

2/24/2017

Medical Sciences M620: Pedagogical Methods in the Health Sciences
Spring 2017

Instructor: Dr. Valerie O'Loughlin
Professor of Anatomy
Jordan Hall 010A
812-855-7723
vdean@indiana.edu

Class day/time: Fridays, 9 am - noon
Jordan Hall 102
Credit hours: 3

Office Hours: T 10-11:30 or by appointment

Course Description: This course is for biomedical sciences graduate students who want to be excellent instructors and classroom researchers. Students will learn about pedagogical methods, student learning styles and methods of instructional delivery. Students also will learn about the scholarship of teaching and develop a foundation for implementing classroom research and assessment.

Learning Goals and Course Outcomes: Students in this course will achieve the following learning goals and course outcomes:

- ❖ Define the concept of metacognition and explain how an individual develops metacognitive skill
- ❖ Construct a clear and thorough syllabus and choose appropriate course readings
- ❖ Compare and contrast novice versus expert learners
- ❖ Explain how learning may be contextualized and may be affected by misconceptions
- ❖ Compare and contrast different instructional methods, such as lecture format, discussion, team-based and problem-based learning, etc, and determine which methods may be most beneficial in a course.
- ❖ Learn the basics of classroom research and the assessment techniques used in such research.
- ❖ Define FERPA and explain how FERPA affects how an instructor handles student grade records
- ❖ Describe what Human Subjects approval (from an Institutional Review Board) is needed for performing classroom research
- ❖ Describe and evaluate the Scholarship of Teaching and classroom research literature that is most related to the issues the participant wants to explore
- ❖ Evaluate educational research studies regarding their research design and assessment methods
- ❖ Prepare a statement of teaching philosophy that may be used for future academic job interviews
- ❖ Synthesize your evaluation of your teaching by preparing a course or teaching portfolio that documents assessment, reflection and analysis of one's teaching

Learning Platform: We will be using Canvas to access all readings and submit all assignments. The Canvas site is: [SP17-BL-MSCI-M620-30845](#) .

Reading Assignments: In addition to the journal articles listed in the syllabus (and found on the website), the following text is required:

1. McKeachie, W.J. (2014) Teaching tips: strategies, research and theory for college and university teachers. 14th edition. Boston, MA: Houghton Mifflin Company (*older editions are fine to use*)

Recommended texts include:

2. Angelo, TA and Cross, KP (1993) Classroom Assessment Techniques; San Francisco, CA: Jossey Bass Publishers.
3. National Research Council. (2001) How People Learn: Brain, Mind, Experience and School, Washington, D.C.: National Academy Press (entire book is online at: <http://www.nap.edu/openbook.php?isbn=0309070368>)
4. Gurung, RAR and Schwartz, BM (2009) Optimizing teaching and learning: Practicing Pedagogical Research. Malden, MA: Wiley-Blackwell Publishing.

Course Requirements and Assessment: Students will be graded based on the successful and timely completion of the following items:

1. Participation – is based on the following: (30% of grade)
 - a. Class attendance
 - b. Active participant in discussions
 - c. Peer analysis for microteaching sessions
 - d. Presentation of one microteaching session
 - e. Peer review of course syllabus, teaching statement, and teaching portfolio
 - f. Completion of a beginning-of- semester and end-of-semester survey about your thoughts on teaching and learning
2. Two (2) teaching observations of two health sciences instructors of your choice (10% of grade)
 - a. Students must request participation to sit in on each class, and fill out a personal analysis for each observation (template for analysis to be distributed during M620)
3. Preparation of a sample course syllabus and description (15%)
 - a. This course must be a NEW course that you would hope to teach in the future. You must construct the syllabus, determine the appropriate assignments, and choose appropriate readings.
4. Preparation of a teaching philosophy statement (20%)
5. Teaching Portfolio (25% of grade)

Students are encouraged to seek assistance from CITL (Center for Innovative Teaching and Learning) and the instructors about developing a basic teaching portfolio for a course they've already taught. See: <http://www.indiana.edu/~teaching/> for contact information and <http://citl.indiana.edu/consultations/portfolios/index.php> for specific information about portfolios

2/24/2017

M620: Pedagogical Methods in the Health Sciences

Date	Topic(s)	Readings (<i>do prior to class</i>)	Assignments (<i>due the following week</i>)
Jan 13 (week 1)	INTRODUCTION Reviewing syllabi Profiles of the Typical Undergraduate Diversity in the Student Body Instructional Observation Directions What makes a good instructor? What makes a good course? Beginning-of-semester Teaching/Learning Survey Video: Testing Bias (http://www.theonion.com/video/in-the-know-are-tests-biased-against-students-who,17966/)	Godfrey: Training the Trainers Leonni: Fish is Fish How People Learn, Ch 1 McKeachie, Ch 1 Zhu: Laptops in the Classroom Feldon: Grad student teachers-better researchers	Write title and think about “fantasy course” (to be used throughout semester)

