

EDRS 531 Educational and [001] Psychological Measurement

George Mason University, Graduate School of Education

Dr. Dimiter Dimitrov

SPRING 2010

Class Meeting: M [4:30-7:10 PM], Robinson Hall, A350

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Catalog Description: EDRS 531 Educational and Psychological Measurements (3:3:0). 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.

This course is designed to facilitate students acquiring the fundamental measurement concepts, principles, theories, used in psychological and educational testing. Current models for test construction and the evaluation of standardized and standards-based tests will be examined

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 settings

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

Course Methodology: This course consists of lectures, large group discussion, in class activities, and individual/group assignments.

Required Texts:

Cohen, R. J. & Swerklik, M. E. (2009). *Psychological testing and assessment* (7th ed.). NY: McGraw-Hill.

Other Web-based Resources:

GMU Blackboard Learning System. Requires enrollment by the instructor. Access at: <http://blackboard.gmu.edu/?bbatt=Y>

Educational Testing Service. Retrieved January 21, 2007 at:

<http://www.ets.org/portal/site/ets/menuitem.3a88fea28f42ada7c6ce5a10c3921509/?vgnnextoid=85b65784623f4010VgnVCM1000022f95190RCRD>

(Includes a directory of tests with descriptions)

Illinois State Board of Education. ISAT 7th Grade Science Sample Test. Retrieved January 21, 2007 at: <http://testpilot.isbe.net/ISBE/2003/grade7science/>

(The Illinois State Assessment Test ([ISAT](#)) and the Prairie State Achievement Examination ([PSAE](#)) measure individual student achievement and show how well students and schools are performing relative to the [Illinois Learning Standards](#). The tests measure student progress in meeting the Illinois Learning Standards. The tests are given at specific times in a student's educational career, however they are not grade specific. The test results identify areas of strength and weakness for students and schools. The information helps educators and parents assist students to meet the Standards.)

Illinois State Board of Education. Assessment Division. Retrieved at: January 19, 2006 at:

<http://www.isbe.state.il.us/assessment/default.htm>

NCME Ad Hoc Committee on the Development of a Code of Ethics (1995). *Code of Professional Responsibilities in Educational Measurement*. Retrieved January at

http://www.natd.org/Code_of_Professional_Responsibilities.html

Virginia Department of Education. Division of Assessment and Reporting. Retrieved January 19, 2006 at: <http://www.pen.k12.va.us/VDOE/Assessment/home.shtml>

Virginia Department of Education. Standards of learning test blueprints. Retrieved January 19, 2006 at <http://www.pen.k12.va.us/VDOE/Assessment/soltests/>

Virginia Department of Education. (2004). Standards of learning technical report. Retrieved January 19, 2006 at <http://www.pen.k12.va.us/VDOE/Assessment/VA03-04TechnicalReport.pdf>

StatSoft. (2007). An electronic textbook on statistical concepts. Retrieved January 21, 2007 at: <http://www.statsoft.com/textbook/stathome.html>

Test Reviews Online. Retrieved January 19, 2006 at <http://buros.unl.edu/buros/jsp/search.jsp>

(This is a good place to quickly locate a test for subsequent review. It will give you the volume of the Mental Measurements Yearbook that provides a review of the test. It offers the purchase of the review, but students are able to access the reviews online from the Johnson library.)

Course Requirements

Besides active class participation, there are several written assignments and a major project that are part of the course requirements. General guidelines for all written assignments are found in Appendix B. **Specific guidelines for the completion of each requirement will be posted in Blackboard.**

Class Participation and Attendance (10%)

[Assessment rubric provided in Appendix 1]

Action Research (20%)

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%)

Students are required to review two (2) standardized instruments --- one cognitive test and one personality instrument (interest, adjustment, etc.).

Midterm Exam (20%) [Closed Books and Notes]

A selected-response exam will be given covering concepts from the first six topics listed in the *Readings from text* contents (chapters 1-6 from text).

e-Portfolio of Learning Engagement (30%)

The e-Portfolio is a collection of exhibits of (1) completed homework, and (2) a brief summary and reflections on two articles related to testing in education, counseling, psychology, and related fields. All exhibits will be submitted on a CD-RW disk on Final Exam Night. A brief oral presentation of the review/reflective paper will be given on Exam Night.

