

Strategies for Teaching Mathematics to English Language Learners

Presented by TSUS MELL Initiative

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MELL Partnership

- MELL is a partnership between Texas State University System, its five member universities, and the Texas Education Agency.
- Texas State University System Universities
 - Angelo State University
 - Lamar University
 - Sam Houston State University
 - Sul Ross State University
 - Texas State University-San Marcos

A Place to Begin

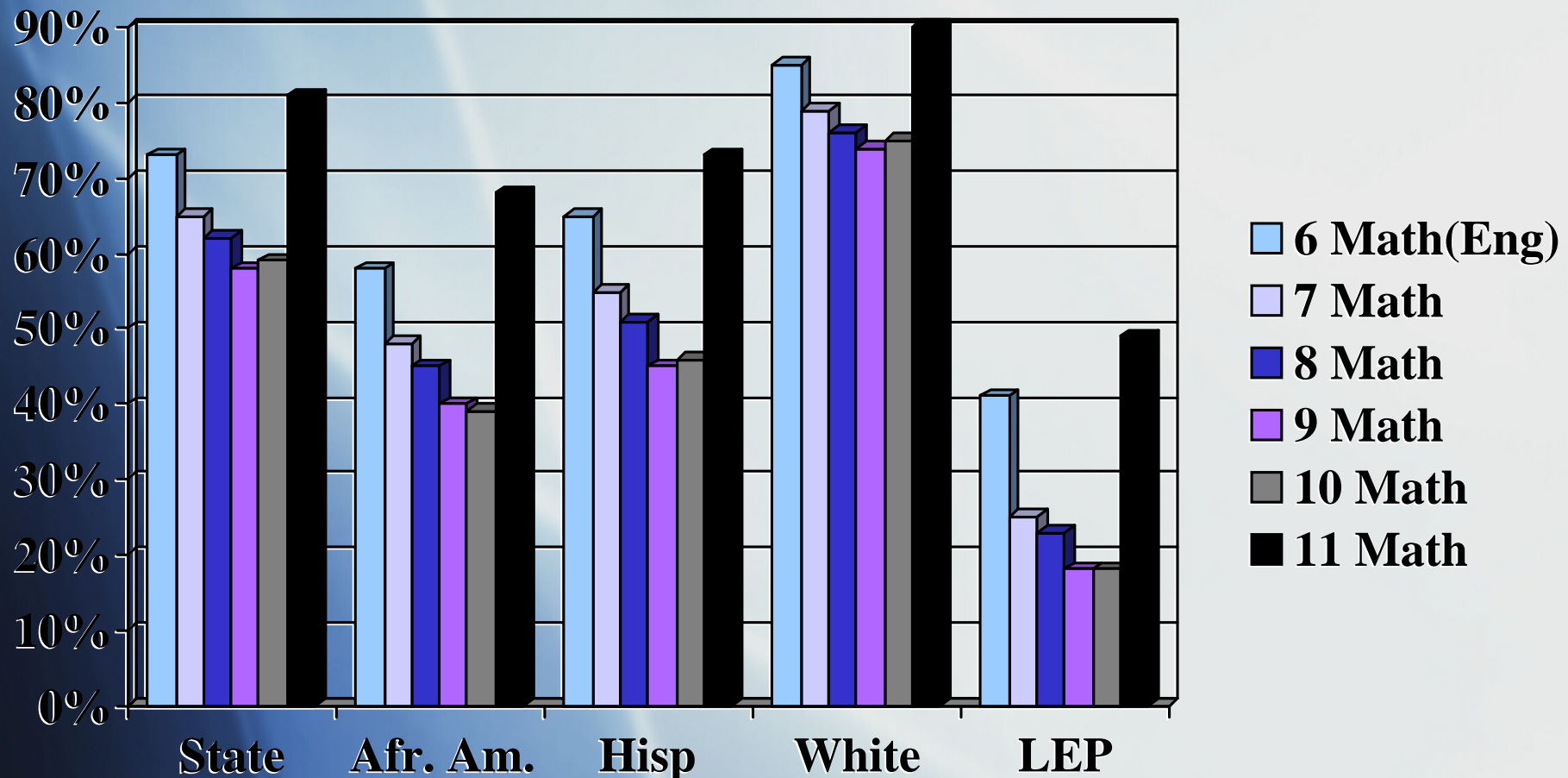
- Underlying Assumptions
 - Teachers have very “full plates” and many demands
 - TAKS standards are substantive and challenging
 - ELL students face additional challenges that are currently reflected in TAKS results

