STUDENT LEARNING OBJECTIVES:
ONE OPTION FOR MEASURING STUDENT GROWTH IN 
NON-TESTED GRADES AND SUBJECTS

Elizabeth A. Barkowski, Ph.D.
Research Associate
Value-Added Research Center

SCASA Innovative Ideas Institute  June 17, 2013
Agenda

- Describe various options for measuring growth in non-tested grades and subject areas (NTGS)

- Discuss Student Learning Objectives (SLOs) as one option for measuring growth in NTGS.

- Highlight key steps in the SLO process

- Define various dimensions and “types” of SLOs and discuss SLO technical and measurement considerations associated with each dimension
Policy Context

- **Who?**
  - Over 30 states have passed legislation to revamp educator evaluation systems.

- **Why?**
  - TNTP “Widget Effect” – 99% of teachers “effective,” based on binary rating system
  - Federal push (RT3, TIF)
  - State legislation (e.g. WI Act 166)
  - Private foundation investment (Gates, Bush Foundation)

- **How?**
  - Revamped educator evaluation systems
  - Require more rigorous observations by certified observers
  - Include “significant emphasis” on student growth
Policy Context (continued)

Basic Educator Evaluation System

- 50% Student Growth (VAM or other) (range from 20 – 51%)
- 50% Teacher Practice (observation)

Big question for states:
How do you measure student growth for teachers in non-tested grades and subjects (NTGS)?
What are NTGS?

- Courses, subject areas, and grade levels without at least two consecutive years of nationally-recognized standardized tests.

- In many states, this includes everything other than grades 4-8 reading and math.

- In most school districts, as many as 70% of teachers teach in NTGS (CECR, 2008).

- Common examples:
  - Fine arts
  - Career and technical education
  - PK-2
  - High school
Analytic Approaches to NTGS

Methods of Measuring Student Growth in NTGS

- Individual Value-Added Model: Requires the development and/or purchase of new assessments.
- School-wide VAM: Does not require the development and/or purchase of new assessments.
- Student Learning Objectives: Does not necessarily require standardized assessments.
- FL Lawsuit: Does not directly reflect individual teacher effectiveness.
- Significant technical and logistical considerations:
Spectrum of Student Growth Measures for NTGS

- **Assessments and Value-Added**
  - Hillsborough Co, FL
    - Developed assessments in all NTGS and using VAM
  - Maricopa Co, AZ; Colorado
    - Developing assessments and will use VAM
  - Florida
    - Providing VAM to teachers in NTGS based on other tested grades and subjects

- **SLOs**
  - Los Angeles
    - Rigorous, statistically-driven SLO process
  - NY, GA, Achievement First
    - More standardized SLO process
  - WI, RI, IN
    - Less standardized SLO process
States Using SLOs as Measures of Student Growth

- States piloting or implementing new teacher evaluations systems
- States piloting or implementing SLOs as measures of student growth in new teacher evaluation systems
What are SLOs?

Student/School Learning Objectives (SLO) are detailed, measurable goals for student academic growth to be achieved in a specific period of time (typically an academic year), based on prior student learning data, and developed collaboratively by educators and their supervisors.
# Key Characteristics of SLOs

<table>
<thead>
<tr>
<th>Baseline Data and Rationale</th>
<th>Evidence Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why did you choose this objective and what sources of data did you examine?</td>
<td>How will you measure the objective?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning Content</th>
<th>Targeted Growth/Attainment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which content standard(s) and/or skills does the objective address? (e.g., Common Core)</td>
<td>What is your goal for student growth/attainment?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Population</th>
<th>Strategies/Instructional Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which students are included in this objective?</td>
<td>What methods or interventions will you use to support this SLO? Identify related Domains and Components.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interval</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>What timeframe is involved? (typically year-long)</td>
<td>What instructional support or professional development is necessary to accomplish this SLO?</td>
</tr>
</tbody>
</table>
SLO Examples from Other States

Between the first and fourth quarter, 50% of all 4th and 5th grade Physical Education students will improve their PACER score by 10 points or more, which will demonstrate improvement in cardiovascular health.

