

EDP 560 Educational Testing and Measurement

Tues. 4:10 – 6:55pm, 228 Poe Hall
3 credit hours
Graduate standing requirement
Spring 2015

Instructor Information:

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Required Text:

Reynolds, C.R., Livingston, R. B., & Willson, V. (2008). *Measurement and Assessment in Education (2nd Edition)*. Upper Saddle River, NJ: Pearson.

The logo for LEAD & SERVE features the word "LEAD" in a large, bold, red serif font, with the word "&" in a smaller, black serif font to its right. Below "LEAD" is the word "SERVE" in a large, bold, black serif font. The entire logo is centered above a horizontal line.

LEARN | **EDUCATE** | APPLY | DEMONSTRATE |

| SCHOLARLY | ETHICAL | REFLECTIVE | VALUE DIVERSITY | EXPERIENCED

LEAD and **SERVE** constitute the conceptual framework for all programs for professional educators in the College of Education at NC State. They are the touchstones that assure that our students graduate with the following:

- ❖ **LEAD**: four forms of knowledge; general pedagogy, content-specific pedagogical strategies, content or discipline knowledge as well as knowledge of the content of education, including foundations, historical perspectives and school settings.
- ❖ **SERVE**: elements that show the range of dispositions developed in our candidates; scholarly, ethical, reflective, valuing diversity and experienced in practical application of knowledge.

Course Overview

This course objectives address the following elements of the conceptual framework:

- ❖ **L**: Learn general pedagogy
- ❖ **E**: Educate with content specific strategies for teaching, may include technology
- ❖ **A**: Apply discipline or content specific knowledge
 - Be able to evaluate and write good true-false, multiple choice, matching, fill-in-the-blank, and essay test items

- Be able to produce and interpret measures of central tendency, variability, percentiles and z-scores, variable distributions
- Be able to perform and interpret the results from an item analysis
- Be able to discuss and calculate reliability indices
- Be able to discuss and calculate validity indices
- ❖ **D:** Demonstrate understanding the educational context, i.e., school culture, societal issues
- ❖ **S:** Scholarly knowledge base to guide educational decisions
 - Be able to describe the implications of testing and measurement, such as labeling students
 - Be able to describe the relative advantages and disadvantages of different types of tests/items, such as open vs. closed-ended items, pop quizzes vs. announced quizzes, frequent vs. infrequent testing.
 - Be able to discuss best practices in scoring different types of classroom test items, including strategies for reducing bias in grading.
 - Be able to discuss important considerations in choosing and interpreting the results of different types of standardized tests, including achievement and aptitude tests, intelligence tests, personality inventories, etc.
 - Be able to understand issues associated with high stakes testing and accountability.
- ❖ **E:** Ethical disposition for behaving with respect, integrity, personal responsibility
- ❖ **R:** Reflective and self-evaluative
- ❖ **V:** Value diversity with a sensitivity to cultural, economic, developmental, ethnic, racial, gender, religious and sexual orientation differences
- ❖ **E:** Experienced in practical application of knowledge

Teaching strategies: Class discussions, group work, reflection, case study discussions, electronic communication, inquiry activities, lecture

Major Assignments:

Class Format	
Midterm Exam	100 points
Final Exam	100 points
Test Construction	75 points
Test Critique	75 points
Focus group participation	24 points

Midterm and Final Exam

The midterm and final exam are tentatively scheduled for the dates given on the last page of this handout. Each exam will consist primarily of multiple-choice questions with the possibility of some short answer questions. The final is not comprehensive. If you are absent or late to class the day of a scheduled exam you will not be able to take the exam. If an emergency arises the day of an exam please contact me at my office as soon as possible. For any other conflicts regarding these dates please contact me ahead of time. Exams will be returned and discussed at the beginning of the next class period.

Grading Scale

Letter Grade	% Correct Needed	What this grade means
A+	97 %	Demonstrated the highest level of mastery of concepts, including the ability to apply these concepts to real situations
A	93 %	
A-	90 %	
B+	87 %	Demonstrated mastery and ability to apply at least some of these concepts to real situations
B	83 %	
B-	80 %	
C+	77 %	Demonstrated mastery of basic concepts
C	73 %	
C-	70 %	
D+	67 %	Demonstrated minimal mastery of topics
D	63 %	
D-	60 %	
F	< 60 %	Failed to demonstrate mastery of any topics

Instructional Projects

Test Construction (*See Attached Description*)

Test Critique (*See Attached Description*)

Focus Group Participation

The structure for most of the class periods will involve me leading class for about the first hour and a half and then you working within your groups for the last part of class. You will be placed in a small group at the beginning of the semester and remain in that group for the semester. During this time I will have structured activities for you to complete such as reactions to a video we've watched, reading and responding to a short article or discussing

questions pertaining to the night's topic. Participation will be recorded each night with **12** class periods worth **two** points each counting towards your grade. You will receive full credit each night if you are actively participating on the assigned activity and are present for the entire session. If you miss a focus group for medical reasons you can make it up if you contact me and complete it within the next week.

