

# Inquiry-based Professional Development of Teachers in Brownsville ISD



**Third International Conference Inquiry Based Science Education  
in Elementary School: Second Preparatory Meeting**

**January 14, 2005**

*Presented by Roni Louise Rentfro for the BISD Inquiry Training Team*

**Brownsville Independent School District &  
Brownsville NSF Urban Systemic Program**

# Demographics for BISD

<b>BISD Student Enrollment (2003-2004)</b>	<b>46,208</b>	<b>100%</b>
<b>Hispanic students</b>	<b>44,887</b>	<b>98%</b>
<b>White, non-Hispanic students</b>	<b>850</b>	<b>1.7%</b>
<b>Low SES students</b>	<b>42,729</b>	<b>94%</b>
<b>SSL or LEP students</b>	<b>23,982</b>	<b>50.1%</b>
<b>Migrant</b>	<b>3,463</b>	<b>8%</b>
<b>BISD Teachers (2% of Brownsville's population)</b>	<b>3,014</b>	
<b>Brownsville Metropolitan Area</b>	<b>163,961</b>	
<b>Median Income/ Poverty status of families</b>	<b>\$9,563</b>	<b>33.3%</b>
<b>Median age/% in school PK-College</b>	<b>27.3 years</b>	<b>34.4%</b>
<b>Educational Attainment (25+ years in age)</b>	<b>Less than grade 9</b>	<b>32.9%</b>
<b>Educational Attainment (25+ years in age)</b>	<b>Some thru Graduate degree</b>	<b>33.6%</b>
<b>Foreign born</b>		<b>31.6%</b>

Data from district records for 2003-2004, NCES 1999, & 2000 Census



# Overview

**The Brownsville NSF Urban Systemic Program (BUSP) has provided leadership in the Brownsville Independent School District (BISD) systemic reform efforts for mathematics and science for all students.**

**The following presentation provides an overview of the Introduction to Inquiry training program for BISD all secondary science and elementary teachers.**

**BISD, with the assistance of the BUSP has trained over 900 elementary and secondary science teachers using a trainer of trainers model. The BISD BUSP Inquiry Training Team now consists of 70+ classroom teachers and administrators who train their peers during district-wide professional development student release days and summer institutes.**

**The BUSP Mentor Teacher program provided the majority of the initial Inquiry Training Team and on-campus support but all training is now done by classroom teachers with peer support.**



# The Plan

- Train teachers as trainers-- at least one per campus in the Introduction to Inquiry Institute at the Texas Center for Inquiry
- 25 in Nov. 2001
- 6 in July 2002
- 32 in Aug. 2003
- 25 in June 2004





# The Plan

- Train all secondary science, all elementary classroom teachers and all instructional campus leadership