Block 1: STUDENT LEARNING AND METACOGNITION

Jan 20 (week 2)	Expert vs. Novice Learner Personal Learning Assessments Perry’s scheme of Intellectual Development Metacognition Microteaching Instructions	How People Learn, Ch 2 and 3 McKeachie, Ch 2 Ross, the Expert Mind (for reference only) Perry Table 1.1, Intro, Glossary	Prepare Microteaching Session http://www.vark-learn.com/english/page.asp?p=questionnaire Take VARK test, print out your results Prepare list of student stumbling blocks
Jan 27 (week 3)	Learning Styles – theory or myth? Theory of Multiple Intelligences Students Pet Theories & Naïve Misconceptions in the Health Sciences Motivation and Motivational Theories * Microteaching presentations	Fleming: VARK Savion: Pet Theories Learning Styles: the debate Pashler et al: Learning styles: Concepts & Evidence McKeachie, Chs 11 & 20	Revisit stumbling blocks list, write up ways to help students with these blocks

Block 2: TEACHING STYLES AND DELIVERY

Feb 3 (week 4)	Lecture Format: Pros and Cons How to deliver an effective Lecture PowerPoint Dos and Don’ts Use of Discussion in the Classroom Discussing emotionally charged subjects * Microteaching presentations	McKeachie Chs 5, 6, 17 Cantillion: Teaching Large Groups Buchholz: 12 commandments for Ppt Huston and DiPietro: In the Eye of the Storm Pace: Controlled Fission	Write up 1 st instructor observation. (use form on web)
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Video: Powerpoint <http://www.youtube.com/watch?v=KbSPPFYxx3o>

2/24/2017

Date	Topic(s)	Readings (<i>do prior to class</i>)	Assignments (<i>due the following week</i>)
Feb 10 (week 5)	Instructor-Student Interactions Dealing with student complaints and problems How to Draft a good recommendation letter Teaching Culturally Diverse Students, and creating An inclusive classroom Teaching philosophy statement <u>Presentation by Katie Kearns, CITL</u> : (1.5 hrs) How to write an effective Statement of Teaching Philosophy * Microteaching presentations *1st teacher observation write-up due!	McKeachie Chs. 10, 12, 13 Adams: Dead Grandmother synd. Coppola: teaching philosophy Novak: Just in Time Teaching	Do a short Myers-Briggs analysis (bring results to class next week) https://www.16personalities.com/
Feb 17 (week 6)	Collaborative Learning, Active Learning And other alternatives to Lecture Problem Based Learning (PBL) Team Based Learning (TBL) Concept Mapping Flipped Classrooms – pros and cons Myers-Briggs analysis - discussion & how it may be used to form student groups * Microteaching presentations	McKeachie Chs 14, 18, 19 Daley & Torre: Concept Mapping Cantillion/Wood: Prob Based Learning Michaelsen: Team Based learning defined Parmelee: 12 Tips for TBL CITL website: class flipping: https://citl.indiana.edu/teaching-resources/teaching-strategies/flipping-class/ Michaelsen: Using Learning Groups Effectively	
Block 3: COURSE CONSTRUCTION AND MECHANICS			
Feb 24 (week 7)	Bloom’s and Anderson’s taxonomy Assessment of Students Formative vs. summative assessment How to write a good multiple choice exam (10:30 am) <u>Presentation by Jo Ann Vogt,</u> <u>CITL and Writing Tutorial Services:</u> Developing Effective Grading Rubrics and how to develop good science writing (1.5 hr) * Microteaching presentations	McKeachie Chs. 7, 8, 9, 16 Anderson & Bloom: Taxonomy for Learning Andrade: Teaching with Rubrics Gopen & Swan (skim): The Science of Scientific Writing <i>(for reference only): Haladyna:</i> <i>Multiple Choice Guidelines</i> <i>(for Reference only): NBME 2016</i> <i>Guide for writing MCQs</i>	Write up 2 nd instructor observation (use form on web) Develop a couple of sample multiple choice questions that use lower and higher ends of Bloom’s taxonomy