(PACER is an aerobic activity test, which increases in difficulty the longer the student runs back and forth 20 meters)

Source: Wisconsin Department of Public Instruction, SLO Pilot Data
From September 1-15, 2012 to April 1-30, 2013, all students enrolled in Chemistry II will demonstrate measureable growth from the pre measure score to their post measure scores as measured by X District’s pre measure and post measure as follows:

The minimum expectation for individual student growth is based on the formula which requires students to grow by 70% of their potential growth.

- Pre measure score + [(100- pre score) * .7] = target score
- Students who score 10 points above their target score have exceeded their target.

Example using 40 on a pre-assessment:

\[
40 + (100-40) * .7 \\
40 + (60 * .7) \\
40 + 42 \\
82 \text{ is the target for post-measure}
\]

A score of 92 would indicate exceeding target.

## SLO Examples from Other States

<table>
<thead>
<tr>
<th>Pre-Work: Step 1</th>
<th>Approved Assessment</th>
<th>Assessment: Teacher Created Rubric Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved Mastery Score</td>
<td>Score: 6 out of 9 Rubric Points</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pre-Work: Step 2</th>
<th>Level of Student Preparedness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Effective</td>
<td>(4) Exceptional number of students achieve content mastery</td>
</tr>
<tr>
<td>Effective</td>
<td>(3) Significant number of students achieve content mastery</td>
</tr>
<tr>
<td>Improvement Necessary</td>
<td>(2) Less than significant number of students achieve content mastery</td>
</tr>
<tr>
<td>Ineffective</td>
<td>(1) Few students achieve content mastery</td>
</tr>
</tbody>
</table>

| Step 3: Class Learning Objective | At least 20 out of 21 students achieve a score of 6 or higher on the Music Mastery Rubric. | At least 18 of 21 students achieve a score of 6 or higher on the Music Mastery Rubric. | At least 13 of 21 students achieve a score of 6 or higher on the Music Mastery Rubric. | Fewer than 13 of 21 students achieve a score of 6 or higher on the Music Mastery Rubric. |

SLO Process

Step 1: Review Data and Prepare SLO

Step 2: Review and Approve SLO

Step 3: Collect Evidence and Conduct Mid-Year Review

Step 4: Review and Score
SLO Process

Step 1: Review Data and Prepare SLO
- Review student baseline data and evidence to identify needs and target populations.

Step 2: Review and Approve SLO
- For teachers, student data could include prior year assessments, portfolios of work, pre-tests, etc.

Step 3: Collect Evidence and Conduct Mid-Year Review
- Based on student needs, set student growth targets and select an assessment or evidence source that will be used to measure growth.

Step 4: Review and Score
- Not Approved
- Approved
SLO Process

Step 1: Review Data and Prepare SLO
- Educators submit SLOs to their evaluator.

Step 2: Review and Approve SLO
- Evaluators approve SLOs or recommend revisions.
- Evaluators should work with educators to review and revise the SLO if needed (coaching conversations).

Step 3: Collect Evidence and Conduct Mid-Year Review

Step 4: Review and Score
SLO Process

- Step 1: Review Data and Prepare SLO
  - Educators collect evidence of student progress toward meeting SLO goals.

- Step 2: Review and Approve SLO
  - Educators and their evaluator will conduct a mid-year review to assess student progress toward meeting SLO goals.

- Step 3: Collect Evidence and Conduct Mid-Year Review
  - Some states allow educators to revise the SLO if it is too rigorous or not rigorous enough (with caution).

- Step 4: Review and Score
SLO Process

Step 1: Review Data and Prepare SLO

Step 2: Review and Approve SLO

Step 3: Collect Evidence and Conduct Mid-Year Review

Step 4: Review and Score

- At the end of the SLO cycle, educators submit final assessment results and evidence or other SLO documentation to their evaluator.

- Evaluators review SLO results and assign a final score or rating using a rubric.

- Evaluators discuss the results with educators during an end of year conference.

