

THE UNIVERSITY OF WESTERN ONTARIO
School of Communication Sciences and Disorders

CSD 9639 – Evidence Based Practice for Clinicians

1.0 COURSE INFORMATION

Instructor: Dr. Lisa Archibald
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Office Hour: Wednesdays, 11:30 to 12:30, or *by appointment*
Dates and Times: Wednesdays, 9am to noon

2.0 TEXTBOOK (OPTIONAL)

Dollaghan, C. (2007). The handbook of evidence-based practice in communication disorders. Baltimore: Paul H. Brookes Publishing Co.

Recommended:

Domholdt, E. (2005). Rehabilitation research: Principles and Applications, 3rd ed. St. Louis: Elsevier Saunders.

Greenlagh, T. (2006). *The basics of evidence-based medicine*, 3rd ed. Oxford: Blackwell Publishing.

3.0 COURSE OBJECTIVES

Goal of the course: Evidence-based practice is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual clients. The goal of CSD 9639 is to instill in students a career-long desire to seek out high-quality relevant evidence pertinent to clinical questions. To do this effectively, clinicians must be knowledgeable of the variety of sources of information, and have the skill to evaluate the quality of available information. The purpose of this course is to provide students with the foundational skills necessary for the integration of research evidence and critical thinking into practice.

Objectives

- (1) The skills to formulate answerable clinical questions, and search for relevant sources of information,
- (2) The skills to critically appraise published research,
- (3) An understanding of the importance and role of research evidence in the clinical reasoning process,
- (4) A basic understanding of how to conduct clinically relevant and feasible research.

4.0 COURSE FORMAT

The course has both online and classroom based delivery of information. Participation in both the online and classroom components is necessary to provide an overview of the principles and methods of evidence-based practice, which you will then apply to specific topics in CSD9649.

5.0 EVALUATION

In this course, your evaluation will be based on your participation in the online and lecture-based components of the course, as well as on the culmination of your project developed in conjunction with CSD9649. Due dates and course weightings are as follows:

Participation in Lectures/WebCT quizzes	10%	<i>by March 1st</i>
Assignments		
Conference Proceedings – Final Paper	40%	<i>April 1st</i>
Poster Presentation	50%	<i>April 10th</i>

6.0 POLICIES

Attendance

Attendance and participation in all aspects of the course is an expectation of the course. It is understood that there may be exceptional circumstances that require the student to miss a course lecture. The Instructor should be informed if an unanticipated situation arises that would require the absence of several students or one student to be absent for more than one lecture. Students are responsible for material covered in the course during their absence.

Cheating and Academic Misconduct

Students are responsible for understanding the nature of, and avoiding the occurrence of, plagiarism and other academic offenses. Students are urged to read the section on Scholastic Offenses in the Academic Calendar. Note that such offenses include plagiarism, cheating on an examination, submitting false or fraudulent assignments or credentials, impersonating a candidate, or submitting for credit in any course, without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course in the University or elsewhere. In writing scholarly papers, students must keep firmly in mind the need to avoid plagiarism. Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate, and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offense Policy in the current Academic Calendar). The University of Western Ontario uses software for plagiarism checking. Students may be required to submit their written work in electronic form for plagiarism checking. The penalties for a student guilty of a scholastic offense include refusal of a passing grade in the assignment, refusal of a passing grade in the course, suspension from the University, and expulsion from the University.

Appealing Academic Evaluations

In the first instance, all appeals of a grade must be made to the course instructor (informal consultation). If the student is not satisfied with the decision of the course instructor, a written appeal must be sent to the Program Director. If the response of the department is considered unsatisfactory to the student, he/she may then appeal to the Dean of the Faculty in which the course of program was

taken. Only after receiving a final decision from the Dean, may a student appeal to the Senate Review Board Academic. A Guide to Appeals is available from the Ombudsperson's Office.

Rules of Conduct in the Classroom

Students are expected to maintain the same high standards of conduct and moral judgment in the classroom as will be expected when they become Speech-Language Pathologists/Audiologists. Therefore, they are asked to comply with the following reasonable expectations for classroom conduct:

1. Students and the instructor will behave in a manner that is welcoming, supportive, and respectful of cultural and individual differences at all times.
2. Students are expected to participate in the course by asking questions and contributing comments during lectures.
3. *Conduct that could distract fellow students or the instructor during a lecture must be avoided.* This includes but is not limited to talking when others are speaking, passing notes, sleeping, and overt inattention.
4. Please arrive on time for class. If you are unavoidably late, please enter quietly and take the nearest seat.
5. Cell phones, MP3 players, and PDAs are to be turned off during class. Receiving and sending text messages should not be undertaken during the lecture.
6. Computers may be used solely for course purposes, e.g., taking notes. Students must not browse the web, use email or engage in instant messaging during class.

