resources will be posted on Blackboard
3. Writing assignments will be entered to the Peerceptiv website: peerceptiv.com
Course name in Peerceptiv is: **SPLH 660S18**
The **class code** that you will need to log in is "slow4. **There is a one-time estimated charge of \$6.00- for accessing Peerceptiv so please have your credit cards available when you log in.**

Answers to Frequently Asked Questions by Students is available at the website:
Further instruction on using Peerceptiv will be forthcoming

Course Content: The following calendar represents the planned course of events, but we may need to shift some dates as the course progresses. Any changes will be posted on BB and announced in class and by email. The regular text corresponds to the 9th edition of Understanding Research Methods and the *italicized* text corresponds to the 9th edition.

Date		Topic	Readings	Assignment- note quizzes are to be completed before class
January 16 th (class 1- week 1)		Course introduction	None	Complete interests and pre-course knowledge surveys IN CLASS
January 18th (class 2- week 1)		The Scientific method and the importance of research	Patten pp. 1-10 <i>pp. 1-10</i> BB reading by Silverman	Quiz 1 in Blackboard
January 23 th (class 3- week 2)		Variables in experimental and non-experimental studies	Patten pp. 11-14 <i>pp. 11-14</i> BB reading: "How to Read a Research Article" <i>Choose 1 of the articles in BB Course documents and complete the worksheet on the article before class</i>	Quiz 2 - Variables Complete BB worksheet before class
January 25th(class 4-week 2)		Research hypotheses	Patten pp.15-18 <i>pp.15-18</i>	Quiz 3 - Hypotheses
January 30 st (class 5-week 3)		Operational Definitions	Patten pp. 17-18 <i>pp. 17-18</i>	Quiz 4 – Operational Definitions
February 1 st nd (class 6- week 3) *last day to drop without a "W" is February 5th		Reviewing research -finding <i>good</i> articles	Patten pp. 31-35 <i>pp. 31-35</i>	Quiz 5 – Reviewing Research Class meets in Clark Instruction Center, 340 Watson Library at 8:00.
February 6 th (class 7- week 4)		Writing literature reviews	Patten pp. 35-42, 175-178 185-188 (organizing a lit review)	Quiz 6th – Writing a research review. Also submit you Research Topic at the start of class
February 8th (class 8- week 4)		<i>In class discussion of Autism's False Prophets</i>		No quiz today; In class discussion of AFP "xi-p. 82. Complete discussion

				questions and turn in at the start of class
February 13th ^d (class 9 – week 5)		Survey Research	BB reading: Blessing (2013). Survey Research BB reading: Blood, et al., (2010). Written language disorders	Quiz 7 – Surveys
February 15 th (class 10 – week 5)		Qualitative Research	Patten pp. 19-22 <i>pp. 19-22</i> Quantitative vs. qualitative research; BB reading: Yorkston (2001). Communication in context	Quiz 8 - Qualitative Research Writing Project Part 1 due on Feb 15 by midnight to Peerceptiv
February 20st (class 11 – week 6)		Ethical considerations in research Peer reviewing	Patten pp. 25-26 <i>pp. 25-26</i> www.peerceptiv.com Go to help, then Be a good reviewer, also see the video on peer reviewing BB: Ethics video; HSCL tutorial info available under Course Documents	Quiz 9 - Ethics
February 22rd (class 12- week 6)		Sampling characteristics; Sampling demographics and sample size	Patten pp. 55-64- sampling <i>pp. 45-54</i> Patten pp. 65-68 <i>pp. 55-58</i>	Quiz 10 Sampling
Feb 27th (class 13 – week 7)		Validity	Patten pp. 71- 81 <i>pp. 61-67</i> BB reading: Lincoln et al., Social validity	Quiz 11 - Validity Peer Reviews of writing project part 1 due to Peerceptiv by MIDNIGHT.
March 1st(class 14 – week 7)		Reliability and Review for Mid-Term	Patten pp. 83-90 <i>pp. 73-80</i> BB reading: Sigafoos, et al. 2003	Quiz 12- Reliability
March 6th (class 15 – week 8)		AFP discussion #2	Autism's False Prophets pages 83-155	In class discussion of Autism's False Prophets pages 83-155; turn in complete study questions at start of class
March 8th th (class 16 – week 8)		Midterm exam in class		Back Reviews due to Peerceptiv by Midnight March 8th
March 13th (class 17 – week 9)		Single Subject Designs-1	BB reading: Cardon & Azuma (2011)	Review mid-term results;