- Use results to inform goals and professional development for the following school year.
Types of SLOs

Think about SLOs along two different dimensions

Dimension 1
Assessments
- Pre-test / Baseline Data
- Post-test / Final Evidence

Dimension 2
SLO Process
- Target Setting
- Scoring
Dimension #1: Assessments

- Assessments are needed during (at least) two points in the SLO process:
  - Baseline data and pre-tests
  - Post-tests and final evidence sources

- Why is this important?
  - Are assessments actually measuring growth?
  - Rigor, reliability, validity of assessments
Dimension #2: SLO Process
Target Setting and Scoring Process

- **Target setting**
  - How do teachers set goals for students?

- **Scoring**
  - How is final evidence scored to obtain a final rating?

- **Why is this important?**
  - Rigor of SLO targets and scoring process
  - Uniformity and comparability of SLO targets and scores across teachers and schools
SLO Process

Step 1: Review Data and Prepare SLO

Step 2: Review and Approve SLO

Step 3: Collect Evidence and Conduct Mid-Year Review

Step 4: Review and Score

Assessment Selection

Target Setting

Areas for Standardization

Scoring Process
SLO Types

- **Type I** – Statistically informed goals based on standardized assessments
- **Type II** – Subjective goals and scoring based on standardized assessments
- **Type III** – Subjective or Objective goals and scoring based on non-standardized assessments

Target Setting and Scoring
SLO Type Classification

Assessment

Standardized Assessment

Non-Standardized Assessment

Dimension 1

Standardized Assessment

Assessments that are consistently administered and scored with established reliability and validity

Nationally-normed Assessments — NWEA MAP
State Common Assessments — California Standards Test
District Common Assessments — Hillsborough County, FL

Non-Standardized Assessment

Assessments that are NOT consistently administered and scored with established reliability and validity

Teacher-developed assessments
Rubrics used to grade student portfolios
SLO Type Classification

Data Informed
- Uses a statistical or model-informed process to set student growth targets and set scoring category thresholds

Objective
- Uses a standardized, or common, way to set growth targets for teachers (e.g. Austin ISD)
- Uses a standardized scoring rubric (e.g. Georgia, Houston ISD)
- The process may be standardized across teachers and schools; however, it is not necessarily statistically- or model-informed

Subjective
- Allows teachers to set growth targets as they see fit
- Uses a subjective scoring rubric left open to interpretation
  - e.g. Wisconsin, Rhode Island, Indiana

Dimension 1
- Standardized Assessment
- Target Setting and Scoring

Dimension 2
- Data Informed
- Objective
- Subjective
Types of SLOs in Practice

Dimension #1: Assessments

- Standardized
  - New York State – list of approved SLO assessments for use within SLOs

- Non-standardized
  - Wisconsin
  - Indiana
  - Rhode Island
Alignment
- Between selected assessments, pre- and post-tests, standards, learning objectives, and instructional practice
- How do you measure prior knowledge in certain subject areas?

Reliability and validity
- Of the assessments (for both pre- and post-tests, if applicable)
  - Number of items and students tested
  - Technical capacity of educators to develop and identify reliable and valid assessments

Measurement error
- Associated with assessments
  - Potential problem with gain scores
Types of SLOs in Practice

Dimension #2: SLO Process

- **Data / Model-Driven**
  - Los Angeles – uses statistical techniques to set targets and determine scoring ranges

- **Standardized**
  - Austin ISD – formula used to set targets \([(100 - \text{pretest})/2]\), structured scoring rubric

- **Non-standardized**
  - Wisconsin
  - Indiana
Quality Control
- Targets are rigorous yet attainable
  - Potential problem of gaming the system
- Uniformity of SLO targets
  - Comparable rigor across teachers, schools, and districts

Uniformity, fairness, and reliability
- In the scoring process
- Cross-reference SLO ratings and other teacher evaluation data
- Setting appropriate growth targets
SLO Implementation and Policy Considerations

- Need to evaluate
  - Validity and reliability of SLO process
  - Consistency in rigor and scoring across teachers and schools
  - Fidelity of implementation

- Finding a balance between a teacher-defined focus versus standards for quality control

- Timing and logistics
  - Guidelines, training, professional development
  - Capacity building
  - Oversight, tracking, monitoring
Questions

Elizabeth A. Barkowski
Value-Added Research Center
Wisconsin Center for Education Research
University of Wisconsin – Madison

barkowski@wisc.edu