TENTATIVE LECTURE SCHEDULE

Date/Format	Topic (CSD9639 shown in bold)	Readings	WebCT Quiz
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① Jan. 9 Self-study Feb. 27 *See notes under topic	What is evidence-based practice? Formulating answerable questions	Text: Doll, ch. 1, 2 Other: Hamilton (2005); ASHA 2005	Quiz 1: Formulating answerable clinical questions
Jan. 16 Mixed: In class from 9:30am	9:30-11:00am – Optional data analysis evaluation session (please bring your articles) Introduction to 9639 and 9649 Finding the evidence (9639) 11:00am – CSD9649 meetings Topic searches (9649)	View 2 youtube videos linked to webct. Text: Doll, ch. 3	
		Other: Johnson (2006); Villeneuve & Maranda (2005)	
② Jan. 23 In-class 9:30am-noon	Research design	Text: Doll, ch. 4 Other: Robey & Dalebout (1998); Cohen (1992)	Quiz 2: Identifying research designs
Jan. 30 *See notes under topic	10:00-11:00am – Optional in-class session on ‘looking at the data’ (equivalent online materials are available) 11:00am – CSD9649 meetings	Other: Streiner (1997)	
③ Feb. 6 In-class 9:30am-noon	Tests of difference	Text: Doll, ch. 5 Other: Greenhalgh (1997c) Discussion paper: Crosson et al. (2007)	Quiz 3: Tests of Difference
④ Feb. 13 In-class 9:30am-noon	Tests of association Small clinical trials; single subject designs	Other: Backman et al. (1997); Greenhalgh, 1997d; Nourbakhsh & Ottenbacher (1994) Discussion paper: Wong et al. (2005); Hayward & Schneider (2000); Palmer et al. (1999); Skarakis-Doyle, 2000	Quiz 4: Tests of Association & Others
Feb. 20	Reading Week – NO MEETING		

Mar. 6 In-class 9:30-11am (11am – CSD9649)	Critical appraisal I: Evidence from assessment, treatment, systematic reviews, & guidelines 11:00am – CSD9649 meetings	Text: Doll, ch. 6,7,8 Other: Bain & Dollaghan (1991)	
Mar. 13 In-class 9:30-11am (11am – CSD9649)	Critical appraisal II: Evidence from qualitative research, surveys, & patients / practice Expert opinion Applying evidence-based practice in clinical practice Proceedings and posters 11:00am – CSD9649 meetings	Text: Doll, ch. 10; Greenhalgh, ch. 13; Other: Reilly (2004); Gillam & Gillam (2006); Kitson et al. (1998)	
Mar. 20/27/ Apr.2	CSD9649 meetings continue		
Apr. 10	Poster Day! 10am to 1pm		

CSD 9639 – Evidence Based Practice for Clinicians

Course Assignments

Participation in Lectures/WebCT quizzes	10%	<i>by March 1st</i>
Assignments		
Conference Proceedings – Final Paper	40%	<i>March 27th</i>
Poster Presentation	50%	<i>April 10th</i>

Participation 1: Lectures/WebCT quizzes

Participation in the online and lecture portions of the course will be based on (1) attendance/participation in lectures, and (2) participation in webCT quizzes. Two participation marks will be awarded for completing each of the **online quizzes** with a grade of at least 80%. Up to 2 additional marks will be awarded for classroom participation.

WebCT quizzes

These multiple choice quizzes are available from noon on the day of the corresponding lecture. Students may repeat the quiz as many times as they choose. The quiz is graded immediately upon completion. Students must complete all four quizzes.

Quiz 1: Formulating answerable clinical question	avail. Jan. 9, noon
Quiz 2: Identifying research designs	avail. Jan. 13, noon
Quiz 3: Tests of difference	avail. Feb. 6, noon
Quiz 4: Tests of association & others	avail. Feb. 13, noon

Conference Proceedings – Final Paper

The purpose of the conference proceedings is to acquaint you with the process of writing a short synopsis of results (4-5 pages in length, including references) – suitable for submission as a brief report to clinical journals. To assist you in formatting your submission, you will find an electronic template, and electronic copies of past years proceedings on webCT.

The conference proceedings will include the following sections, at minimum: Abstract, Introduction, Methods, Results, Recommendations, and References. Conference proceedings are made available the department website after the course.

