



NORTH CAROLINA

Design of the Measures of Student Learning NC's Common Exams

Summer 2012



Measures of Student Learning



Measures of Student Learning
are being designed for non-tested
subjects for district use to populate
Standard 6

Guiding Principles



- NC's experienced teachers know their students and their content
- NC teachers are best-qualified to provide input on meaningful assessment of currently non-tested grades and subjects
- Valid measures of what students know and are able to do will likely exceed traditional multiple-choice assessment

What MSLs Are



- Measures of what students know and are able to do after completing a course or grade
- Tightly linked to the instruction that a teacher delivers
- **One** part of how North Carolina will evaluate the effectiveness of its teachers
- Similar to the common summative assessments that many districts already have in place

What MSLs Are Not



- Multiple-choice standardized exams for all areas of the Standard Course of Study
- Assessments that need to be delivered with the same level of security as EOCs and EOGs
- Designed without teacher input
- The only source of data used to make decisions about a teacher's effectiveness
- Part of the school accountability model

The Balancing Act

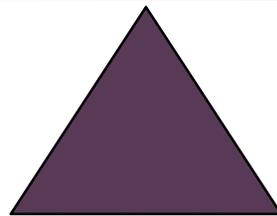


Freedom from Bias in Results

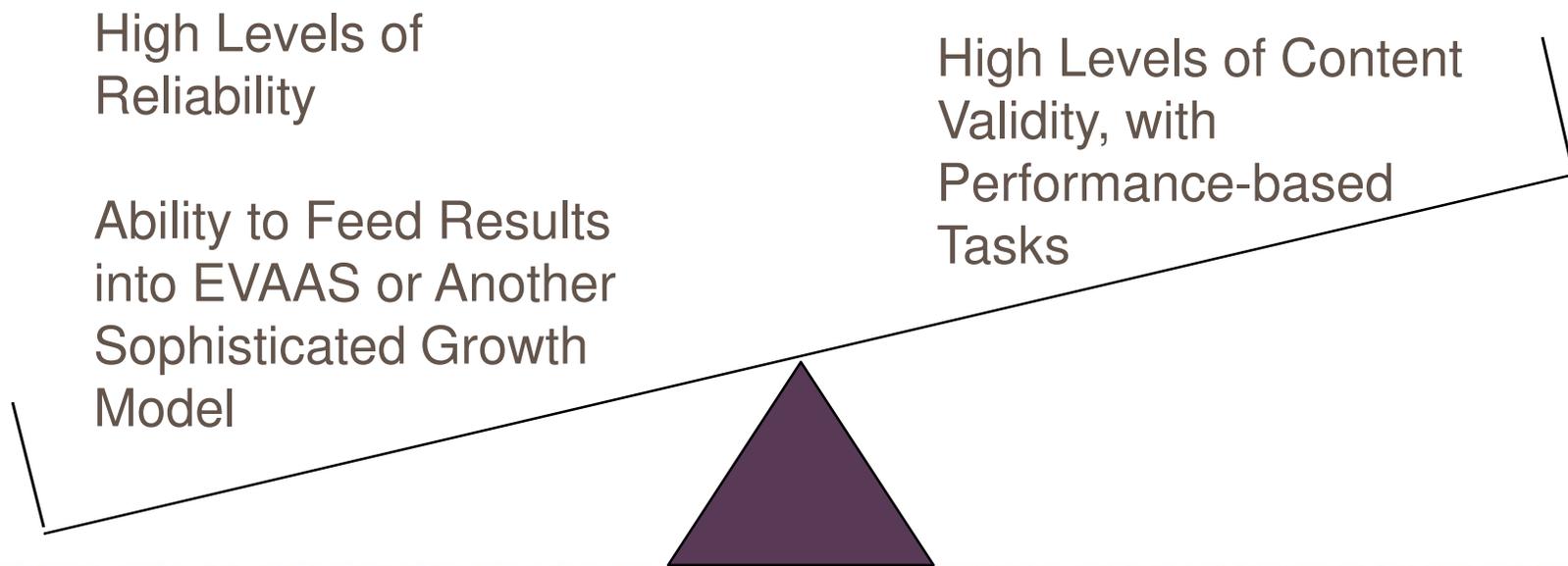
High Levels of Reliability

Ability to Feed Results into EVAAS or Another Sophisticated Growth Model

High Levels of Content Validity, with Performance-based Tasks



The Balancing Act



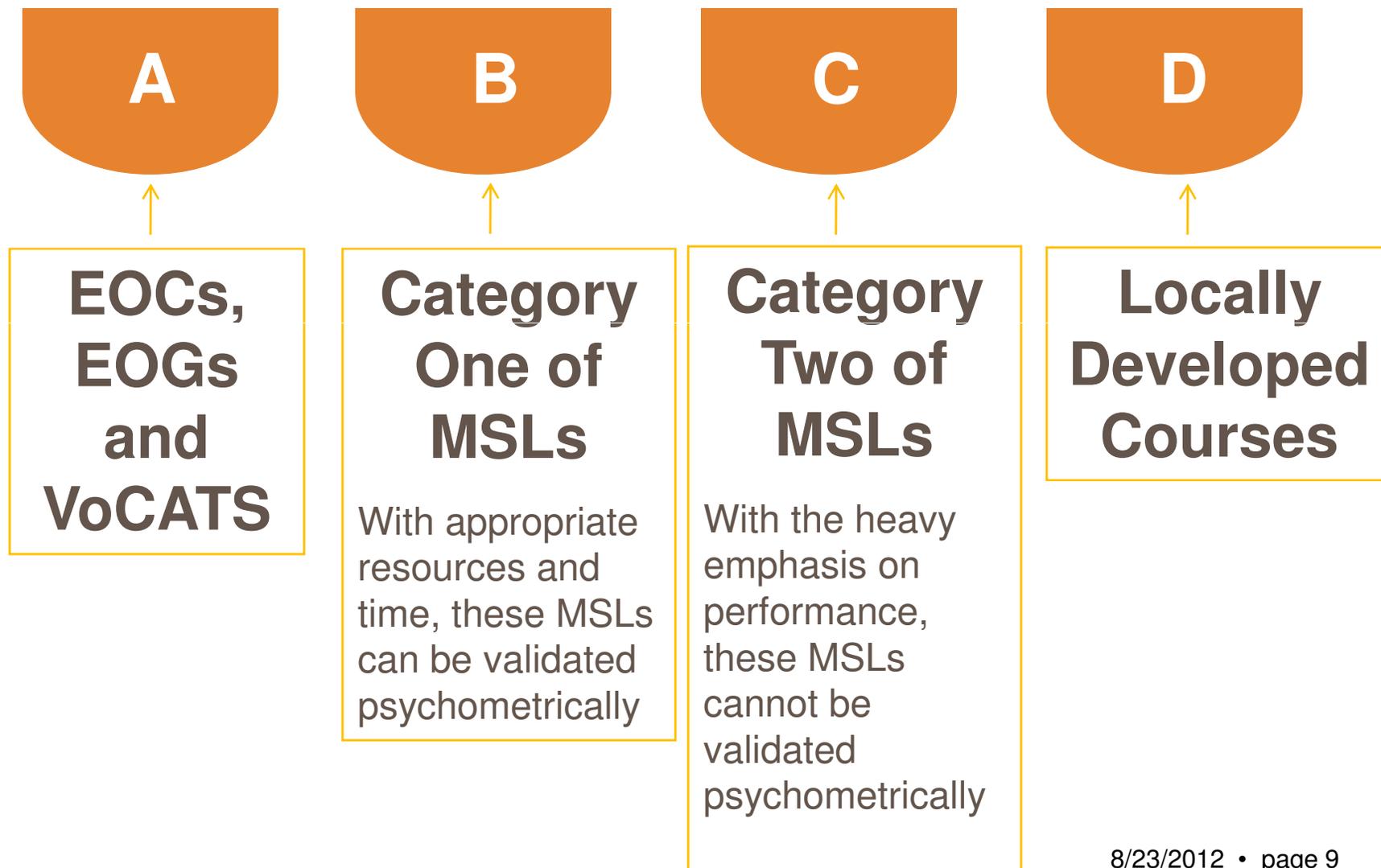
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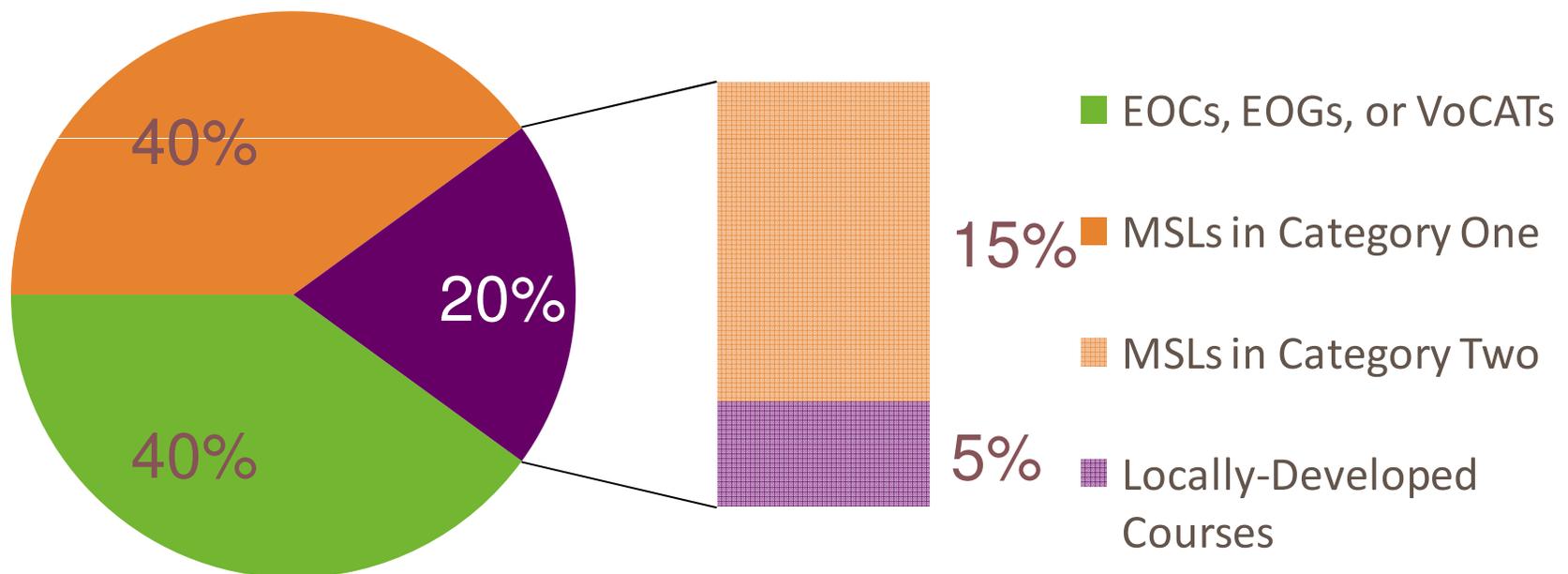
Four Buckets of Assessment