2/24/2017

Date	Topic(s)	Readings (<i>do prior to class</i>)	Assignments (<i>due the following week</i>)
Mar 3 (week 8)	How to prepare a good syllabus How to select appropriate readings Bloom and Anderson (continued) Discussion of sample multiple choice exam questions Evaluating & selecting texts/readings for a course Mid-semester evaluation of M620 (10 am) <u>Presentation by Lisa Kurz, CITL</u> : Syllabus construction, Writing Course Goals and Course Objectives (1.5 hrs) * Microteaching presentations * 2nd instructor observation write-up due!	McKeachie Chs. 3, 4, 21 Crowe & Wenderoth: Implementing Bloom's taxonomy in biology Thompson & O'Loughlin: Blooming Anatomy Tool (BAT)	Prepare statement of teaching philosophy
Mar 10 (week 9)	Classroom web page basics Online learning (incl. flipped classrooms) Course portfolio vs. Teaching Portfolio <u>Presentation by Katie Kearns, CITL</u> : What is a teaching portfolio? (1.5 hr) Evaluations of your teaching *Teaching philosophy statement due! *peer reviews of teaching philosophy statements	McKeachie: Chs 23 Hamdan: Flipped Learning Jensen – flipped classroom Hutchings: Course Portfolio Lewis: Effective online teaching	Prepare Course Syllabus
Mar 17 (week 10)	SPRING BREAK!		While lounging on the beach, send your instructor a postcard
March 24 (week 11)	Formative vs. Summative forms of Assessment Classroom Assessment Techniques Validity vs. Reliability Determining reliability of Exams and Assessing Teaching Evaluations Pros/Cons of Using Student Evaluations for Teacher Assessment FERPA – what is it and why should I care? *Course Syllabus and description due!	Angelo and Cross, Chs 1 & 3 MacNell: Gender Bias in student evals of Profs	Take the FERPA tutorial AND the Data/Privacy tutorial. Report your scores in Canvas! https://ferpa.iu.edu by 3/31 Begin working on teaching portfolio Download Endnote vers. X8 for FREE http://iuware.iu.edu/Windows/Title/3256

2/24/2017

Block 4: CLASSROOM RESEARCH AND THE SCHOLARSHIP OF TEACHING

Date	Topic(s)	Readings (<i>do prior to class</i>)	Assignments (<i>due the following week</i>)
Mar 31 (week 12)	What is Classroom research? How to review the SOTL and Classroom Research literature <u>Presentation by Brian Winterman, Wells Librarian</u> : How To do an Effective online search for Educational Research articles, and How to use Endnote and/or other electronic citation systems (2 hrs) Peer Review of Course Syllabi	Boyer, Scholarship Reconsidered O’Loughlin, How to SOTL Gurung, Chapter 1 Academic Medicine articles: Good research question Methodology and Design Evaluation Design Data Sources Data Analysis Pitfalls Case Study Research	Prepare draft of Teaching Portfolio
Apr 7 (week 13)	Qualitative vs. Quantitative forms of assessment Basic Statistical Models used in Classroom Research Introduction to Grounded Theory and other common forms of qualitative assessment * ROUGH DRAFT of Teaching Portfolio due! *Peer reviews of teaching portfolios	O’Loughlin, JECT article Dobson – Retrieval in A&P Kennedy & Linaard – Grounded Theory Academic Medicine articles: Qualitative Methods Sampling Issues w Quantitative Research questions for Qualitative studies Presenting Data in tables & figures	*Review literature, bring in and CRITIQUE classroom research article – email class the abstract http://researchcompliance.iu.edu/eo/eo_citi.html *Take the Human Subjects Research Course and post your score/results in Canvas prior to class next week (this test will take a while – plan on spending an afternoon to complete!)
Apr 14 (week 14)	Research Ethics Critically evaluating classroom research literature Discussion of classroom research articles & critiques Who funds classroom research and SOTL endeavors? Students as Human Subjects in SOTL research Presentation by <u>Casey Mumaw, IRB</u> : How to draft an IRB proposal for classroom research	Gunsalus – blow the whistle 10 things to know about ethics McKeachie, Chapter 22 Academic Medicine articles: IRB Submission Responsible Conduct of Research Ethics in Research Dissemination Writing the Paper	

2/24/2017

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Apr 21 (week 15)	No Class – EB/AAA meetings		Prepare FINAL version of teaching portfolio
Apr 28 (week 16)	What have you learned? What makes a good teacher? How to market yourself as a scholar of teaching in the Academia job market Preparing ‘job letters’ for teaching positions <u>Jackie Cullison</u> : Consent forms & Classroom research End-of-semester Teaching/Learning Survey *FINAL version of Teaching Portfolio due!	Smith: Teaching job interview Gruppen: Ed fellow themes Academic Medicine articles: Promoting your publication	