A Place to Begin, Continued

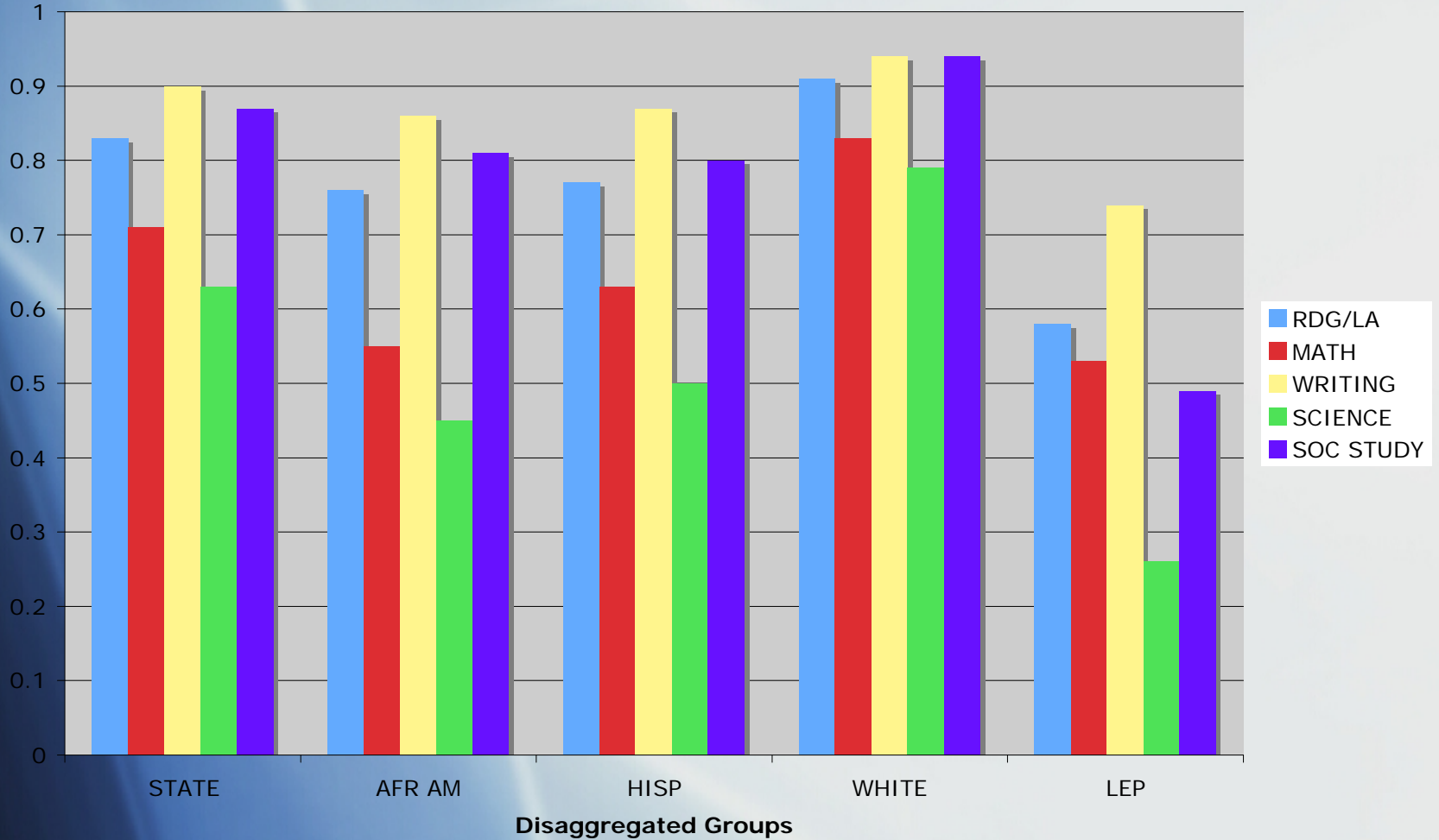
- Underlying Assumptions
 - Texas educators are working hard to improve the performance of all students, including those who are English Language Learners
 - Educators are interested in acquiring additional knowledge and skills to better address the needs of ELL students

- MELL's goal is to help educators better meet the instructional needs of English Language Learners

2005 Mathematics TAKS Scores by Grade Level and Group



Percentages of Students Meeting 2005 Standards on TAKS (Sum of All Grades Tested)



Achievement in math and science lag behind other academic areas.

- To address this need, TEA has launched a comprehensive math professional development initiative.
- MELL is one component of this initiative.

Mathematics and ELLS: Different Populations

LANGUAGE PROFICIENCY

MATH PROFICIENCY

LIMITED English
Proficiency BUT
MODERATE Math
Proficiency

MODERATE English
Proficiency &
MODERATE Math
Proficiency

LIMITED English
Proficiency &
LIMITED Math
Proficiency

MODERATE English
Proficiency but
LIMITED Math
Proficiency

Classrooms as Greenhouses

MELL has posed this question:

“What conditions provide optimal growth for ELL students in mathematics?”

MELL doesn't have THE answer

- But we do have a current consensus based upon:
 - review of the research
 - analysis of professional development programs
 - teacher input, and
 - prolonged professional dialogue.

MELL Classroom Practices Framework

- Consists of six components which include enabling practices and indicators.
 - Learning Atmosphere and Physical Environment
 - Instructional Practices
 - Mathematics Content and Curriculum
 - Language Practices
 - Family and Community Involvement
 - Assessment of Student Learning

Some Culminating Thoughts

- The good news is that the instructional practices that promote ELL success also work well for other students
- However, what is optimal for other students may, in fact, be necessary for ELLs as it appears that the success of ELL students (even more so than other students) is highly dependent upon a conducive learning environment

MELL Products

- **ELL Research Synthesis**
 - Reviews the scientifically-based research literature regarding English Language Learners (ELL) and the teaching of mathematics for secondary students (particularly 11th grade students).
- **A Summary of Mathematics Professional Development Models Used in the State of Texas**
 - Identifies and summarizes twelve models of professional development in mathematics that are used in Texas. Summaries include an overview and an analysis and the format is consistent across models to facilitate comparisons.

MELL Products

- **An Analysis of Existing PD Models**
 - Analysis of each of the 12 identified PD models by identifying components of each that link to the six categories of the Classroom Practices Framework: 1) Learning Atmosphere & Physical Environment; 2) Instructional Practices; 3) Mathematics content & curriculum; 4) Language Practices; 5) Family & Community Involvement; and 6) Assessment of Student Learning.

MELL Products

- **Teachers Guide**

- A guide designed for teachers to make mathematics more meaningful and understandable for the English Language Learner (ELL). The initial focus of this guide is for grades 7-11 and includes general teaching strategies that help the ELL when learning mathematics content.

MELL Products

- **MELL Quick Start Module**
 - A professional development tool designed to explore the issues surrounding the teaching of mathematics to English Language Learners and strategies to enhance learning. The module parallels the MELL Classroom Practices Framework and consists of various professional readings, activities, and resources. [The module is offered for graduate credit through Sul Ross State University and a non-credit version is available through the MELL website (www.tsusmell.org)].

2006-07 MELL Scope of Work

- Expand MELL products to encompass middle school and elementary instruction
- Critical Campus Partnerships
- Statewide Math Professional Development Collaborative

Critical Campus Partners

- A professional development and research project
 - Assists high school teachers and campus/district leaders in high ELL areas
 - Week-long summer institutes
 - Learn and practice research-based mathematics instruction for ELLs

Critical Campus Partners

- Six sites in summer of 2006 - 110 Teachers
 - McAllen - Sam Houston State University
 - Huntsville - Sam Houston State University & Region 6 service center
 - El Paso - Sul Ross State University
 - San Angelo - Angelo State University
 - Brownsville - Texas State University–San Marcos
 - Beaumont - Lamar University

Critical Campus Partners

- Evaluation of Student Learning
 - Measure student growth in classrooms of CCP teachers
 - Compare to growth in non-CCP teachers

Web Addresses

- TSUS MELL Initiative

www.tsusmell.org

- TSUS Education Policy Implementation Center

www.education.txstate.edu/epic

Third Annual
MELL Summer Conference
July 6-7, 2007
San Marcos, TX

Conference information and registration
available at
www.txstate.edu/continuinged

For Additional Information

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