A Picture of Assessment



North Carolina Teacher Workforce



Three Phase Process



October 2011

Teachers design item specifications for all currently non-tested grades and subjects

Fall 2012

Teachers create rubrics and guidance for administering and scoring Measures of Student Learning



Summer 2012

Teachers review open-source items and items generated by external vendor(s)

Three Phase Process



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Phase I: Create Groups



Developed list of all non-tested courses and grades in the Common Core State Standards and NC Essential Standards

Grouped courses and grades together into like-content groups

Groups range from Extended Content Standards to Chemistry to Elementary Theatre Arts to Social Studies Electives

Phase I: Select Members



Designed an online application system for interested educators to apply to join one of the design groups

Advertised for the design groups

Selected educators from over 1,500 applications

Responded to LEA concerns and notified teachers of final selection decisions

Phase I: Ensure Representation



110/115 Local Education Agencies

10 Charter Schools

Department of Juvenile Justice and Delinquency Prevention

University of North Carolina

North Carolina Virtual Public School

Phase I: Provide Training



1. The Measures of Student Learning design process and how the Measures fit into the State's educator effectiveness work (DPI Leadership and RttT Project Management)
2. Assessment design, including potential item types, reliability, and validity (Assessment Design and Development)
3. Overview of the Common Core and NC Essential Standards (Curriculum & Instruction)

Phase I: Gather Feedback



Through three feedback protocols, teachers provided answers to the following critical question:

**What does meaningful
assessment in your content
area look like?**

Preliminary Feedback



| Subject Area | Teacher Input |
|--------------|---|
| K-2 ELA | <ul style="list-style-type: none">• Student growth needs to be measured throughout the year, as opposed to a “one-time” opportunity• Student growth is measured through student writing, speaking, listening, and reading• Kindergarten ELA will need to have some type of pre-assessment• In grades 1 – 2, the previous year’s score could count as the starting point for measuring growth |

Preliminary Feedback



| Subject Area | Teacher Input |
|--------------|--|
| The Arts | <ul style="list-style-type: none">•Growth in the arts can be measured through performance-based tasks and selected-response items•Performance-based tasks can assess the “creation” elements of the Essential Standards•Selected-response items can assess the “culture and history” elements of the Essential Standards•Performance-based tasks need to be broad enough to cover curricular options. For example, a scale can be sung, played on a string instrument, or played on a wind instrument |

Teacher Thoughts and Concerns



Appreciation, pride, and even joy that their content areas are now being valued and that the State is recognizing that they impact the learning of their students

Worry about finding a valid way to measure student learning in an art or PE class that meets once a month and one that meets every day

Value the input of teachers into the process

Doubt over the sustainability of these Measures of Student Learning after Race to the Top ends

Worry about a “test-heavy” environment for students, especially young children



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Phase II: Develop Framework



Validity framework and psychometric plan detail:

- Theory of Action
- Score Generation
- Propositions and Claims for Use
- Assessment Development Process
- Administration
- Scoring
- Item Calibration, Equating, and Scaling
- Data Collection Processes