March 15 th (class 18 – week 9)		Single Subject Designs-2	BB reading: Koegel & Koegel (1986); Kern et al (2005) Sample figure graphs	Quiz 13 – Single Subject Design;
March 19-23		SPRING BREAK	SPRING BREAK	SPRING BREAK
March 27 th (class 19 – week 10)		Facilitated Communication and Revising your writing	In class video and discussion	;
March 29 th (class 20 – week 10)		I Group Experimental designs/threats to external and internal validity	Patten pp. 99-104 <i>pp. 89-94</i>	Quiz 14 – Experimental Designs
April 3 rd (class 21 – week 11);		Understanding statistics & null hypotheses; scales fo measurement; Chi square tests and distributions	Patten pp. 101-104; 111-114 pp 115-120 <i>pp. 105-110</i> Patten pp 121-126 <i>pp. 111-116</i>	Quiz 15 –Understanding Statistics AND Quiz 16 Chi Square

April 5 th (class 22 – week 11)	Measures of association (Pearson r) Correlations	Patten pp. pp. 133-135 pp. 123-125 BB reading Tomblin et al 2003	Quiz 17 Correlations. Writing Assignment #2 Parts 1 & 2 due to Peerceptiv by 11:00 pm
April 10 th (class 23 week 12)	Autism False Prophet FINAL Discussion	AFP pp. 156-247	Turn in final AFP Discussion Questions in BB
April 12 th (class 24 - week 12) *last day to withdraw is April 17th	No CLASS	Use this time to work on your Research Proposal	;
April 17 th (class 25 – week 13)	T-tests and ANOVAs	Patten pp. 135-140; pp. 125-130 BB reading – BASTIAN et al 2014	Quiz 18 – T-tests and ANOVA;
April 19 st (class 26 – week 13)	ANOVA Experiment in CLASS		- ANOVA In-class experiment *Reviews of Writing assignment parts 1 & 2 due by Midnight.*

April 24 th (class 27 – week 14)	Practical significance and effect size Building an evidence base in SPLH	Patten pp. 141-150 <i>pp. 131-140</i> BB reading: Nippold BB reading by Meline & Paradiso (2003) BB reading by Sapir et al. (2007)	Quiz 19 – Bias/Significance/Validity *Back reviews due to Peerceptiv by Midnight. In-class project on evaluating assessments and treatments
April 26 th (class 28 – week 14)	Meta analyses	Patten pp. 151-156 <i>pp. 141-146</i> BB: Sample group project .	Quiz 20 – Meta-analysis In-class group project on evaluating assessments and treatments
May 1(class 29 – week 15)	Evaluating research in speech path and audiology/ Review for Final	Gillam, S. and Gillam, R. (2006). Making evidence-based decisions about child language intervention in schools. Available in BB.	Quiz 21 – Evidence Based Decisions In-class group project on evaluating assessments and treatments * Revised Final project write up due as an “assignment on Blackboard by midnight
May 3 th (class 30 – week 15) ; final class meeting	Present group projects;		Present results from group project on evaluating assessments and treatments
May 11 th 7:30 to 10:00 AM	Final Exam	Final Exam	Final Exam

Graded Assignments:

Quizzes. There will be **21 short quizzes** available on Blackboard. The quizzes will be available and **must be completed before the class meeting on the day that they are due.** For example, the quiz for January 18th must be completed prior to 7:00 a.m. on January 18th. .t will be available to you on Blackboard no later than 5:00 PM a.m. on January 16th. **However, the quizzes will generally be made available well ahead of the day before they are due so that you can work ahead on the readings if you wish.** Doing the quizzes will help ensure that each student is familiar with the topics before class. You will have up to ONE hour to take each quiz. **Quizzes are cumulatively worth 12% of your final grade.** Each individual quiz has relatively low impact on your final grade.

