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**VALUE-ADDED RESEARCH CENTER
UNIVERSITY OF WISCONSIN-MADISON**

Education analytics to support students and educators

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

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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?

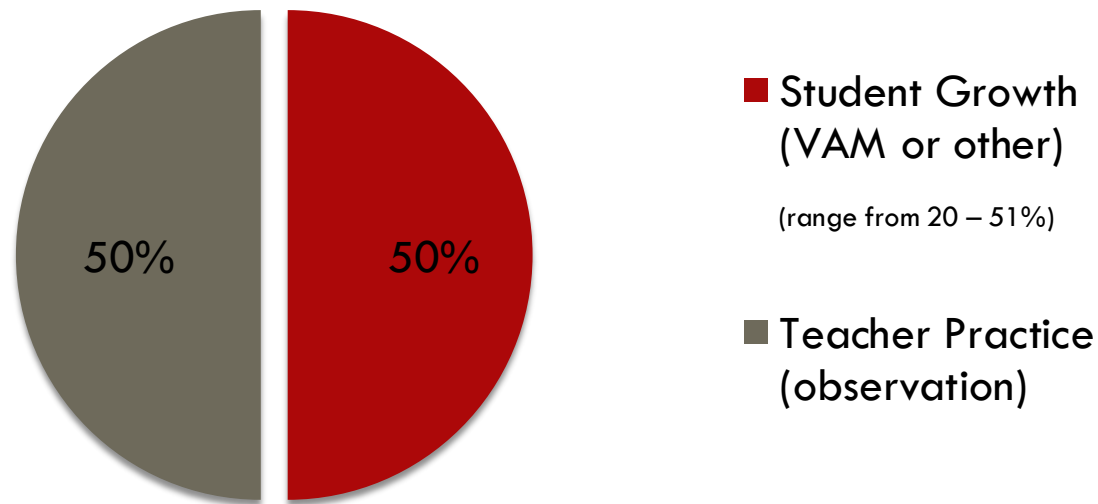
- TNTP “Widget Effect” – 99% of teachers “effective,” based on binary rating system
- Federal push (RT3, TIF)
- State legislation (e.g. WI Act 166)
- Private foundation investment (Gates, Bush Foundation)

□ 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

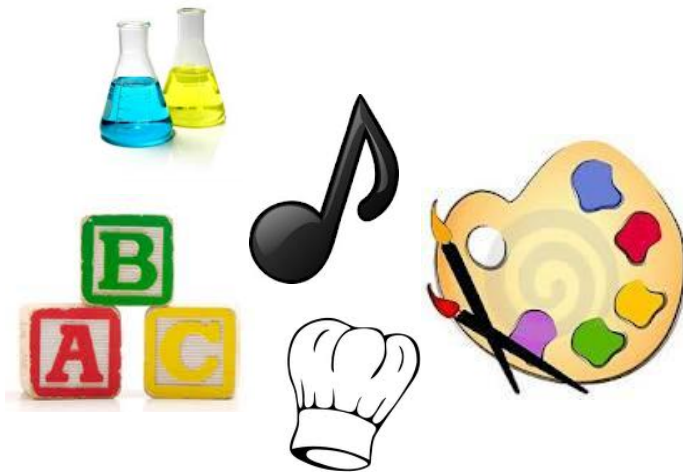


Big question for states:

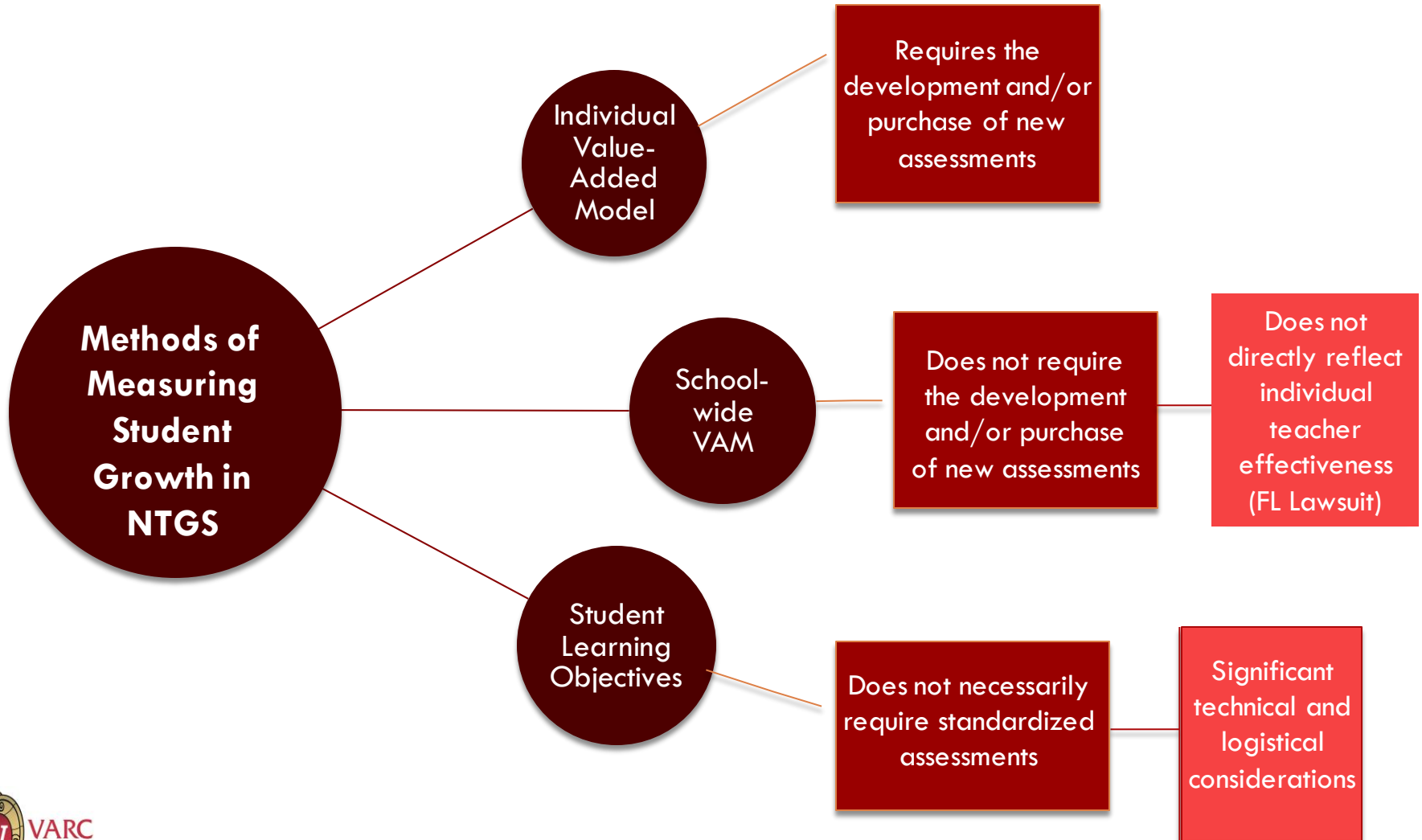
How do you measure student growth for teachers
in non-tested grades and subjects (NTGS)?