Involvement of NC Technical Advisors

Phase II: Create Blueprints

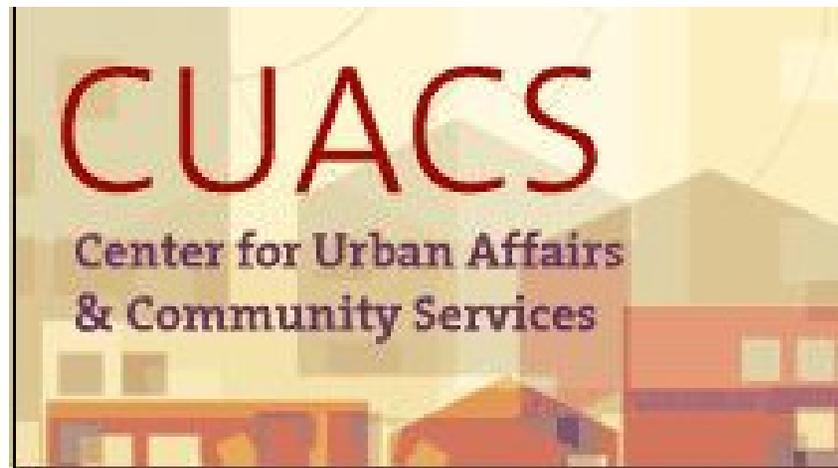


| Course Group | Phase | Test | level | grade | Clarifying Objective Or Standard | Selected Response | Short Answer | Extend Response | Performance Task | Portfolio | Total | Priority Weight | Item Type | N_items or score points (assumes pool size of 200) |
|--------------|-------|-----------|-------|-------|----------------------------------|-------------------|--------------|-----------------|------------------|-----------|-------|-----------------|-----------|--|
| Science | 1 | Chemistry | CH | 11 | CHM.1.1.1 | 10 | | | | | 10 | 0.036 | SR | 7 to 8 |
| Science | 1 | Chemistry | CH | 11 | CHM.1.1.2 | 10 | 1 | | | | 11 | 0.034 | SR | 6 to 7 |
| Science | 1 | Chemistry | CH | 11 | CHM.1.1.3 | 10 | 1 | | | | 11 | 0.019 | SR | 3 to 4 |
| Science | 1 | Chemistry | CH | 11 | CHM.1.1.4 | 10 | 1 | | | | 11 | 0.018 | SR | |
| Science | 1 | Chemistry | CH | 11 | CHM.1.2.1 | 10 | 1 | | | | 11 | 0.024 | SR | 4 to 5 |
| Science | 1 | Chemistry | CH | 11 | CHM.1.2.2 | 10 | 1 | | | | 11 | 0.032 | SR | 6 to 7 |
| Science | 1 | Chemistry | CH | 11 | CHM.1.2.3 | 10 | 1 | | | | 11 | 0.019 | SR | 3 to 4 |
| Science | 1 | Chemistry | CH | 11 | CHM.1.2.4 | 5 | 6 | | | | 11 | 0.051 | SR | 10 to 11 |
| Science | 1 | Chemistry | CH | 11 | CHM.1.2.5 | 10 | 1 | | | | 11 | 0.033 | SR | 6 to 7 |
| Science | 1 | Chemistry | CH | 11 | CHM.1.3.1 | 10 | 1 | | | | 11 | 0.025 | SR | 5 to 6 |
| Science | 1 | Chemistry | CH | 11 | CHM.1.3.2 | 6 | 2 | 2 | | | 10 | 0.029 | SR | 5 to 6 |
| Science | 1 | Chemistry | CH | 11 | CHM.1.3.3 | 6 | 1 | 4 | | | 11 | 0.029 | SR/ER | 5 to 6 |

Phase II: Generate Items



Staff members at CUACS at NC State University are writing items to the specifications provided by teachers



Phase II: Review Items



Teachers return on rolling schedule to review items

First design group members return end of July 2012

- High School Science design group members
- High School World History, Civics and Economics, and American History II/II design group members
- English I, English III and IV design group members
- High School Mathematics design group members
- OCS design group members

Challenge: Bias and Reliability in Grading



Given the variety of items desired by the teacher design groups, educators will need to play a role in assessing student performance on Measures of Student Learning according to standardized rubrics

Their involvement introduces the risk for bias, even if teachers are not grading their own students' work

Teachers are concerned about when they will have time to grade the performance tasks in the Measures of Student Learning

Challenge: Equality Among Content Areas



Balance of instructional time between content areas

Ratings generated by a mathematical model and
those selected by principals based on data

Challenge: Secure Administration



Districts receive PDF files for all MSLS

Districts will be able to order answer sheets and modified assessments, or create their own

DPI will provide guidelines and best practices for administration and scoring

Administration Timelines



Fall 2012 (End of First Semester 2012 – 2013):

Earth/Environmental Science

Physics

Chemistry

Physical Science

English I

English III

English IV

Pre-calculus

Advanced Functions
& Modeling

Geometry

Algebra II

World History

Civics and Economics

American History I

American History II

OCS English I, III, and IV

OCS Applied Science

OCS Intro to Math

OCS Financial Management

Administration Timelines



Spring 2013 (end of School Year 2012 – 2013):

- Grades 4, 6, and 7 Science
- Grades 4 – 8 Social Studies

School Year 2013 – 2014 (with pilots in 2012 – 2013):

- The Arts
- World Languages
- K-3 Literacy
- Healthful Living