Note: Do NOT do quizzes together with other students in the class. This is a form of cheating.

Midterm Exam: The midterm will be done in class. The midterm will test your ability to apply the material to actual research questions, with emphases on communication disorders. Sample questions will be provided in class before the midterm. The questions will be primarily objective with some short answers. The midterm will be worth **15% of your final grade.**

Final exam: The final exam will be held on **Friday, May 11th between 7:30 a.m. and 10:00 a.m.** It will be similar to the midterm but will assess the cumulative information taught in this course. The final exam will be worth **18% your final grade.**

Make up exams: A make-up exam may only be given if the student contacts the professor prior to the exam. The student must provide written proof (e.g., a doctor's note) stating that there was a medical emergency that prevented completing the exam on the assigned date.

Written project (3 parts):

Writing Assignment Part 1: Literature review—A brief review of literature relevant to your topic area. Double-spaced with 11 or 12-point font, and one-inch margins at the top, bottom, left and right of the page. Review 4 – 6 articles or more if you wish. You will very likely have to skim through many articles to find 4 - 6 articles that work for your topic. The goal is to integrate information from these articles into a summary with one or two main points. Examples are provided in Appendix B of Patten. Additional examples and grading criteria will be provided in class. The last paragraph of your literature review must propose a research question or hypothesis that logically flows from your review. References should be typed using APA style guide, available at <http://www.writing.ku.edu/~writing/guides/apa.shtml>. The suggested length for part 1 of the writing assignment is 3 - 4 double-spaced pages. Use 11 or 12- point font, and one-inch margins at top, bottom, left and right.

You will submit your paper to the Peerceptiv website (more info to follow). **It is critical to submit papers on time. Late papers will not be accepted or graded.** All the papers will be peer-reviewed anonymously.

Peer reviews: You will review 3 papers submitted by your fellow students. Your reviews will consist of numerical ratings, as well as written comments on what the strengths and weaknesses are for each paper, including how the author might improve his or her paper. You will be graded on the quality of your reviews in two ways. First, the consistency of the numerical ratings that you assign will be graded. For example, if you give ratings that are all too high or all too low, or if you do not seem to be able to tell the difference between good papers and poor papers, then you may get a low review grade. Second, you will be graded on how helpful your written comments are to the authors. This will be through a process of “**back reviews**”. You will each have a chance to inform your peer reviewers as to how helpful you found their reviews through the back review process. **Reviews must be completed by the due date.** There is a 1-day grace period for emergencies, but reviews submitted during the grace period receive a 5% reduction. Reviews will not be accepted after the grace period.

Your grade for the first part of the writing assignment is made up of the score you are given for the draft of the paper you write **plus** your reviewing grade **and** your back reviews **minus** any points deducted for being late. **This combined grade is worth 12% your total grade in the course.**

2) Writing Assignment Part 2: Literature review plus methods (participants, instrumentation, procedure, reliability measurement plan, and data analysis). You will revise part 1 of your writing assignment based on peer reviewer's feedback and add a Methods section describing the participants, instrumentation, procedures and data analysis (design) to address the research question/treatment proposal that you created at the end of your literature

review (writing assignment part 1). Sufficient detail must be provided so that someone could implement the methods you describe. Your fellow students (peer reviewers) will be judging how well they could carry out the methods you describe. The suggested length for Part 2 is 2 - 4 double-spaced pages.

Peer reviews: You will review papers from 3 fellow students as you did for Part 1. The same grading criteria will be used in this round of peer reviews along with new criteria specific to the Methods section.

Your grade for the second part of the writing assignment is made up of the score you are given for the draft of the paper you write based on peer reviews **plus** your reviewing grade **and** your back reviews **minus** any points deducted for being late. This combined grade is worth 12% your total grade in the course.