Final conference proceedings must be handed in via webct.

The key competencies for both the final paper are:

- I have written a summary of the literature that describes my chosen topic area and research question, and accurately reflects the published knowledge base on the topic.
- My writing style is accurate and professional, and follows APA recommendations for both style and format.

An additional key competency for the final document is:

- I have integrated constructive feedback from my working group facilitator, and the other members of my working group, resulting in an improvement in the quality of the final document.

Poster Presentation

The purpose of the poster presentation is to acquaint you with the process of creating a poster presentation suitable for submission to professional conferences. You will be required to “present” your poster to your evaluators, during which time you will be required to answer questions about your

topic, the results reviewed, and your conclusions. To assist you in formatting your poster, you will find an electronic template, and an electronic copy of posters from previous years on webCT.

The key competencies for this component are:

- I have prepared a poster summarizing my project for public presentation. This poster adequately reflects the key literature, methodology, question, and findings of my project.
- I have presented the basis and findings of my project in a public research forum, and interacted with members of my future profession, students, and/or faculty in a scholarly manner.

MARKING SCHEME
Conference Proceedings – Final

1. Writing style (i.e., organization, grammar, spelling) /20
Notes:

2. Student has properly evaluated the methodology of each article. /20
Notes:

3. Student has properly evaluated the statistical treatment of data within each article. /20
Notes:

4. Student is able to clearly identify the purpose of each article, gauge the extent to which the paper supports its stated hypotheses, and relate it to his/her overall research question. /20
Notes:

5. Student makes a clear statement regarding the level of evidence provided by each article. /10
Notes:

6. Student presents a clear recommendation (i.e., a statement that goes beyond “more work needs to be done”). /10
Notes:

MARKING SCHEME
Poster Presentation

1. Student makes appropriate use of available poster space. /10

2. Student answers questions related to the critically appraised topic in a knowledgeable way. /10

3. Student provides a clinically-relevant rationale for the topic /10
Notes:

4. Student has properly evaluated the methodology of included articles. /20
Notes:

5. Student has properly evaluated the statistical treatment of data within included articles. /20
Notes:

6. Student provides a clear summary of the extent to which the reviewed articles address the question, and the confidence in the evidence accumulated. /20
Notes:

7. Student provides a clinically-relevant recommendation supported by the evaluation of the literature. /10
Notes:

References

ASHA position statement on Evidence-Based Practice in Communication Disorders. 2005.

Backman, C.L., Harris, S.R., Chisholm, J.M., & Monette, A.D. (1997). Single-subject research in rehabilitation: A review of studies using AB, withdrawal, multiple baseline, and alternating treatments designs. *Archives of Physical Medicine and Rehabilitation*, 78, 1145-1153.

Bain, B.A., & Dollaghan, C.A. (1991). Treatment efficacy: the notion of clinically significant change. *Language, Speech, and Hearing Services in Schools*, 22, 264-270.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155-159.

Crosson, B., Fabrizio, K.S., Singletary, F., Cato, M.A., Wierenga, C.E., Parkinson, R.B. (2007). Treatment of naming in nonfluent aphasia through manipulation of intention and attention: A phase 1 comparison of two novel treatments. *Journal of the International Neuropsychological Society*, 13, 582-594.

Culp, D. M., Ambrosi, D. M., & Berninger, T. M. (1986). Augmentative communication aid use: A follow-up study. *Augmentative & Alternative Communication*, 2, 19-24

Dollaghan, C. (2004). Evidence-based practice in communication disorders: what do we know, and when do we know it? *Journal of Communication Disorders*, 37, 391-400.

Gillam, S.L., & Gillam, R.B. (2006). Making evidence-based decisions about child language intervention in schools. *Language, Speech, and Hearing Services in Schools*, 37, 304-315.

Hamilton, J. (2005). The answerable question and a hierarchy of evidence. *Journal of the American Academy of Child and Adolescent Psychiatry*, 44, 596-600.

Hayward, D., & Schneider, P. (2005). Effectiveness of teaching story grammar knowledge to pre-school children with language impairment. An exploratory study. *Child Language Teaching and Therapy*, 16, 255-284.

Johnson, C.J. (2006). Getting started in evidence-based practice for childhood speech-language disorders. *American Journal of Speech-Language Pathology*, 15, 20-35.

Jones, M., Onslow, M., Packman, A., Williams, S., Ormond, T., Schwarz, I., & Gebiski, V. (2005). Randomised controlled trial of the Lidcombe programme of early stuttering intervention. *British Medical Journal*, 331, 659-664.

