George Mason University

College of Education and Human Development

EDRS 531 Educational and Psychological Testing Fall 2013

Instructor: Anthony E. Kelly, Ph.D.

Class Date & Time: Thursdays, 4:30 – 7:10 PM in Thompson 2020

Office Hours: 2:00-4:00 W, 2:00-4:00 TH, and by appointment (contact by email preferred)

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COURSE DESCRIPTION

Emphasizes techniques and principles used in the construction, administration, and quantification of measuring devices for evaluation purposes. Discusses interpretation of standardized tests of ability, aptitude, achievement, interest, and personality.

REQUIRED TEXTS

Educational Assessment of Students, by Anthony J. Nitko and Susan M. Brookhart.

Psychological Testing and Assessment (6th), by Ronald Cohen and Mark Swerdlik.

Other readings as assigned.

NATURE OF COURSE DELIVERY

The course is structured around readings, reflections on those readings, class projects, activities, and papers. This course will be taught using lectures, blended sessions, discussions, and relevant group activities.

STUDENT OUTCOMES

Attainment of the overall goal will be demonstrated by students providing evidence of the

ability to:

  • apply the principles of educational measurement to relevant problems in

  testing

  • understand basic technical characteristics of standardized tests

  • interpret technical information presented in standardized test manuals

• interpret standardized test results

• evaluate published standardized tests and assessment instruments;

• knowledge of current professional practices and issues related to educational measurement and assessment;

• apply sound principles of measurement and assessment in multicultural

These learning objectives correspond to the competency standards advanced by three major educational organizations, namely, the National Council on Measurement in Education (NCME), American Federation of Teachers (AFT), and the National Education Association (NEA). In *Standards for Teacher Competence in Educational Assessment of Students* (1990)*, these professional associations asserted that educators should be skilled in:

• *Choosing* assessment methods appropriate for instructional decisions.

• *Developing* assessment methods appropriate for instructional decisions.

• *Administering,* scoring and interpreting the results of both externally- produced and teacher-produced assessment methods.

• *Using* assessment results when making decisions about individual students, planning teaching, developing curriculum, and school improvement.

• *Developing* valid pupil grading procedures which use pupil assessments.

• *Communicating* assessment results to students, parents, other lay audiences, and other educators.

• *Recognizing* unethical, illegal, and otherwise inappropriate assessment methods and uses of assessment information

In addition NCME's Code of *Professional Responsibilities in Educational Measurement* (NCME, 1999) as well as *Standards for Educational and Psychological Testing* (AERA, 1999) serve as lenses through which each topic will be viewed and understood.

RELATIONSHIP TO PROGRAM GOALS AND PROFESSIONAL ORGANIZATION

The program goals are consistent with the following Learner-centered psychological

principles (APA Division 15) outlined by the American Psychological Association Presidential Task Force in Education.

• Principle 1: The Nature of Learning Process

• Principle 2: Goals of the Learning Process

• Principle 3: Construction of Knowledge

• Principle 4: Strategic Thinking

• Principle 5: Thinking about Thinking

• Principle 6: Context of Learning

• Principle 10: Developmental Influences on Learning

• Principle 11: Social Influences on Learning

• Principle 12: Individual Differences on Learning

• Principle 13: Learning and Diversity

American Psychological Association (1997). Learner-Centered Psychological

Principles*: Guidelines for the Teaching of Educational Psychology in Teacher Education Programs*.

Action Research (25%) – individual

This requirement involves inquiry-based learning that requires students to investigate current issues and practices in standardized testing in a professional area.

Review of Standardized Tests (20%) – individual

Students are required to review two (2) standardized instruments (10 points each) --- one cognitive test and one personality instrument (affective traits such as interest, adjustment, etc.). Evaluation templates will be discussed in class.

Midterm Exam (20%). A midterm exam will be given, see course activities. Multiple choice and short answer format items. **– individual**

Individual or Paired Project (25%): Scale Creation

Step 1: Select one psychological construct (e.g. self-esteem, job satisfaction, depression) to study
If possible, define sub-constructs. Be sure to write down your conceptual definition in explicit terms. In other words, be very precise.
Step 2: Identify and review at least 3 studies that addressed your construct.
How did the researchers conceptually define your construct?
How did the researchers operationally define your construct?

Step 3. Create sample items. Using Nitko as a guide, create one multiple choice item, one true/false item, one essay item, one performance item to measure the construct. Which are the most useful for your construct, and why?

Step 4: Pilot study of 10 items to measure your construct.

Develop at least 10 items to measure your construct using a Likert scale.

Consider how you will establish validity and reliability of your scale.

Administer your items to at least 10 individuals.

Examine the descriptive statistics and Cronbach's alpha and any reliability or validity information.