3) Revised Final Paper that contains both the literature review and the methods and is responsive to peer reviews. The total length of your paper will likely be 10-12 pages including a title page and references. After receiving feedback from the peer reviewers, you will have an opportunity to make additional revisions, and turn a final copy of your paper in to Dr. Warren via Blackboard. A grading rubric for the final paper is available on Blackboard. **Dr. Warren's grade of your final paper is worth 12% of your total grade in the course.**

A warning about plagiarism: Plagiarism involves any copying of text from a source without proper citation/attribution. All papers will be reviewed for plagiarism using an internet application known as "Safe Assign". It is a very powerful tool! If plagiarism is detected **you will receive a score of 0 on the assignment and may be cited for academic misconduct according to the University's code of academic misconduct**:http://www.writing.ku.edu/instructors/guides/academic_misconduct.shtml. Three students violated this policy last semester and suffered the consequences. We will go over what counts as plagiarism in class to assure that there is no confusion about what is and is not plagiarism.

Class Discussion: Discussion guides will be provided to students before each discussion session of Autism's False Prophets. Participation points will be provided to students that complete these guides, bring them to class and participate in discussions. **4** points per session or **12** points total are available. Discussion points are worth 12% final grade.

In-class presentation of group projects on evaluating assessments and interventions:

During the last 2 weeks of class you will work on a project to use the material we have discussed in class to select an assessment instrument or course of intervention to address an assigned problem. You will need to justify the selection based on research. You will summarize your findings in a 1-page information sheet. References will be provided on a second page. Your group will also present your findings in a 5-10-minute group presentation to the class. A grading rubric will be provided and **your paper and presentation is worth 7% final grade**

Extra Credit Opportunities:

Three classes during the semester will be devoted to the discussion of Autism False Prophets. During these classes, student will be divided into FIVE groups. Discussion will focus some predetermined questions as well as topics identified by students. Each of the three groups will be "facilitated" by student volunteers. Thus, there will be 15 opportunities for students to serve as a volunteer discussant. Each discussant will be awarded 5 quiz grade points for playing this

role. If we have more than 15 student volunteers for this positions, we will randomly selected 15 students from this pool.

There will be some opportunities to earn extra credit for in-class assignments and/or for attending selected lectures outside of class. These will be announced at various times during the semester.

Attendance:

Class attendance will be taken for each class session. Class lectures and in-class activities are an important source of content. Class attendance data will be kept. **Student who attend at least 90% of the classes will earn EXTRA credit equivalent to a perfect score on one quizzes.** These points will be added to your overall class grade.

Grading Summary:

Quizzes	12%
Midterm exam	15%
Final Exam	18%
Writing project part 1	12%
Writing project part 2	12%
Writing project part 3	12%
Class Discussion	12%
In-class group presentation	7%
Total	100%

A plus/minus grading system is used based on the % total points earned in the course. At the end of the course, I will weigh the points for quizzes, midterm, final, discussion and each part of the paper as described above and add these weighted scores. The following scale will be used to determine a final grade:

Letter grade percentage range:

Grade	Percentage Points
A	93.50 and above
A–	90.00–93.49
B+	86.50–89.99
B	83.50–86.49
B–	80.00–83.49
C+	76.50–79.99
C	73.50–76.49
C–	70.00–73.49
D+	66.50–69.99
D	63.50–66.49
D–	60.00–63.49
F	59.99 and below

Accommodations

"The Academic Achievement and Access Center (AAAC) coordinates academic accommodations and services for all eligible KU students with disabilities. If you have a disability for which you wish to request accommodations and have not contacted the AAAC, please do so as soon as possible. They are located in 22 Strong Hall and can be reached at 785-864-4064 (V/TTY). Information about their services can be found at <http://www.disability.ku.edu>. Please contact me privately in regard to your needs in this course."

If a scheduled exam, lab exercise, or quiz is in conflict with a mandated religious observance, you must notify the instructor in writing (e-mail is acceptable) within one week of receiving this syllabus so that an alternative arrangement can be made in advance of the scheduled requirement.

Pursuant to the University of Kansas' [Policy on Commercial Note-Taking Ventures](#), commercial note taking is not permitted in *SPLH 660*. Lecture notes and course materials may be taken for personal use, for the purpose of mastering the course material, and may not be sold to any person or entity in any form. Any student engaged in or contributing to the commercial exchange of notes or course materials will be subject to discipline, including academic misconduct charges, in accordance with University policy. **Please note:** note-taking provided by a student volunteer for a student with a disability, as a reasonable accommodation under the ADA, is **not the same** as commercial note-taking and is **not** covered under this policy.