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

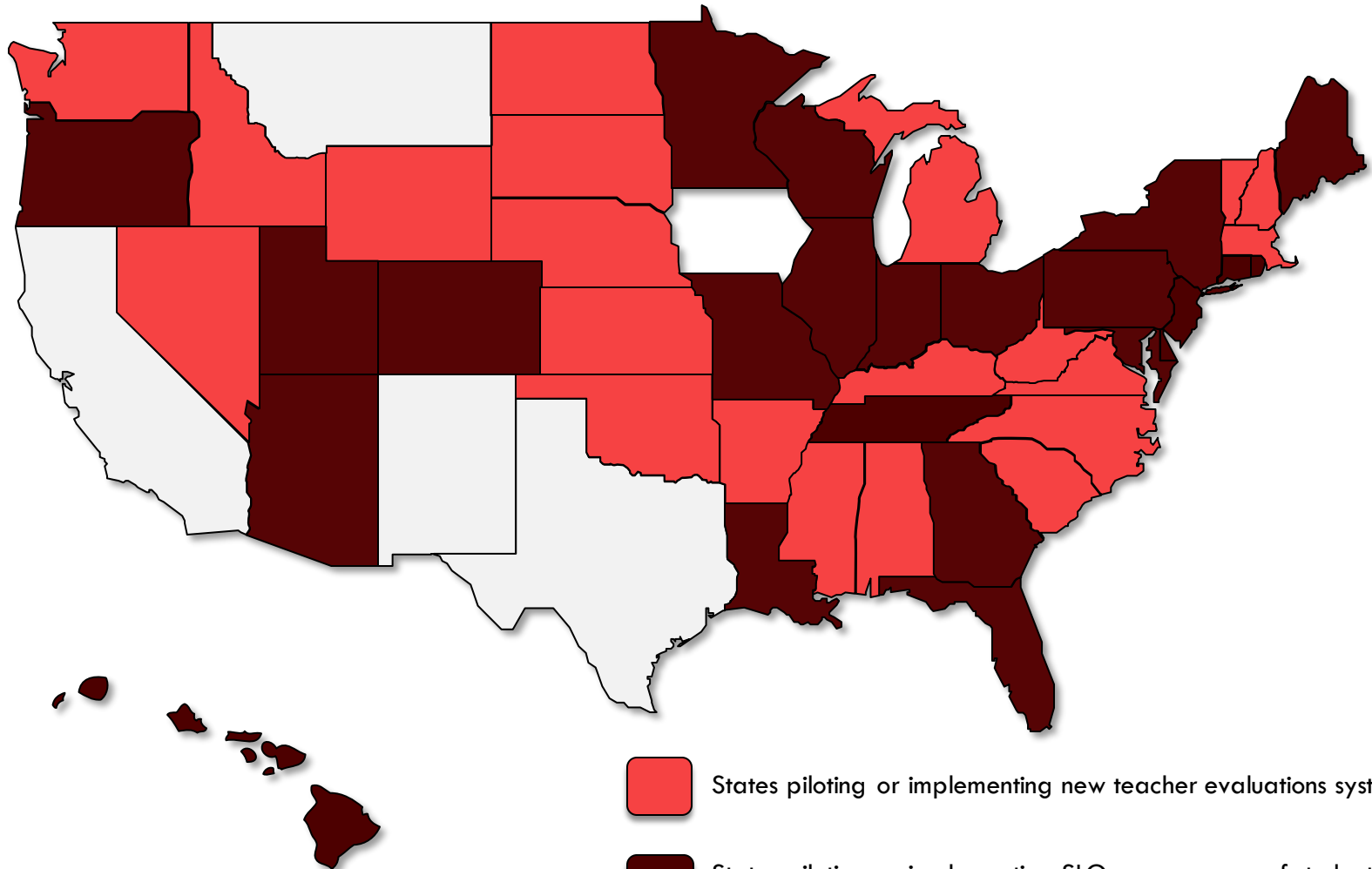
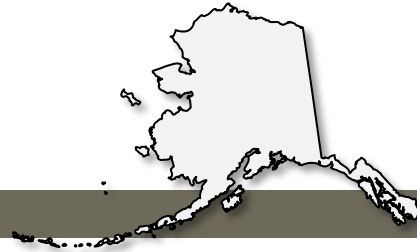




Spectrum of Student Growth Measures for NTGS

- 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

Baseline Data and Rationale

Why did you choose this objective and what sources of data did you examine?

Learning Content

Which content standard(s) and/or skills does the objective address? (e.g., Common Core)

Population

Which students are included in this objective?

Interval

What timeframe is involved? (typically year-long)

Evidence Sources

How will you measure the objective?

Targeted Growth/Attainment

What is your goal for student growth/attainment?

Strategies/Instructional Practices

What methods or interventions will you use to support this SLO? Identify related Domains and Components.

Support

What instructional support or professional development is necessary to accomplish this SLO?



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

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SLO Examples from Other States

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 is the target for post-measure

A score of 92 would indicate exceeding target.

Source: Georgia Department of Education, SLO Example, [http://www.doe.k12.ga.us/School-Improvement/Teacher-and-Leader-](http://www.doe.k12.ga.us/School-Improvement/Teacher-and-Leader-Effectiveness/Documents/Chemistry%20II%20SLO%20Example.pdf)



