

MATH-ESE 3D MATH IN THE REAL WORLD

Improving Student Comprehension Of
Mathematics Through Real-World
Connections and Communications

OKLAHOMA STATE REGENTS FOR HIGHER EDUCATION
IMPROVING TEACHER QUALITY PROGRAM
2008 NCLB GRANT

Oklahoma Panhandle State University
Goodwell, OK
May 27-31 and June 7, 2008

with follow-up dates of October 25 and November 22, 2008

Introductions

- > Shawna Lyle
- > Jana Peterson
- > Jerry Mihelic
- > Elaina Stewart
- > Pauline Hodges
- > Nancy Roberts
- > Dave O'Sullivan
- > Maggie Cline

Background

Research shows that students often score low on mathematic exams because:

- they do not possess the language skills to understand the written math problems, and
- they do not realize the relevancy of mathematics; therefore, they do not recognize its importance.

Focus

- ▣ Emphasize math comprehension to help teachers discover ways to combine literacy with computation and numeration in mathematics lessons.
- ▣ Present the concept of "journaling" to the mathematics teachers, a concept that will allow their students to develop a better grasp of the communications of mathematics

Focus

- ▣ Presentations and training that will help the mathematics teacher establish a stronger relevancy between mathematics and the "real world" by providing the teachers with equipment and training that will allow them to "go beyond the classroom" and use real-world applications of mathematics.

Objectives

- ▣ Develop a higher-level knowledge of solving real-world application problems.
- ▣ Increase ability to connect mathematical concepts with real-world applications.
- ▣ Develop strategies for teaching math vocabulary and reading comprehension of math problems.

Objectives

- ▣ Create assessment instruments to measure student achievement in the areas of math dealing with real-world applications.
- ▣ Students in the participants' schools will show improvement in their ability to link the study of mathematics to the world outside of the classroom **as measured by a teacher-made pre/post-test.**

Objectives

- ▣ Professional development strategies, specific workshop activities, and participant findings will be shared with other Oklahoma school districts via the [MATH-ESE 3D Tool-Kit](#) on the OPSU web-site

Benefits of the Workshop

- ▣ Lesson plans aligned to P.A.S.S. that integrate research-based curriculum and/or practices.
- ▣ Increased ability to analyze students' achievement data.
- ▣ NCTM membership
- ▣ EOI Test Preparation
- ▣ Developing a Plan of Implementation

Benefits of the Workshop

- ▣ Specialized training dealing with the creation and use of lesson plans incorporating real-world applications. Topics will include:
 - Measurement
 - Probability
 - Algebra
 - Geometry
 - Reading Comprehension of Math Problems
 - Vocabulary and Journaling

Benefits of the Workshop

- ▣ Pocket PC
- ▣ Digital Camera
- ▣ Manipulatives
- ▣ Networking
- ▣ Stipends!

Necessary Information & Requirements

- ▣ Lunch
- ▣ Breaks
- ▣ Bathrooms
- ▣ Copies
- ▣ Printing

Necessary Information & Requirements

- ▣ Attendance
- ▣ Daily Journaling and Reflection
- ▣ One lesson plan
- ▣ Pre/Post Test

Schedule

- ▣ May 27th-31st and June 7th
- ▣ Follow up dates: Oct. 25th and Nov. 22nd
- ▣ All meetings – 9:00AM-5:00PM
- ▣ All sessions except Saturday, May 31st will be held on OPSU Campus
- ▣ Saturday, May 31st meeting will be in the Guymon Classroom

Detailed Schedule

- ▣ Today – Tuesday, May 27th
- ▣ Concept Map Pre-Test
- ▣ Orientation
- ▣ Instructions about use of Camera and PDA
- ▣ Lunch
- ▣ Math-ESE 3D Pre-Test
- ▣ Reading Comprehension – Dr. Hodges
- ▣ Daily Journaling and Evaluation

Detailed Schedule

- ▣ Wednesday – May 28th
- ▣ Journaling, Vocabulary, Graphic Organizers – Mihelic and E. Stewart – HMH 127
- ▣ Lunch
- ▣ Measurement – Lyle and Peterson
 - Elementary – HMH 109 – Peterson
 - Secondary – HMH 108 – Lyle
- ▣ Daily Journaling and Evaluation – HMH 127

Detailed Schedule

- ▣ Thursday, May 29th
- ▣ Probability – Elementary – Peterson – HMH 109
- ▣ Geometry – Secondary – Lyle – HMH 108
- ▣ Lunch
- ▣ Data Analysis – Elementary – Peterson – HMH 109
- ▣ Algebra – Secondary – Lyle – HMH 108
- ▣ EOI Test Preparation – All – HMH 110
- ▣ Daily Journaling and Evaluation – HMH 127

Detailed Schedule

- ▣ Friday, May 30th
- ▣ Probability – Secondary – Peterson – HMH 109
- ▣ Geometry – Elementary – Lyle – HMH 108
- ▣ Lunch
- ▣ Data Analysis – Secondary – Peterson – HMH 109
- ▣ Algebra – Elementary – Lyle – HMH 108
- ▣ Developing a Plan of Implementation – All – E. Stewart – HMH 127
- ▣ Daily Journaling and Evaluation – HMH 127

Detailed Schedule

- ▣ Saturday – May 31st--Guymon Classroom
- ▣ Math-Ese 3D Post Test
- ▣ Presentation of Sample Lessons – Nancy Roberts
- ▣ Orientation for Field Experience
- ▣ Lunch
- ▣ Field Experience
- ▣ Daily Journaling and Evaluation – Guymon Classroom

Detailed Schedule

- ▣ Saturday, June 7th – OPSU Campus – HMH 127
- ▣ Presentation of planned lessons
- ▣ Final Journal exercise and seminar evaluation

Follow-up Dates

- ▣ October 25 and November 22
- ▣ Presentation of Lessons, pre/post test, data, and reflection
- ▣ All materials must be submitted one week prior to date of presentation

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