Grading Policy

Class Participation and Attendance	10 pts.
Action Research	20 pts.
Review of Standardized Tests	20 pts
Midterm Examination	20 pts.
e-Portfolio of Learning Engagement	30 pts.
TOTAL	100 pts

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%		

Honor Code

All evaluations and homework will be taken under the GMU Honor Code. Students are expected to abide by the honor code set forth in the current edition of the Student Handbook. All exams, assignments and papers are honor work. That means that students must not give nor receive any unauthorized assistance. While members of a team may collaborate on written paper assignments, they may not give or receive assistance from other teams. Plagiarism is also a violation of the honor code. The University's Honor Code guidelines for academic honesty are at: <http://mason.gmu.edu/~montecin/plagiarism.htm>

Academic Integrity

GMU is an Honor Code university; please see the University Catalog for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else's work in an aspect of the performance of that task, you will give full credit in the proper, accepted form. Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification.

Office of Disability Services

If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 993-2474. All academic accommodations must be arranged through the ODS. <http://ods.gmu.edu>.

Other Useful Campus Resources:

WRITING CENTER: A114 Robinson Hall; (703) 993-1200; <http://writingcenter.gmu.edu>

UNIVERSITY LIBRARIES “Ask a Librarian” <http://library.gmu.edu/mudge/IM/IMRef.html>

COUNSELING AND PSYCHOLOGICAL SERVICES (CAPS): (703) 993-2380;

<http://caps.gmu.edu>.

University Policies

The University Catalog, <http://catalog.gmu.edu>, is the central resource for university policies affecting student, faculty, and staff conduct in university affairs.

GMU E-mail Accounts

Students must activate their GMU email accounts to receive important University information, including messages related to this class.

	Reading from text	Chapter^a
Jan. 25	Educational and Psychological Testing: An Overview	1, 2
Feb. 1	Scales of measurement and basic statistics	3
Feb. 8	Concepts of classical test theory	BBLS
Feb. 15	Scale Reliability	5, BBLS
Feb. 22	Scale Validity	6, BBLS
March 1	Test norms. Norm-references versus Criterion-referenced Tests	4, BBLS
March 8	Spring Recess	
March 15	Review and preparation for midterm exam	
March 22	Midterm Examination	
March 29	Test development [scaling and test tryout]	8, BBLS
April 5	Test development [item analysis]	8, BBLS
April 12	Test development [test revision]	8, BBLS
April 19	Notes on modern measurement	BBLSD
April 26	Educational, Personality, and Counseling Assessment	11-14
May 3	Presentations of action research findings	
May 10	Presentations of portfolios	

^a Chapters are from the required text (Cohen & Swerdlik)

BBLS: Black Board Learning System

APPENDIX A

RUBRIC FOR PARTICIPATION AND ATTENDANCE

		LEVEL OF PERFORMANCE		
ELEMENT	Distinguished (8-10 pts.)	Proficient (5-7 pts.)	Basic (2-4 pts.)	Unsatisfactory (1 or 0 pts.)
Attendance & Participation	The student attends all classes, is on time, is prepared and follows outlined procedures in case of absence, the student actively participates and supports the members of the learning group and the members of the class.	The student attends all classes, is on time, is prepared and follows outlined procedures in case of absence; the student makes active contributions to the learning group and class.	The student is on time, prepared for class, and participates in group and class discussions. The student attends all classes and if an absence occurs, the procedure outlined in this section of the syllabus is followed.	The student is late for class. Absences are not documented by following the procedures outlined in this section of the syllabus. The student is not prepared for class and does not actively participate in discussions.

APPENDIX B

GENERAL GUIDELINES TO WRITTEN ASSIGNMENTS

All course projects should be typed, double-spaced, and include a cover page. In addition, **the text of the papers should be preceded by an abstract of no more than 250 words** that provides a synopsis of the content, such as purpose, procedures, findings and conclusions. In terms of general style, the format provided in the fourth edition of **Publication Manual of the American Psychological Association** (American Psychological Association, 2002) should be followed..

The features that should be given close attention are:

! Margins ! Headings ! Citations in the Text ! Reference Page

The *cover page* should include the title of the assignment, the standard course requirement statement, your name, date, and institutional affiliation information.

You should make a copy of your projects before submitting it to the instructor. **The instructor will keep the original copy of the major paper, but will provide feedback in terms of a performance rubric.** You are welcomed, of course, to make an appointment to see the instructor concerning the evaluation of the project.

APPENDIX C

Guidelines to Action Research Reports

Confer with me if you wish to substitute a topic of your personal interest.

Topic: *Researching Testing Practices in Your Professional Area*

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.
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.). Attach a copy of the interview "raw data" to the narrative.

Note. An alternative approach to the action research report (e.g., through work involving web-based resources and personal communications with experts in the area) would be considered upon approval from the instructor.