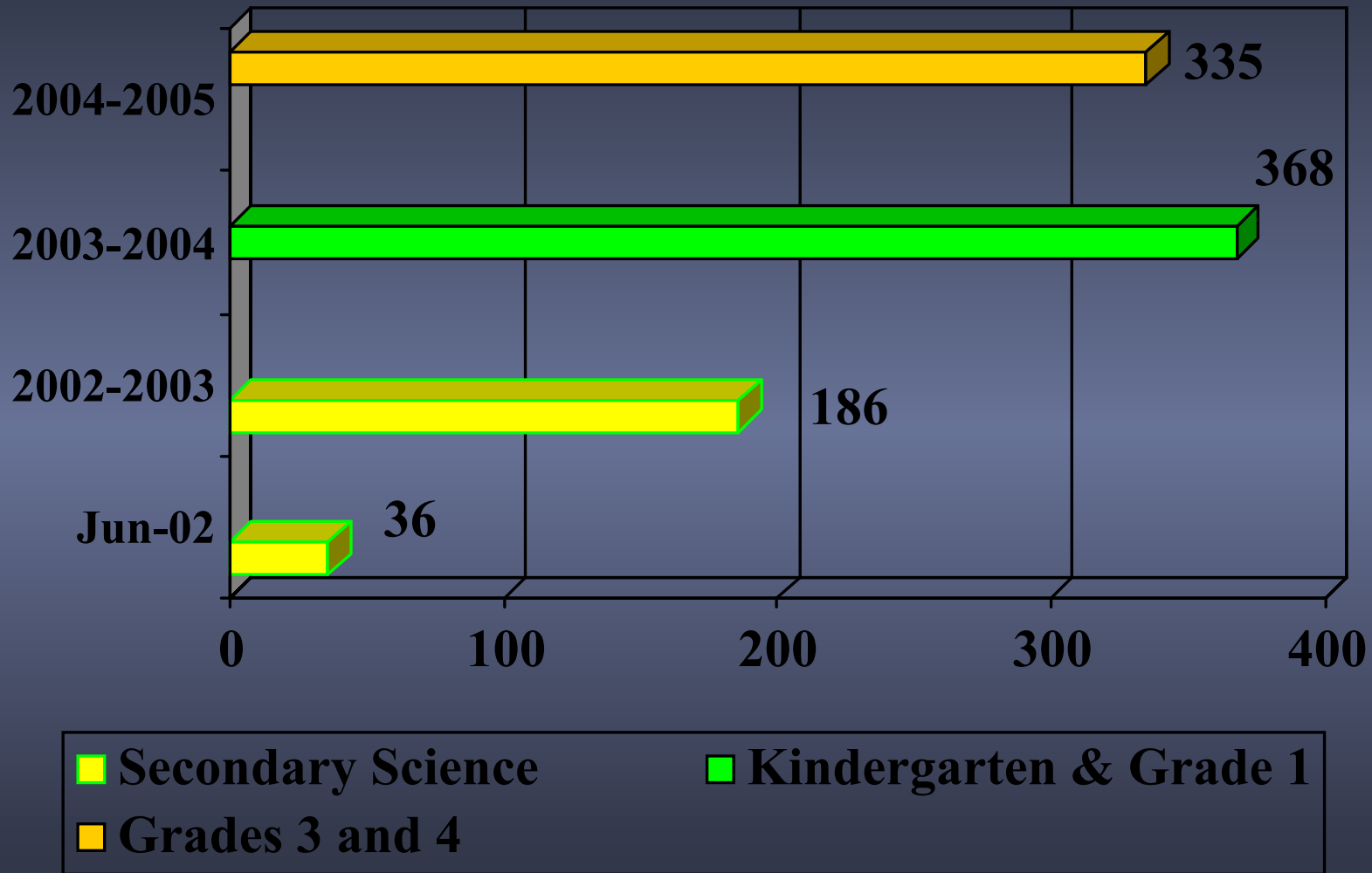


PLAN  
Subtle Shifts  
Answers Circuit on  
Center  
Secondary Science  
Hanna Lopez  
5 trainers 5 trainers



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# BISD Teachers Trained in the Introduction to Inquiry Institute 2002-2005 = 925



Data is from BUSP Professional Development files 2002-2005.



# The Plan for implementation support 2002-2004

**The Mentor's primary role focused on providing in-classroom instructional support, on-campus professional development, and district-wide in-servicing**

**BUSP Mentor Teacher activities included:**

- **workshops, demonstration lessons,**
- **team-teaching, pre- and post-conferences with observations;**
- **co-planning strategies to improve student success on state assessments as well as for life-long learning.**

For 2003-2004:

- **BUSP Elementary mentor staff have logged over 3,647 hours doing 6,262 on-campus and in-classroom activities**
- **BUSP Secondary Math and Science Mentors logged 2,180 hours at their campuses**
- **BUSP staff facilitated and/or presented more than an estimated 75 "days" of district and regional workshops during the 2003-2004 school year.**

**Support improved implementation of hands-on, inquiry-based instruction through BUSP Mentor Teacher program and campus-based trainers and focus all major science workshops in support of laboratory-based, inquiry-based instruction.**

# The Plan continued

- **Shift Science instructional programs to be more laboratory/field-based and inquiry-based through Introduction to Inquiry training and...**

## Elementary

- **Full Option Science System trainings on materials and implementation**
- **Science Journaling (Science Notebooks)**
- **Assessment using rubrics and performance assessments**
- **Content training using hands-on, inquiry-based workshops and university coursework**





# Development of Science Performance Assessments that focus on Hands-on, Inquiry-based Instruction



**Performance Assessments for Earth Materials and Mixtures and Solutions are being piloted in BISD**



## Evidence of implementation of Hands- on, Inquiry-based Science Instruction

Change  
ripples  
leads to

- Have BISD teachers shifted to more hands-on, inquiry-based science instruction?
- Have BISD students gained by their teachers' participation in the Introduction to Inquiry Institute?
- Have BISD Inquiry Training Team classroom teachers gained leadership abilities?

- ✓ 80%+ of teachers trained strongly agree that the training will allow them to provide improved instruction
- ✓ Teachers are shifting hands-on activities and laboratory-based instruction towards more student choice
- ✓ Increased understanding of the inquiry process is evident in student science notebooks
- ✓ Increased understanding of the inquiry process is evident in the quality of student science fair projects
- ✓ Inquiry training team members have become more confident classroom science teachers
- ✓ Inquiry training team members are now more confident and active in campus and district committees and trainings.



# Framing the picture



*For teacher success*





# Framing the picture



*For student success*