Wisconsin Student Learning Objective

After reviewing available data and identifying the student population for whom the SLO will apply based on the needs identified by trends and patterns in the data, create a Student/School Learning Objective. Submit the SLO Plan to your evaluator prior to the Planning Session.

Subject Area/Grade Level

Math/ELL High School

Baseline Data and Rationale: (*What sources of data did you examine in selecting your SLO? What issues related to student equity can be seen through the data review? Summarize trends and patterns from your data review. If this is the same SLO as you submitted last year/semester/interval, please provide justification for why you are repeating your goal. Did you consider both qualitative and quantitative data?*)

During the first two weeks of September my Algebra 2A classes worked through several word problems that employed the use of systems of equations. After working through several scenarios they were asked to select one problem/solution to explain thoroughly in writing. This process involves students in deep reflection and extensive writing as they must describe their entire thought process from their initial interpretation of the problem and development of equations to their reasoning behind the steps they took in order to arrive at a solution for the system and what those solutions tell them about the problem at hand. This assessment showed that many students struggle in the area of constructing viable arguments, sequencing their logic adequately, and justifying their reasoning. Not a single student scored AD in this area and less than 18% of all 58 of my Algebra 2A students scored PR. Therefore, it is appropriate to select this as a focus area.

Learning Content and Grade Level: (*Which content standards are relevant to/related to/in support of your goal? Is this content reinforced throughout the interval of this goal? Did you identify the national, state, or local standards relevant to your role in the district?*)

Common Core State Standards for Mathematics:

Reasoning with Equations and inequalities, A-REI: Understand solving equations as a process of reasoning and explain the reasoning.

1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

Mathematics Standards for Mathematical Practice:

3. Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Student Population: (*Which students are included in the target population? How does the data analysis support the identified student population?*)

The students I have selected are in my Bilingual or Sheltered Algebra 2A classes. These students are predominantly juniors. As mentioned above, this group of students scored very low on the initial assessment in both their algebraic manipulation and the justification of their reasoning.

Targeted Growth: (*Have you identified the starting point for each target student? How did you arrive at these growth goals?*)

By the end of the year, 24% of students in my Algebra 2A classes will improve by at least one proficiency level within my personal mathematics writing/speaking rubric. Growth towards this goal will be assessed at least once prior to their final assessment in order to determine if the goal needs to be adjusted.

Interval: (*Does the goal apply to the duration of the time you spend with your student population (ex. Year, Semester, Trimester, etc.)?*)

This is a yearlong objective with baseline data collected during the second week of September and formative assessments throughout the school year. Formative assessments will determine if the goal needs to be adjusted.

Evidence Sources: *(What benchmark assessments will you use (pre-instruction, mid-interval, post-instruction)? What formative practices will you use to monitor progress throughout the interval? What summative assessment will you use to determine student growth at the end of the interval? Is the assessment: Aligned to the instructional content within the SLO? Free of bias? Appropriate for the identified student population?)*

Assessments will vary throughout the school year. I will use performance tasks, exit slips, or teacher designed assessments that require student writing/speaking for pre, mid, and post instruction benchmarks. This will showcase students' ability to construct an argument, sequence their logic, and justify their reasoning when solving equations. A rubric to assess these areas has been created by the teacher and was uploaded to artifacts.

SLO Goal Statement: (*Specific, Measureable, Attainable, Results-based, and Time-bound*)

By May of 2015, 14 out of 58 Algebra 2A students (24%) will improve at least one proficiency level, as determined by my personal mathematics writing/speaking rubric, as students focus on constructing viable arguments, sequencing their logic adequately, and justifying their reasoning when solving equations.

Instructional Strategies and Support: *(What professional development opportunities support this goal? What instructional/leadership methods will you employ so that students progress toward the identified growth goal? How will you differentiate instruction to support multiple growth goals within your population? Who might you collaborate with in order to support the unique learning needs within your group?)*

In order to support this goal, students must have multiple opportunities in which they can write/speak about the processes and reasoning they used in solving equations. This includes responding to the logic presented by their peers. Collaborating with ESL and Special Education staff will be essential to ensure that students are consistently prompted, in a variety of ways, to construct viable arguments, sequence their logic adequately, and justify their reasoning when solving equations. As students develop in this area timely and descriptive feedback will be provided by ESL, Special Education, or the Regular Education teacher with a focus on students' unique areas of need.