SLO Examples from Other States

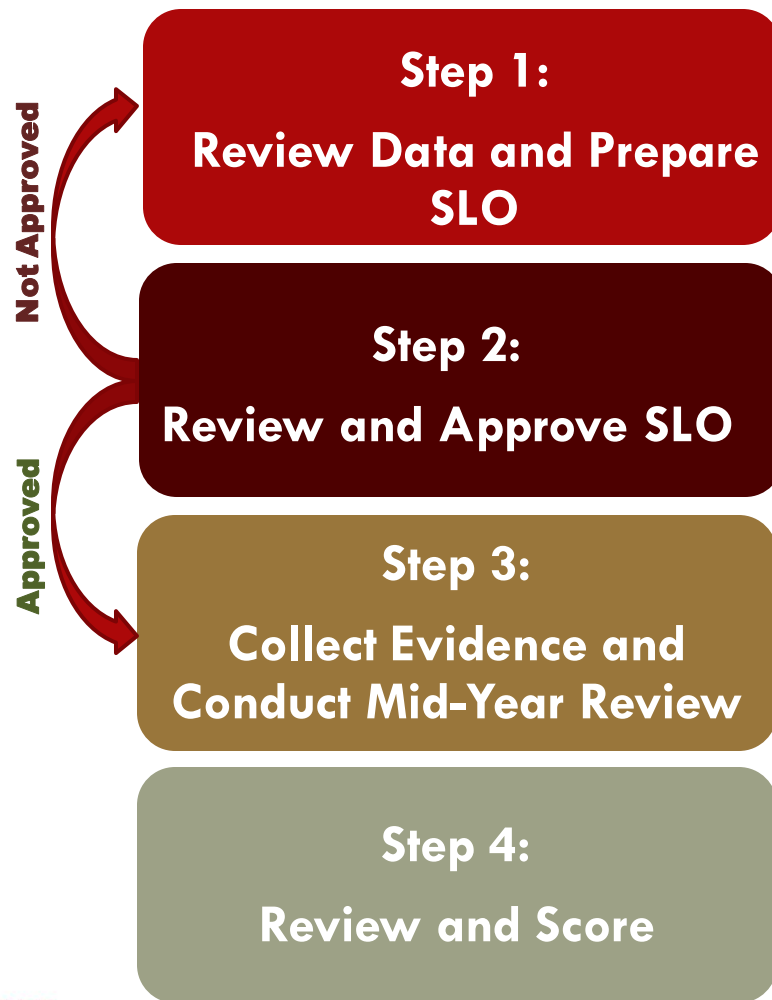
Pre-Work: Step 1	Approved Assessment	Assessment: <i>Teacher Created Rubric Assessment</i>		
	Approved Mastery Score	Score: <i>6 out of 9 Rubric Points</i>		
Pre-Work: Step 2	Level of Student Preparedness	High – 5 Medium - 12 Low - 4		
	Highly Effective (4)	Effective (3)	Improvement Necessary (2)	Ineffective (1)
	<i>Exceptional number of students achieve content mastery</i>	<i>Significant number of students achieve content mastery</i>	<i>Less than significant number of students achieve content mastery</i>	<i>Few students achieve content mastery</i>
Step 3: Class Learning Objective	<i>At least 20 out of 21 students achieve a score of 6 or higher on the Music Mastery Rubric.</i>	<i>At least 18 of 21 students achieve a score of 6 or higher on the Music Mastery Rubric.</i>	<i>At least 13 of 21 students achieve a score of 6 or higher on the Music Mastery Rubric.</i>	<i>Fewer than 13 of 21 students achieve a score of 6 or higher on the Music Mastery Rubric.</i>

Source: Indiana Department of Education, RISE SLO Handbook,

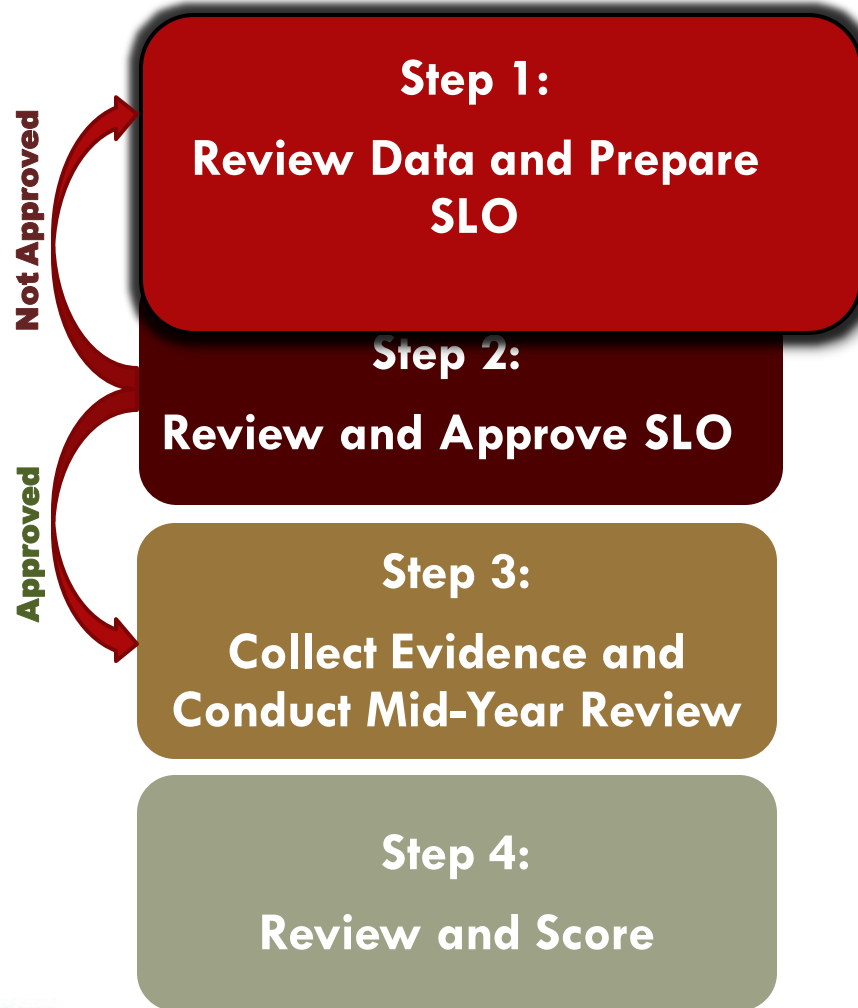
<http://www.riseindiana.org/how-does-rise-work/measures-of-student-learning>