Kitson, A., Harvey, G., & McCormack, B. (1998). Enabling the implementation of evidence based practice: a conceptual framework. *Quality in Health Care*, 7, 149-158.

Nourbakhsh, M.R., & Ottenbacher, K.J. (1994). The statistical analysis of single-subject data: A comparative examination. *Physical Therapy, 74*, 768-776.

Palmer, C.V., Adams, S.W., Bourgeois, M., Durrant, & Rossi, M. (1999). Reduction in caregiver-identified problem behaviors in patients with Alzheimer Disease post-hearing-aid fitting. *Journal of Speech, Language, and Hearing Research, 42*, 312-328.

Reilly, S. (2004). The challenges in making speech pathology practice evidence based. *Advances in Speech-Language Pathology, 6*(2), 113-124.

Robey, R.R., & Dalebout, S.D. (1998). A tutorial on conducting meta-analyses of clinical outcome research. *Journal of Speech, Language, and Hearing Research, 41*, 1227-1241.

Skarakis-Doyle, E., Miller, L.T., & Reichheld, M. (2000). Construct validity as a foundation of evidence-based practice: The case of the preschool language assessment instrument. *Journal of Speech-Language Pathology and Audiology, 24*, 180-191.

Streiner, D.L. (1997). Speaking graphically: An introduction to some newer graphing techniques. *Canadian Journal of Psychiatry, 42*, 388-394.

Villeneuve, M., Maranda, S. (2005). Preparing entry-level practitioners for evidence-based practice. *Journal of the Canadian Health Libraries Association, 26*, 13 - 21.

Wong, V., Au-Yeunge, Y.T., & Law, P. (2005). Correlation of Functional Independence Measure for Children (WeeFIM) with developmental language tests in children with developmental delay. *Journal of Child Neurology, 20*, 613-616.

Internet resources

Centre for Evidence Based Medicine, Oxford University
www.cebm.net

Centre for Evidence-Based Medicine, University of Toronto
www.cebm.utoronto.ca

Mark Ebell's (Dept. of Family Practice, Michigan State University) tutorials on EBP
http://libraries.umdj.edu/toolkits/Evidence-Based_Medicine/EduRes.html

Cochran Library Gateway, National Electronic Library for Health ('reliable and up-to-date information on the effects of interventions in health care')
<http://www.cochrane.uottawa.ca/>

The Campbell Collaboration ('aims to help people make well-informed decisions about the effect of intervention in the social, behavioural, and educational arenas')
www.campbellcollaboration.org/

Evidence-Based Review of Stroke Rehabilitation, University of Western Ontario

www.ebrsr.com

Users' guides to evidence-based practice
<http://www.cche.net/usersguides/main.asp>

How to make a poster using power point
<http://faculty.washington.edu/robinet/poster.html>

SpeechBite (Best Intervention and Treatment Efficacy across the scope of SLP)
<http://www.speechbite.com/>

The NSW Speech Pathology Evidence Based Practice
(See this site for examples of critically appraised papers and topics)
http://www.ciap.health.nsw.gov.au/specialties/ebp_sp_path/caps.html

Occupational Therapy Critically Appraised Topics
<http://www.otcats.com/index.html>

Physiotherapy Evidence Database
<http://www.pedro.org.au/>

Note:

These papers are available also, and are early versions of some of the chapters in the Greenhalgh text.

Greenhalgh, T. (1997). How to read a paper: Getting your bearings (deciding what the paper is about). *British Medical Journal*, 315, 243-246.

Greenhalgh, T. (1997). How to read a paper: Assessing the methodological quality of published papers. *British Medical Journal*, 315, 305-308.

Greenhalgh, T. (1997). How to read a paper: Statistics for the non-statistician. I: Different types of data need different statistical tests. *British Medical Journal*, 315, 364-366.

Greenhalgh, T. (1997). How to read a paper: Statistics for the non-statistician. II: "Significant" relations and their pitfalls. *British Medical Journal*, 315, 422-425.

Greenhalgh, T. (1997). How to read a paper: Papers that report diagnostic or screening tests. *British Medical Journal*, 315, 540-543.

Greenhalgh, T. (1997). How to read a paper: Papers that summarise other papers (systematic reviews and meta-analyses). *British Medical Journal*, 315, 672-675.

Greenhalgh, T. (1997). How to read a paper: Papers that go beyond numbers (qualitative research). *British Medical Journal*, 315, 740-743.

