

**Enhancing Mathematics
Instruction for
English Language
Learners Through
Learning Stations**

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A stylized map of Texas is shown in the background. The map is divided into several colored regions: a large blue area covering the western and central parts, a yellow area in the north-central part, a red area in the south-central part, and a light purple area in the eastern part. A thick purple horizontal bar is located at the bottom of the map.



Goals for the Project

 Impact teacher understanding of English Language Learners (ELLs)

 Impact teacher mathematics content knowledge

 Impact classroom instruction





Designing the Project

*What kind of
professional development
is needed?*

Experience that
allows teachers to
focus on:

- WHO?
- WHAT?
- HOW?

WHO?

Focus on ELLs

- **What do we know about ELLs and learning mathematics?**
- **Best Practices?**



**WHAT? Focus on
Content**

- **Texas Essential
Knowledge & Skills
for Mathematics, K
- 8**
- **Number, Operation,
and Quantitative**

Reasoning

HOW? Focus on Using
Learning

Stations

Use of Manipulatives

Use of Technology

Use of Literature

Assessment

Opportunities

Implementing the Project

Send out applications
across Region VI -
teacher and principal
commitment to:

7 days of professional
development

May 10, June 20-24,
August 10

Implementing the Project

Participants:

- 27 teachers from across Region VI
- 9 school districts
- Teachers from Grades 1 - 6

Day One: Setting the Stage

- **Collection of Data from Participants**
- ***NCTM Principles & Standards (2000)***
 - ✓ **EQUITY Principle**
 - ✓ **Position Statement on *Closing the Achievement Gap*, April 2005**



Difficulties of Language

Isn't English a Trip?

by José Franco (p. 21-22)

*Changing the Faces of
Mathematics: Perspectives
on*

Latinos. Reston, VA: NCTM



What are Learning Stations?

Carefully designed groups
of activities

Support student
responsibility for
learning

Encourage teacher and
student assessment of
learning

Through the Cracks
by
**Carolyn Sollman, Barbara
Emmons, and Judith Paolini**

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

Structure of Training

Days 2 - 6

- **ELL Moment**
- **Content Exploration**
- **Learning Station Work
Time**
- **Manipulative Moment**

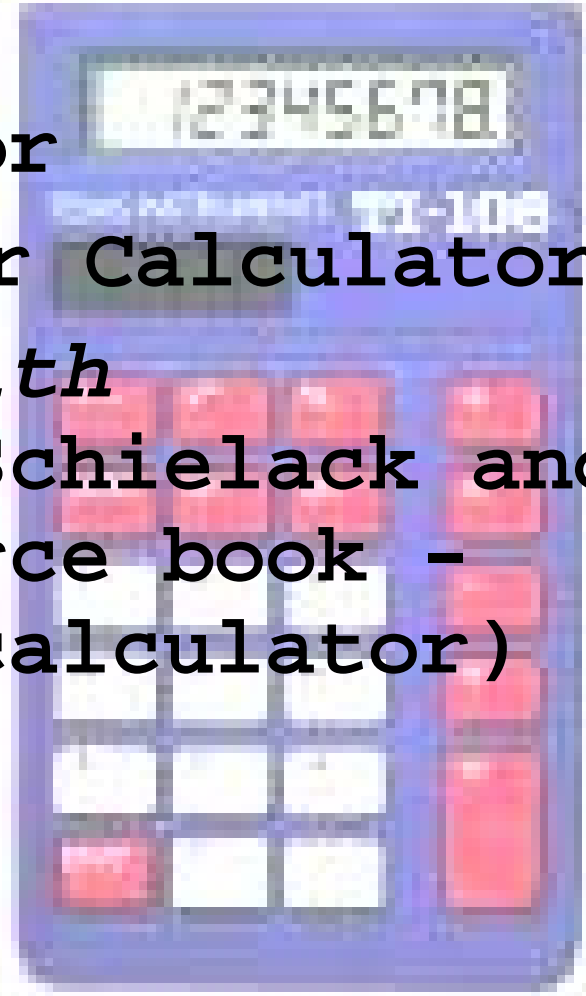
Manipulatives

- **Base Ten Blocks**
- **Linking Cubes**
- **Pattern Block**
- **Color Tiles**



Technology

- Set of 10 Calculators (TI-10 or TI-15)
- Overhead Calculator
- Teacher's Guide for Calculator
- *Uncovering Math with Manipulatives* by Schielack and Chancellor (resource book - version to match calculator)



Resource Books

Teaching Student-Centered Mathematics
(K-3,
3-5, or 5-8 versions) by John Van de
Walle and Louann Lovin. (2006).
Boston, MA: Pearson Education, Inc.

*How to Use Cooperative Learning in
the Mathematics Class* by Alice Artzt
and Claire Newman. (1997). Reston,
VA: National Council of Teachers of
Mathematics.

*Mathematics Assessment: Myths,
Models, Good Questions, and
Practical Suggestions* by Jean Kerr
Stenmark. (1991). Reston, VA:
National Council of Teachers of
Mathematics.

Back to the Classroom

- Making the Connection

Day 7 - August 10

- **Collect Data from
Participants**
- **Learning Stations
Sharing**
- **Back to *Through the
Cracks***

Observations

Level of Teacher Engagement

Introduction of a "new tool" for learning, assessment, and instruction

Understanding of "depth" versus "breadth" in content coverage

Importance of Networking - even within district!

Level of Creativity in Teacher-Constructed Products

Next Steps

Follow-up in the Classroom - Student Data

Debriefing Session - Fall 2005 and/or
Spring 2006

Continuation of Project focusing on
Assessment through Geometry/Measurement
Strands of TEKS

Next version of the current project for a
new group of teachers - Region VI or
beyond!

Training of Trainers for delivering MELL
professional development with a focus on
Learning Stations

QUESTIONS?

COMMENTS?

CONCERNS?