SLO Process



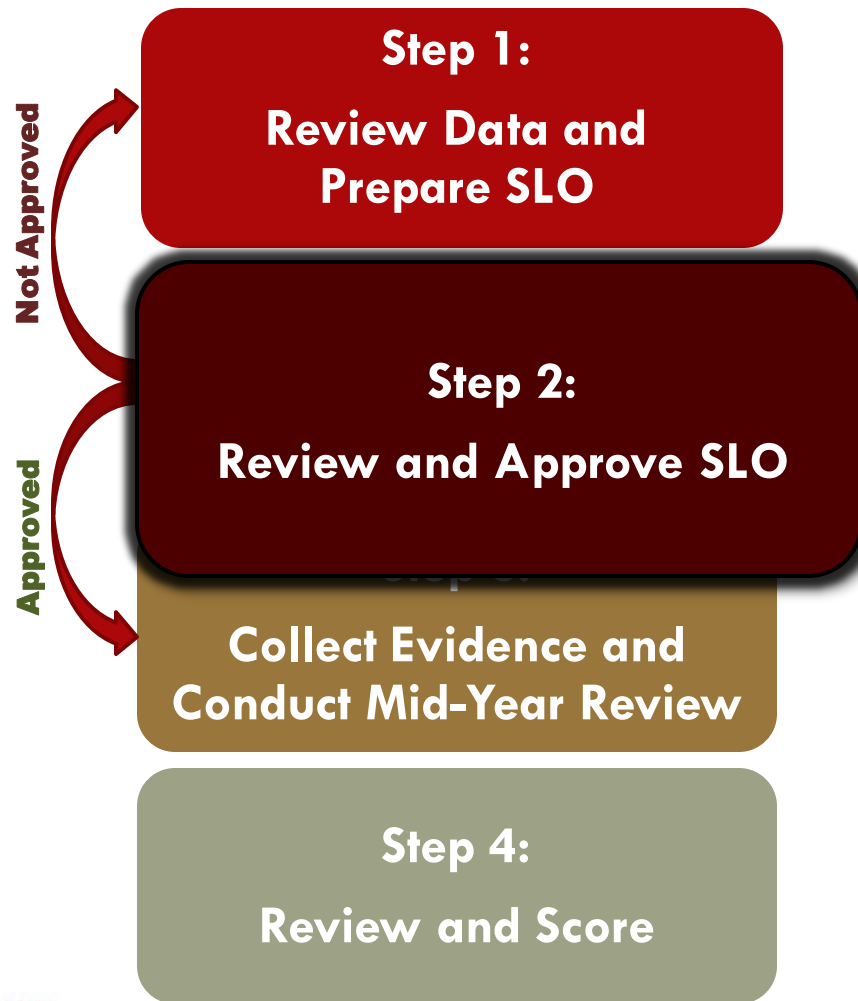
SLO Process



- ◆ Review student baseline data and evidence to identify needs and target populations.
- ◆ For teachers, student data could include prior year assessments, portfolios of work, pre-tests, etc.
- ◆ Based on student needs, set student growth targets and select an assessment or evidence source that will be used to measure growth.



SLO Process



- ◆ Educators submit SLOs to their evaluator.
- ◆ Evaluators approve SLOs or recommend revisions.
- ◆ Evaluators should work with educators to review and revise the SLO if needed (coaching conversations).



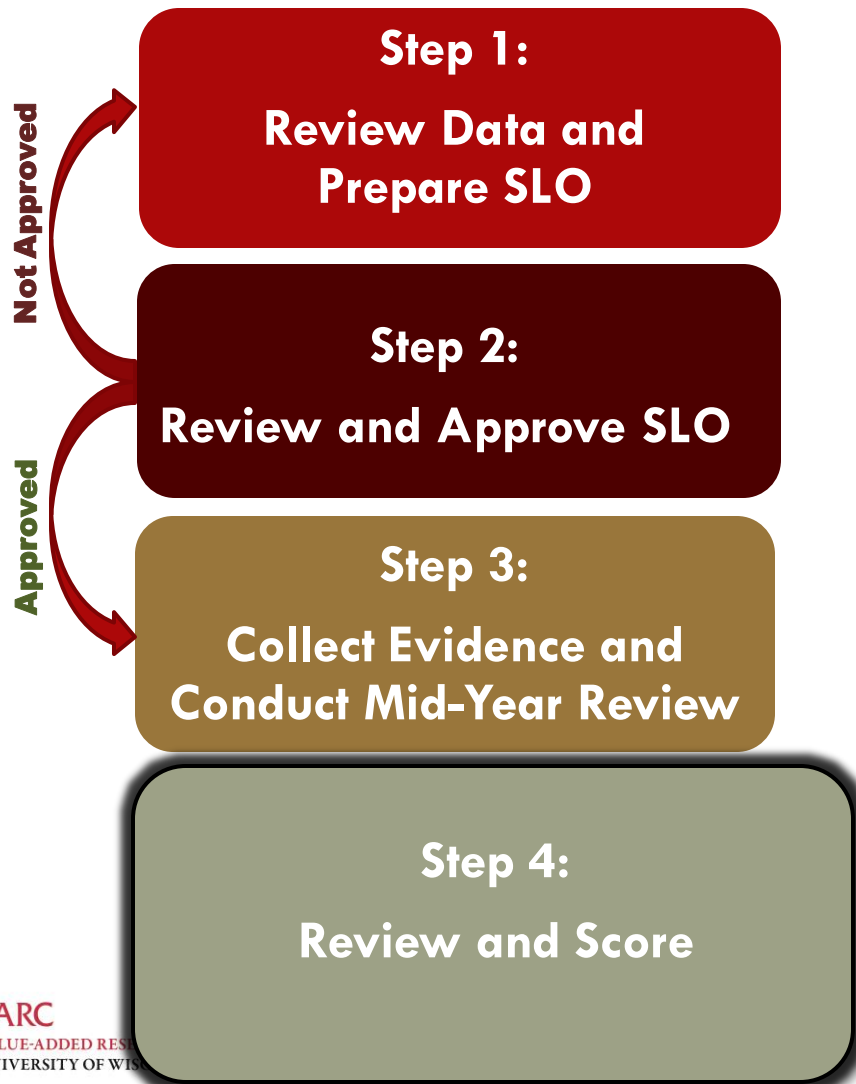
SLO Process



- ◆ Educators collect evidence of student progress toward meeting SLO goals.
- ◆ Educators and their evaluator will conduct a mid-year review to assess student progress toward meeting SLO goals.
- ◆ Some states allow educators to revise the SLO if it is too rigorous or not rigorous enough (with caution).