Class Discussion

I strongly encourage you to participate in classroom discussion and to ask questions when you do not understand something. I hope to encourage a class with a relaxed atmosphere in which all students feel comfortable participating. The class will be more interesting and thought provoking if the whole class is engaged in the discussion. Therefore, it is very important that you read the chapter to be discussed *before* class. Finally, I hope that this class is enjoyable and rewarding for you and useful to your future career. My goal is for you, as a student, to be able to look back at this class and feel as though it made a significant contribution to your professional and personal development. Feel free along the way to bring interesting materials to class to share and do not hesitate to ask me questions concerning the course or educational psychology in general.

IMPORTANT INFORMATION

Students are bound by the academic integrity policy as stated in the code of student conduct. Therefore, students are required to uphold the university pledge of honor and exercise honesty in completing any assignment. See the website for a full explanation:

http://www.ncsu.edu/policies/student_services/student_discipline/POL11.35.1.php

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with Disability Services for Students at 1900 Student Health Center, Campus Box 7509, 515-7653.

http://www.ncsu.edu/provost/offices/affirm_action/dss/ For more information on NC State's policy on working with students with disabilities, please see http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.1.php

The College of Education's Conceptual Framework may be found in its entirety at http://ced.ncsu.edu/about/conceptual_framework.htm

Culminating product of learning (project, portfolio, or thesis)

Test Construction Project

Option 1:

For this project you will select a topic and develop a test that measures **content knowledge or ability** and includes the following:

1. A stated purpose for the test is intended to measure (and target audience and future use of test).
2. A 15-item multiple-choice test: (a) complete directions, (b) test items that are appropriate for the stated purpose being measured, and (c) a scoring key.
3. Your test should be given to at least 15 individuals.
4. You will complete an item analysis based upon your results.
5. Provide the level (based upon Bloom's taxonomy) of each question. You must include questions at a variety of levels of Bloom's taxonomy.
6. Provide a mean score for the test and outcomes for all distracters.
7. A bibliography of books and other source materials used in completing the project.

Option 2:

For this project you will select a topic and develop an **inventory that measures a trait(s), belief(s), or attitude(s)** and includes the following:

1. A stated purpose for the test is intended to measure (and future use of test).
2. A 15-item inventory that includes the following: (a) complete directions, (b) test items that are appropriate for the stated purpose being measured, (c) a Likert response scale with at least 5 points (d) a scoring key.
3. Your inventory should be given to at least 15 individuals.
4. You must indicate what items fall under each facet, provide a mean for each facet, and show intercorrelations between all items or all items within each facet.
5. You will complete a check of internal reliability (coefficient alphas for overall test and each facet) and discuss issues of reliability and validity associated with your inventory.
6. A bibliography of books and other source materials used in completing the project.

NOTE: You must create YOUR OWN items for both tests.

Critical Evaluation of a Standardized Test

Select a standardized test at the grade (age) level of your choice and obtain a copy of the test, the manual, and other related materials from the COE Media Center (Poe 400). Once you have selected a test notify Dr. Nietfeld of your choice **before** writing your review. Study the test materials, consult the reviews in the latest *Mental Measurements Yearbook* (MMY) if you choose, and write your evaluation using the following test evaluation outline. Be brief and include only the most essential information. The entire review should be no longer than 7 double spaced pages with one-inch margins. Some of the types of tests you might consider:

1. Achievement test battery.
2. Achievement test in a specific content area.
3. Reading test (readiness, diagnostic, or survey type).
4. Scholastic aptitude test or multiaptitude test.
5. Test in a special area (art, music, creativity).

Evaluation Outline:

TEST EVALUATION FORM

1. **General Information**
2. **Purposes of the Test**
3. **Dimensions/Constructs the Test is Purported to Measure**
4. **Description of Items**
5. **Test Norms**
6. **Interpretation of Scores**
7. **Reliability**
8. **Validity**
9. **Practical Features**
10. **Desirable Features**
11. **Undesirable Features**
12. **Overall Evaluation**

Tentative agenda of class meetings and assignments.

Date:	TOPIC & ASSIGNMENT
1/13	Introductory Information Chapter 1: Introduction to Educational Assessment
1/20	Chapter 2: The Basic Mathematics of Measurement
1/27	Chapter 4: Reliability for Teachers
2/3	Chapter 5: Validity for Teachers
2/10	Chapter 7: The Initial Steps in Developing a Classroom Test Chapter 8: The Development and Use of Selected-Response Items
2/17	Chapter 6: Item Analysis for Teachers
2/24	MIDTERM EXAM
3/3	Chapter 9: The Development and Use of Constructed-Response Items TEST CONSTRUCTION PROJECT DUE
3/10	SPRING BREAK - NO CLASS!
3/17	Chapter 10: Performance Assessments and Portfolios
3/24	Chapter 11: Assigning Grades on the Basis of Classroom Assessments
3/31	Chapter 3: The Meaning of Test Scores
4/7	Chapter 12: Standardized Achievement Tests in the Era of High-Stakes Assessment
4/14	Chapter 13: The Use of Aptitude Tests in the Schools TEST CRITIQUES DUE
4/21	Chapter 14: Assessment of Behavior and Personality Issues of High Stakes Testing & Class Review
5/5	FINAL EXAM