Step 5: Revise your items and complete your scale considering the analysis of your pilot data.

Administer your scale to at least 25 people.

Analyze the data and provide measures of central tendency and variability as well as evidence of reliability and validity

Step 6. Final Report:

Write a final report covering your interpretation of the process and results. More detailed guidelines will be provided later in the semester.

Course participation: **10%**

Guidelines to Action Research Reports

Topic: *Researching Testing Practices in Your Professional Area*

Please advise your respondent that: (a) this activity is part of your curricular activities in this course; (b) participation is wholly voluntary and its goal is to advance your understanding of the material covered in the lectures; (c) that the respondent can choose to not answer any particular questions or to terminate the exercise at any time explanation or justification and without any penalty; (d) that no identifying information (apart from the general job description, e.g., "school counselor," "private psychologist" will be included in your write-up); and (e) that no remuneration or payment will be offered. After your materials are graded for the course, please erase or delete any records of the interview.

1. Interview someone in your profession who is involved in standardized testing. Examples include individuals working in a personnel office who administer qualification tests to applicants; counselors who give test to gain insight into their clients' needs and interests; teachers who administer Standards of Learning Tests (SOLs) to comply with district and state standards-based requirements, and so forth.

2. The focus of the interview should be: a. generally speaking, what role do the instrument(s) play in your work? (Example: *They provide concrete information that hopefully reduces the errors we could make in our hiring practices."*)

b. What are the specific purpose(s) in the instrument(s)? (Example, *"The XYZ test is given to identify if the applicant's typing speed is sufficient to qualify for the*

position.")

c. What are the strengths and limitations of the currently used assessments?

d. What recommendations would you make for future assessments if such impediments as time and expenses did not exist?

e. Additional feedback that emerges from the interview.

3. Summarize your findings in a narrative report. The narrative should include a description of how the individual was "recruited" for the interview and the setting. Also briefly describe the interview process (e.g., the use in audio taping, telephone interview, etc.).

For the write up of the action research, please organize the report using the questions you asked. Under each question, please give the person's response.
To save time, you do not need to transcribe a verbatim response.
It is acceptable to listen to what they say, then paraphrase their responses.
At the end of this Q&A, please give a one-page summary of what you learned from interviewing someone who uses tests and test analysis in their daily work.

Class activities. Supplementary learning/reading assignments may be assigned during class periods. Please plan to attend each class session. Active class participation is required. Please be sure the instructor has your email address for communication purposes.

Letter grades will be assigned as follows:

A+ 98-100% A 93-97.49% A- 90-92.49%

B+ 88-89.49% B 83-87.49% B- 80-82.49%

C 70-79.49% F below 70%

Note:

• All written assignments must be typed and must follow APA format

• Grading on written work will take into account the following factors: quality of written work, knowledge of content area, and adherence to requirements of assignment. As a graduate student, it is expected that all of your work will be turned in on the assigned dates. A late assignment is subject to a penalty of 10% of the award for every day that it is overdue. Please inform the instructor about exigent circumstances.

Assessment Rubric for Test Manual

Use a format appropriate for the type of test [e.g., commercial, non-commercial; unpublished]; see class lectures.

	Excellent	**Adequate /Poor**
Template	Applied comprehensively (5)	Missing central elements (1-4)
Interpretation beyond standard test description categories (e.g., application in your setting; validity issues; use in special populations, etc.)	Insightful and thoughtful critique or application (5)	Little or no interpretation or thought about application or validity issues (1-4)

Course Activities

Week 1 Aug 29	Introduction to the Course Testing involves perspectives: Six thinking hats http://members.optusnet.com.au/charles57/ Creative/Techniques/sixhats.htm Central concepts of testing Expectations Basic Assumptions About Psychological Measurement and Testing & Essential Qualities of a Good Test C&S, Chapters 4-6	Be aware, throughout, of the code of fair testing practices (Nitko & Brookhart, Appendix B, C) Review of Taxonomies (Appendix D, Nitko); Principles of Test Development C&S, Chapter 7. http://www.apa.org/science/programs/testing/fair-testing.pdf http://www.apa.org/science/programs/testing/rights.aspx
Week 2 Sept 5	1st hour: Guest: Session on findings tests - Anne Driscoll, CEHD and Library Finding and evaluating tests, see Nitko Chapter 18; C& S Chapter 1 http://www.apa.org/science/programs/testing/find-tests.aspx http://buros.unl.edu/buros/jsp/search.jsp Commentary: Overview of Validity What does it mean for a test to be **valid**? Nitko, Chapter 3. Cohen & Swerdlik (C&S), Chapter 6 Cohen & Swerdlik (C&S), Chapters 1-2 Principles of Test Development C&S, Chapter 7.	Scale creation exercises: What do you plan to measure? Targets of assessment: Nitko Chapter 2 Find 3 peer-reviewed articles that describe your construct. How do you deal with ideas of validity in your search?