SLO Process



- ◆ 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

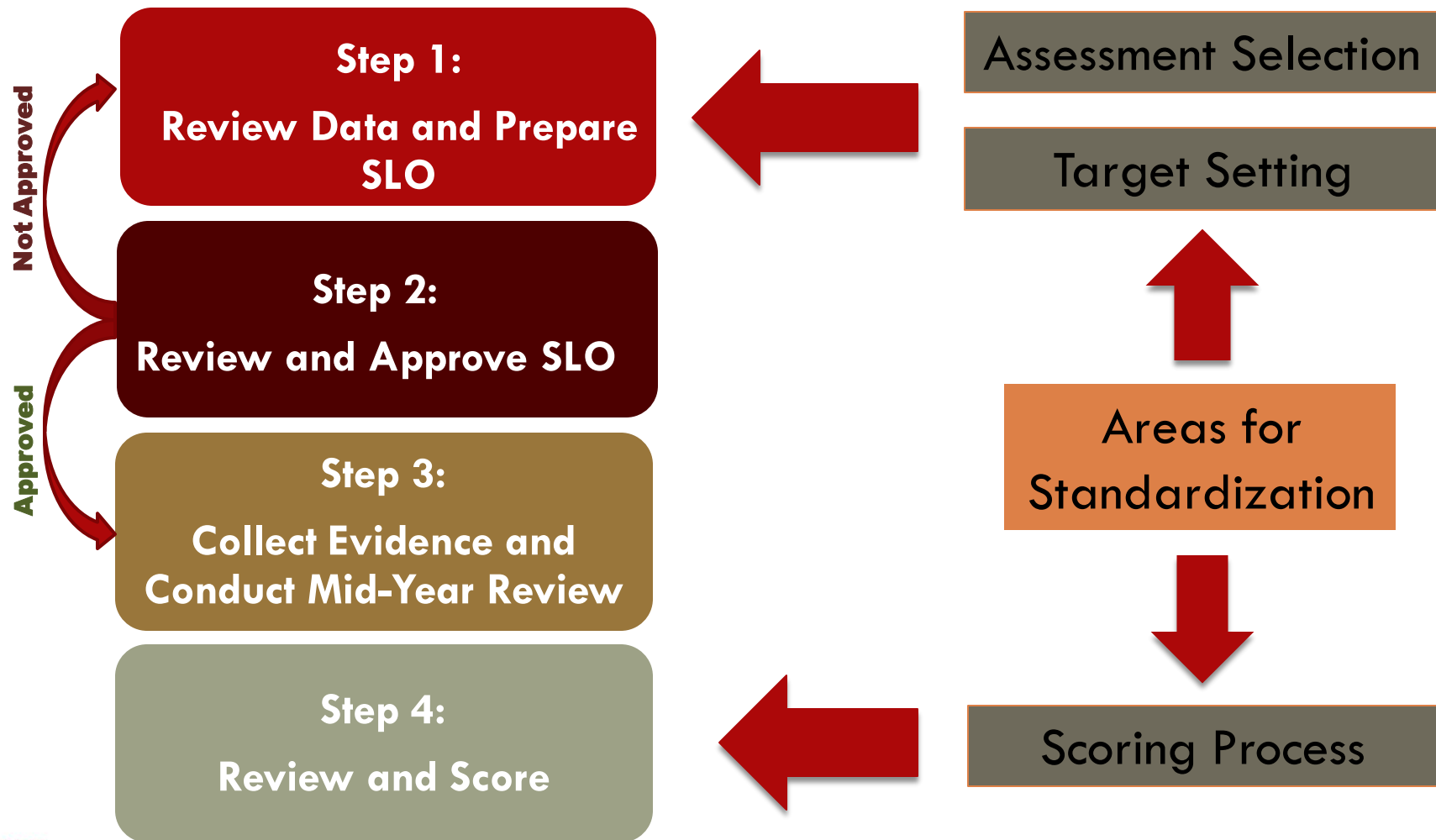
- Target setting
 - ▣ How do teachers set goals for students?

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

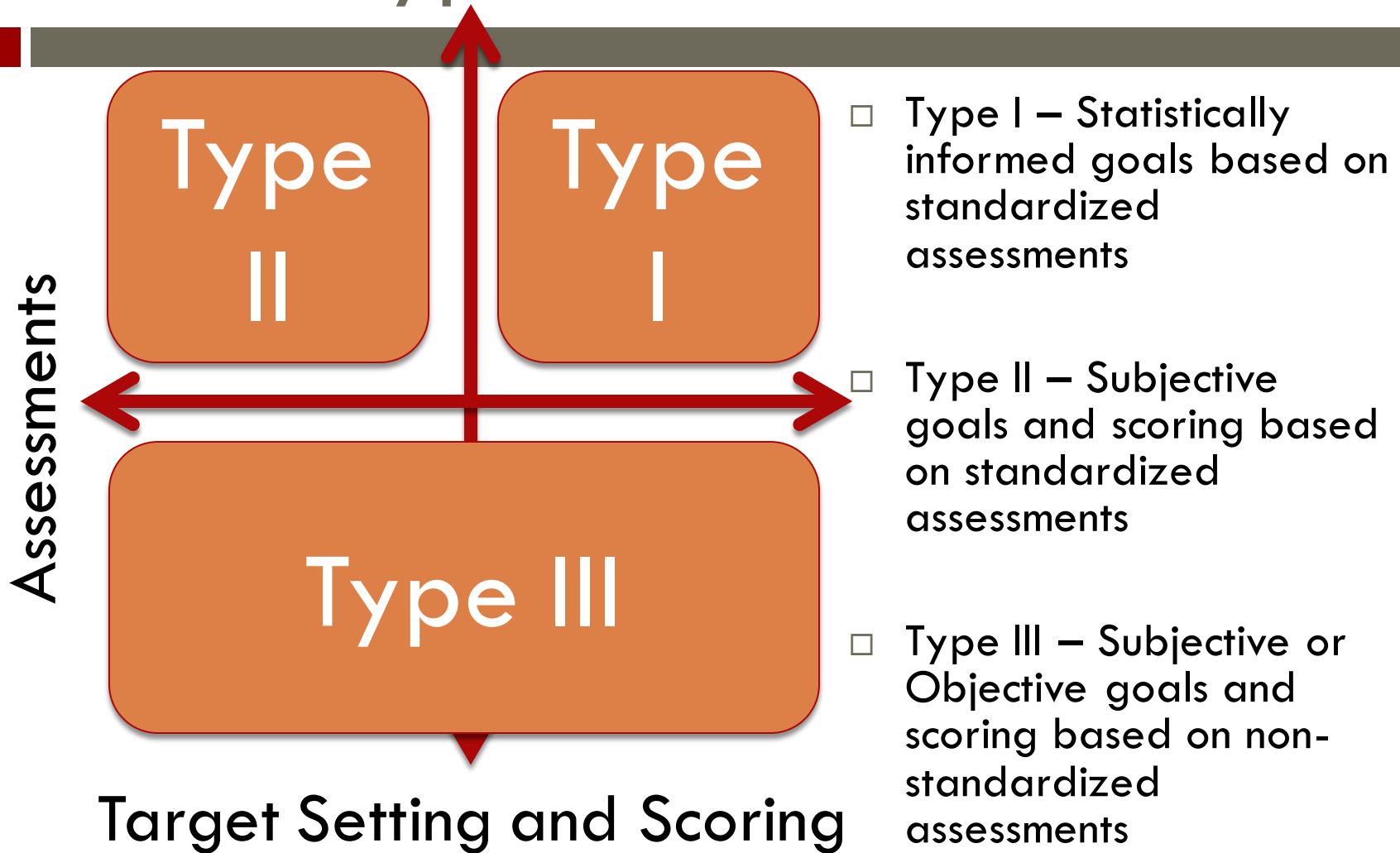
- Why is this important?
 - ▣ Rigor of SLO targets and scoring process
 - ▣ Uniformity and comparability of SLO targets and scores across teachers and schools



