

## HANDS-ON SCIENCE

### CAMPUS

Huebner Elementary  
*Recognized 2006-07*

### DISTRICT

North East ISD

### INITIAL IMPLEMENTATION

2005-06

### PROGRAM SUMMARY

The **goal** of Huebner Elementary’s program is to improve student performance in science.

**Key strategies** include emphasis on hands-on instruction and higher order questioning techniques, use of science benchmark tests at all grade levels, and student self-assessments.

**Outcomes** include an increase in the percentage of students passing science TAKS and performing at the Commended level.

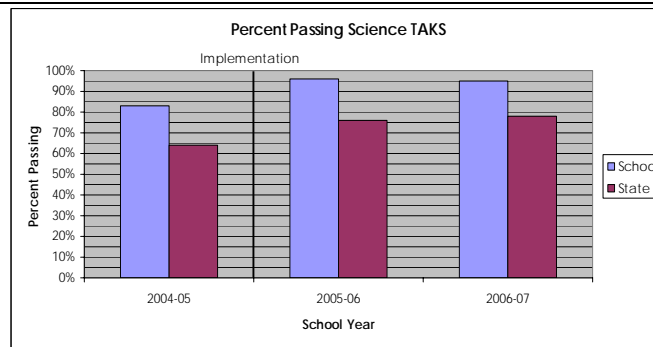
### EFFECTIVENESS

#### Before

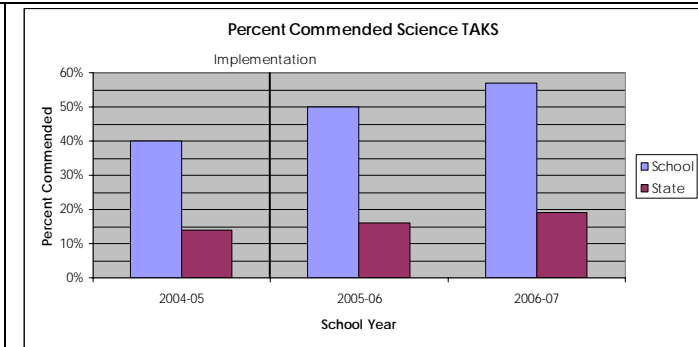
Prior to program implementation, in 2004-05, 83% of grade 5 students passed science TAKS, compared to the state average of 64%, with 40% performing at the Commended level, compared to the state average of 14%.

#### After

After implementation, science performance improved, with 95% of grade 5 students passing science TAKS in 2006-07, compared to the state average of 78%. In addition, 57% of grade 5 students performed at the Commended level, compared to the state average of 19%.



Source: AEIS



Source: AEIS

**CONTEXT/IMPLEMENTATION**

*Demographics (2006-07)*

Grade Levels Served		KG-5	Campus Enrollment		836
<b>Ethnic Distribution</b>			<b>Economically Disadvantaged</b>		
African American	28	3.3%	Limited English Proficient (LEP)	99	11.8%
Hispanic	242	28.9%	At-risk	23	2.8%
White	526	62.9%	Mobility (2005-06)	118	14.1%
Asian/Pacific Islander	40	4.8%		93	12.4%

Source: AEIS

*Background*

- North East ISD schools are encouraged to tailor implementation of a district-wide science program to reflect campus needs. The district program provides significant professional development support, curriculum, and clarifying statements to deepen teacher understanding of science concepts. The district also uses a commercial system to analyze and report benchmark test results so that campus administrators and teachers can focus instructional efforts.
- Huebner’s schedule was changed in 2004-05 to expand the daily period for science instruction from 60 to 90 minutes. To create the extra time for science instruction, social studies instruction was integrated into reading time.
- Huebner Elementary was named a U.S. Blue Ribbon School in 2006-07.

*Procedures*

- A campus science committee, comprised of one teacher per grade level, a special education teacher, and the science specialist, met once a month to discuss issues related to science instruction, vertical alignment, and materials purchases. Members of the committee reported back to their respective grade levels.
- Grade 5 science teachers regularly participated in district professional development that focused on scope and sequence to be covered during a specific six weeks grading period. The training provided strategies and games that corresponded to upcoming units of study. Professional development was based on the 5E model (Engage, Explore, Explain, Elaborate, Evaluate), which was also incorporated into classroom lesson plans.
- In addition, Huebner sent a grade-level representative to district science professional development offered once per quarter for science teachers in other grade levels.
- Campus staff focused on the goal of reorienting science instruction to reflect more hands-on learning with less emphasis on textbook-based teaching.

- Teachers collaboratively planned science lessons by grade level based on National Science Teachers Association benchmarks and science literacy recommendations in *Science for All Americans: A Project 2061 Report* (a publication of the American Association for the Advancement of Science). Lessons included a focus on building vocabulary, higher order questioning techniques, and prior learning in other subject areas. Teachers were encouraged to customize lessons to provide individualized instruction.
- A district science specialist was assigned to the campus to co-teach or model classroom lessons on teacher request.
- The science specialist created an electronic folder of science lessons, activities, picture vocabulary library, and assessments.
- Working with the district science specialist, teachers participated in several intensive group instructional planning sessions to vertically align the TEKS. As part of this process, teachers in K–4 reviewed grade 5 science TAKS results and restructured their grade-level curriculum accordingly.
- Benchmark testing in science was expanded to include grades 2–4, and mini-assessments (summative 5-6 question assessments with TEKS-specific questions based on the 5E model) were given regularly, sometimes as often as once a week, to help teachers analyze student learning.
- Student goal-setting and self-assessments in science were initiated.
- Teachers were trained in exploratory writing prompts, and the use of science notebooks was incorporated into teaching. Students used notebooks while conducting experiments and to reflect on science reading.
- The principal monitored science instruction during walk-through observations. The principal also met with other elementary principals and data coaches quarterly to analyze science data to identify curriculum gaps and students who were struggling. The principal then met with grade-level teams to identify interventions.
- In collaboration with parents, the campus created a science lab in the 2007–08 academic year financed through campus funds and parent donations. A room was identified to house the lab, and parents were responsible for running the lab, including stocking lab supplies and setting up lab activities.

**CAMPUS/DISTRICT STAFF****Teresa Neuman, Principal**

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*The Texas Education Agency (TEA) is seeking feedback about the best practice summaries.*

*Please take one minute to answer the feedback survey (six questions).*

[Best Practices Feedback Survey](#)