Week 3 Sept 12	What does it mean for a test to be **reliable**? With application to your assessment? Nitko, Chapter 4 Review of Basic Statistical Concepts Required for Understanding and Interpreting Standardized Tests 　　　C&S, Chapter 3, & pp 114-125 Nitko & Brookhart Appendix I, Chapter 17	Scale creation How do you define the construct? How would you know if someone had learned the construct? What evidence would convince you? Written? Oral? Performance? Portfolio? Other? Apply ideas about reliability to your developing measure.
Week 4 Sept 19	Review reliability and validity as necessary	Using Nitko as a guide, create one multiple choice item, one true/false item, one essay item, one performance item to measure the construct. Which are the most useful for your construct, and why?
Week 5 Sept 26	Review C&S Chapters 3-6 Understanding Standardized Cognitive Tests : Intelligence 　　　Related Readings: 　　　　　　C&S, Chapters 8-9 Nitko & Brookhart Appendix D	Construct Likert-type items for your construct.
Week 6 Oct 3	Understanding Standardized Cognitive Tests : Intelligence 　　　Related Readings: 　　　　　　C&S, Chapters 8-9 Nitko & Brookhart Appendix D	Neuropsychology http://www.apa.org/science/leadership/tests/minority-neuro-biblio.pdf
Week 7 Oct 10	Conduct action research off site. Work on standardized test reviews.	Blended course; **no face-to-face meeting**. See Blackboard discussions

Week 8 Oct 17	Understanding Standardized Cognitive Tests Achievement tests C&S, Chapter 10; Appendix D (Key Math Technical Excerpt) Nitko on Metacognition, Appendix F Understanding Standardized Cognitive Tests : Intelligence	Work on standardized test reviews.
Week 9 Oct 24	Midterm Exam – no class meeting	**No face-to-face meeting.**
Week 10 Oct 31	Personality Assessment C&S, Chapters 11-12 Nitko & Brookhart Chapter 19	How will you evaluate and grade student progress? Nitko, Chapter 15
Week 11 Nov 7	Clinical and Counseling Assessment: C&S, Chapter 13	Issues in clinical assessment
Week 12 Nov 14	High stakes testing and principles http://www.aera.net/policyandprograms/?id=378 http://www.apa.org/pubinfo/testing.html also www.ctb.com click on	Practical and ethical considerations Validity
Week 13 Nov 21	The Assessment of People with Disabilities: C&S, Chapter 15; select populations, http://www.apa.org/science/programs/testing/minority-dis-biblio.pdf http://www.apa.org/science/leadership/tests/minority-biblio.pdf	Online; no class meeting http://research.gmu.edu/docs/RCR.pdf Ethical training (Certificate due next week)
Week 14 Nov 28	Thanksgiving Week	

	Assessment, Careers, and Business C&S, Chapter 16	**Action Research Report due today**
Week 15 Dec 5	Nitko & Brookhart Chapter 19 Integrating assessment and instruction Nitko, Chapters 1 and 6 Professional responsibilities (Nitko, Chapter 6) Nitko, Appendices A-C	**Test Review Reports due today** **Scaling of your test and reports due December 10, via Blackboard**

VI. College of Education and Human Development Statements

a. Students must adhere to the guidelines of the George Mason University Honor Code [See http://oai.gmu.edu/honor-code/]

Please note that:

o "Plagiarism encompasses the following:

1. Presenting as one's own the words, the work, or the opinions of someone else without proper acknowledgment.

2. Borrowing the sequence of ideas, the arrangement of material, or the pattern of thought of someone else without proper acknowledgment."

(from Mason Honor Code)

o Paraphrasing involves taking someone else's ideas and putting them in your own words. When you paraphrase, you need to cite the source.

o When material is copied word for word from a source, it is a direct quotation. You must use quotation marks (or block indent the text) and cite the source.

o Electronic tools (e.g., SafeAssign) may be used to detect plagiarism if necessary.

o Plagiarism and other forms of academic misconduct are treated seriously and may result in disciplinary actions.

b. Students must follow the university policy for Responsible Use of Computing [See http://universitypolicy.gmu.edu/1301gen.html].

c. Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account.

d. The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance [See http://caps.gmu.edu/].

e. Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester [See http://ods.gmu.edu/].

f. Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

g. The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing [See http://writingcenter.gmu.edu/].
For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website [See http://gse.gmu.edu/]

PROFESSIONAL DISPOSITIONS
Students are expected to exhibit professional behaviors and dispositions at all times.

CORE VALUES COMMITMENT
The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles:
http://ceh.dgmu.edu/values/.

For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website http://gse.gmu.edu/.