SLO Process

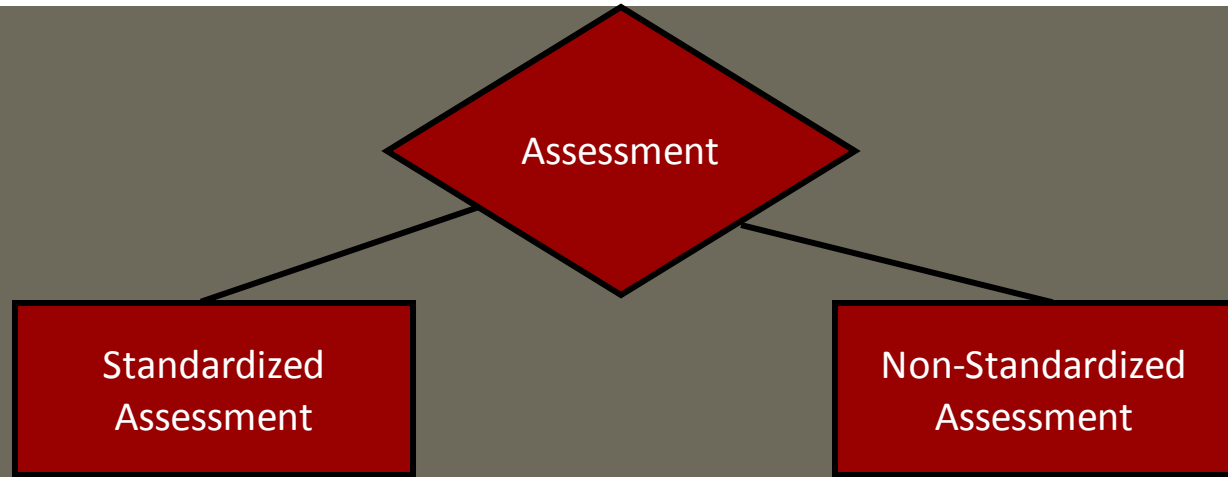


SLO Types



SLO Type Classification

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

VS

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

Dimension 1
Dimension 2

Data Informed

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

Data Informed

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

Objective

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)

Subjective

SLO Type Classification

Dimension 1

Assessment

Standardized
Assessment

Non-Standardized
Assessment

Dimension 2

Target Setting
and Scoring

Target Setting
and Scoring

Data
Informed

Subjective

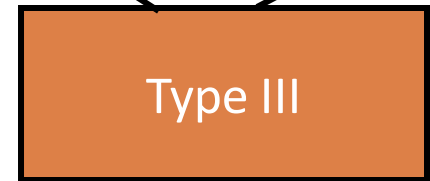
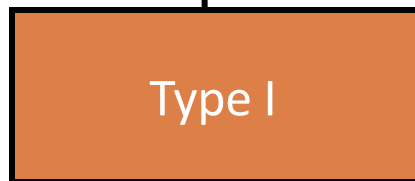
Objective

Subjective

Type I

Type II

Type III



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

Dimension #1

Assessment Measurement Considerations

- 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



Dimension #2

SLO Process Measurement Considerations

- 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

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