

math4life

Professional Learning (PL) Template and/or Course (Session) Building Template

Title:
Abstract: <i>One to Two paragraph description with an associated performance task included</i>
WV College and Career Readiness Standards for Mathematics: <i>include this information with a reference to their location</i>
Math Habits of Mind: <i>include this information with a reference to their location</i>
Thinking Skills: Thinking skills and metacognition models will be integrated and taught as an instructional design component of math4life courses and professional learning experiences. Course assignments and professional learning activities will require students/participants to weave thinking skills throughout their work. Thinking Skills may include but not be limited to the following: combinations of concepts, generalizations, facts and relationships between them, uncovering patterns, similarities and differences, predictions, construction of understanding, and student-led investigation and inquiry.
Must Know: 1. Math Documents— <i>West Virginia Standards Frameworks for Mathematics (will be addressed during planned activities)</i> <i>West Virginia Educator’s Guide for Mathematics (will be addressed during planned activities)</i> 2. Video Resources-- <i>The Teaching Channel and/or other appropriate resources</i> <i>WV Math Mentor Teacher Classroom Instruction/Student Interviews</i>
Prior Knowledge: <i>Performance Task designed to determine prior knowledge, designed for a group to complete with individual accountability as part of the design. Groups will present their solution with the resulting outcome addressing the identification of misconceptions and possible solution(s). Technology supports will be identified and used as appropriate.</i>

Examining the Data:

What Standard(s) are being addressed? (refer back to [WV College and Career Readiness Standards for Mathematics](#))

What are student strengths with reference to the Standard(s)? – *identify location (open to the public) where this information is to be located*

What are student weaknesses? – *identify location (open to the public) where this information is to be located*

What are typical student misconceptions with reference to the Standard(s)? -- [West Virginia Educator's Guide for Mathematics](#)

How does Quantile information increase understanding of student readiness of the content being addressed?

Thinking Skills and Models:

Thinking skills and models will be integrated and taught as an instructional design component of math4life courses and professional learning experiences. Course assignments and professional learning activities will require students/participants to weave thinking skills throughout their work.

Thinking skills models may include but not be limited to the following models: Integrative, Social Interaction, Inductive, Concept-Attainment, Problem-Based, Direct-Instruction, and Lecture-Discussion. Thinking Skills may include but not be limited to the following: combinations of concepts, generalizations, facts and relationships between them, uncovering patterns, similarities and differences, predictions, construction of understanding, and student-led investigation and inquiry.

PL/Course Session Activities*

Activities may be completed by one or more identified domains for professional learning. For pre-service and/or in-service all domains will be addressed as they proceed through their coursework.

Activities are to provide exemplars to explain the [WV College and Career Readiness Standards for Mathematics](#), highlight connection to Mathematical Habits of Mind (MHM), demonstrate the importance of developing conceptual understanding, procedural skill and fluency, and application.

**Professional Learning opportunities should deliver a minimum of two fully developed activities per each 2-hour session.*

*** Levels of Bloom's Taxonomy will be posted by activities and assignments. Links to Bloom's Taxonomy will be provided.*

PL/Course Session Activity Plan:

1. Organization

Cluster the *WV College and Career Readiness Standards for Mathematics*, by domain*, to be addressed by each activity.

*At times it may be appropriate to include Standards for different domains within an activity.

2. Instruction

Provide instruction to address mathematical understanding of the concepts to be learned/taught, vocabulary, real-life application and historical developments, when available, that address the importance of this group mathematical concept(s).

Resources may include thoughtfully developed test-based documents, videos, online references/resources.

Checks for understanding need to be embedded within all instructional resources. Resources are to be scaffolded so that participants/students have multiple points of entry to engage successfully with the content. Math mentors can be assigned to work with participants/students who need support throughout this process.

3. Group/Team/Partner Exploration

Provide scenarios, performance tasks, engaging real-life problems/situations that require collaboration to develop a plan or a possible/real solution based upon the focus of this Activity Plan.

Resources may include performance tasks, scenarios may be developed from the exemplars associated with the *West Virginia Educator's Guide for Mathematics* in addition to possible web-based resources and resources from Radford's ASSETS.

4. Designing a Lesson Plan with the inclusion of a Performance Task and Associated Rubric(s)

Each participant/student will complete the design of a Lesson Plan with the inclusion of an original performance task for the domain/cluster of *WV College and Career Readiness Standards for Mathematics*.

Resources to be provided will include a Lesson Plan Template with Performance Task included, associated Rubrics, Peer-Review Rubrics, and exemplars.

5. Teaching of Lesson to Colleagues/Peers

Each participant/student will teach their lesson from Item #4, to a group of 3-4 peers. Pre-determined parts of the lesson will be video-taped. The developer of the lesson will review the video and complete an observation/reflection activity. The developer of the lesson and the teacher of the course will meet for a debrief of lesson and the instruction of the lesson.

Resources to be provided will include a bank of instructional video, Sources may include *The Teaching Channel* and/or other WVDE resources provided for this purpose. (i.e. Michelle's Office)

*Lesson Plan criteria may differ from course session to session or PL experience in terms of the level associated with the inclusion of technology integration, grouping strategies, questioning techniques, differentiation, thinking skills, reflection, and collection of portfolio artifacts.

6. Demonstration/Documentation of Learning

1. Each In-Service or Pre-Service teacher completing course-work will complete:

math4life e-Portfolio with performance tasks, reflections, videos, video analysis, lesson/unit plans/rubrics, and other evidence of learning (i.e. excel workbooks, chart/table/graph displays, and models.)

2. Quizzes/Tests (Praxis-Like)

The proposal includes at least three practice quizzes per course session with a test at the end of the session.

Minimum test pass score should be 80%.

Vetting Questions:

Vetting Comments: