



## **Using PDSA to Improve Student Achievement**

*by Lorie Bratcher and LeAnn von Phul, Curtis Elementary School*

Curtis Elementary School, part of the Weatherford Independent School District in Weatherford, TX, has found the plan-do-study-act (PDSA) process to be a great way for students to become directly involved with their learning process, empowering them to take charge of their learning. This process has helped to engage students in a way that has transformed their thought processes.

Through PDSA, students have become more intrinsically motivated rather than extrinsically motivated, and students and teachers have become partners in education. Curtis Elementary teachers have worked with students to improve key learning processes and improve learning results by using the PDSA process.

### **PDSA: What is it?**

The PDSA process is a change or improvement process. Students are involved with making instructional decisions about their learning. They analyze data from their assignments or assessments and develop plans on how they can improve their academic performance.

First, baseline data must be established. Baseline data can be collected by using pretests or formative assessments. Then students develop an action plan. From there, students study whether the plan works by collecting data on assignments or assessments the teacher selects.

After analyzing the data, students discover their strengths and weaknesses. They then determine if the plan worked and make data-driven decisions from there.

The students ask themselves questions such as, "What did I do that did not work?" and "Where else can I try to make improvements?" This cycle continues to ensure continual improvement.

Through these activities, teachers at Curtis Elementary made an interesting discovery. Students became invested in what they were doing in class once we implemented the PDSA process to improve instruction. One student finally began to understand his strengths and weaknesses, making himself in charge of his learning. After working hard and focusing on specific areas of improvement, this student made the AB honor roll. He was engaged in school and proud of what he had accomplished. His mother was tearfully appreciative because her son had never experienced this level of success in school.

We believe it is the students' education, and, therefore, they should actively be involved in making the decisions that impact their learning.

### **Many uses**

The PDSA process has been used in a variety of ways at Curtis Elementary. Using the PDSA process, students have analyzed their assessments and completed an item analysis on each of their responses. Students were able to actually see their strengths and weaknesses on specific objectives. They then completed an affinity diagram to determine what may have caused them to miss certain questions.

After determining these causes, they completed another affinity diagram to collect some ideas for establishing their improvement plan. Many students gained confidence when they discovered their strategies were indeed effective. As a result, goals were established specifically for each student's needs.



Another PDSA example involved students examining their barriers for getting their homework completed by the due date. Once again, students used an affinity diagram to determine why they weren't successful at completing their homework and what strategies they could implement to meet deadlines.

One of the most powerful components to the PDSA process is the study piece: Some time should be set aside so students can determine if their condition has changed. Students developed strategies for turning in homework, used those strategies for two weeks and then went back to study them. Some strategies worked and were continued, while other strategies were ineffective and needed to be changed.

### **Individualized plans**

Using the PDSA process has helped to differentiate learning in classrooms throughout Curtis Elementary. By administering pre-tests for new units of study, teachers could pinpoint strengths and weaknesses to differentiate instruction for their students. The PDSA process has allowed the students to map plans for improving their target skills. Students have individualized plans on how they would improve. The shift in classrooms has moved from teachers telling students what they must do to students asking teachers to help them with what they need to do. Teachers become facilitators, guiding students to make authentic, data-based decisions.

In social studies, the PDSA process was implemented to improve content area assessments. All students took a quiz in which they identified the continents and major oceans. The students were required to correctly spell each word and capitalize proper nouns. Test results revealed the students were not successful; 17 out of 22 students scored below 70%.

Students completed an affinity diagram to determine causes for poor test results and created an improvement plan. Students decided to try out their plan of action for two weeks. Because they were able to provide input and feedback to the teacher, students experienced a feeling of empowerment. The teacher was able to make data-based decisions about her method and delivery of instruction, which also helped increase student achievement. After two weeks of using the improvement plan, students took another assessment. This time, 100% of the students passed the assessment with an 85% or higher. Students were empowered by their results because their improvement plan worked.

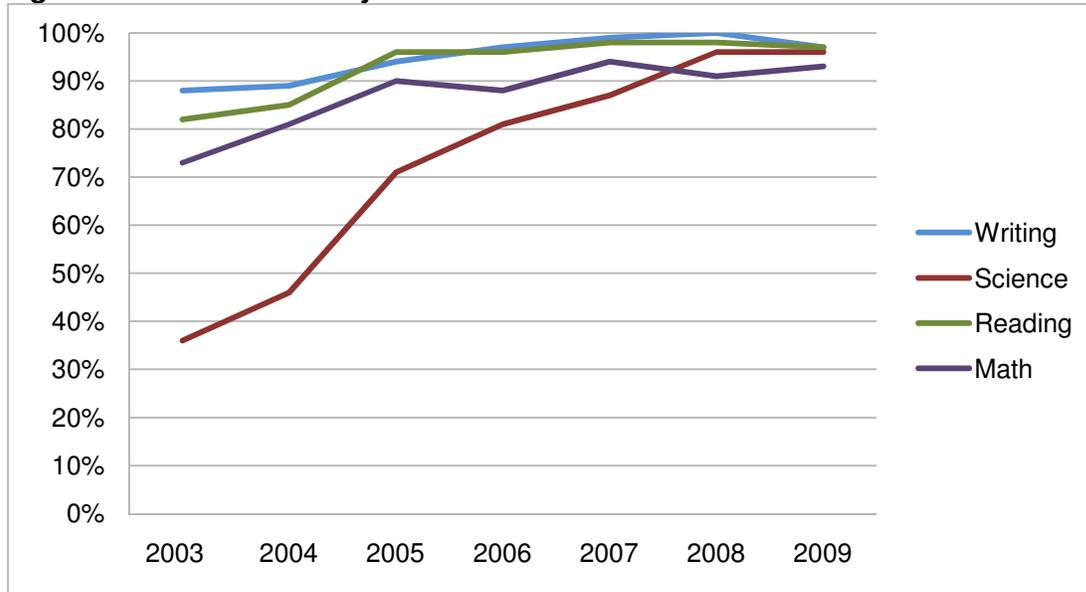
### **Proof is in the results**

The PDSA process helps increase student achievement. Curtis Elementary is committed to excellence, as teachers have been using the PDSA process to improve success for all students for more than four years. This is reflected in trend data for Curtis Elementary's performance on the Texas Assessment of Knowledge and Skills (TAKS) test.

Since 2005, the campus has moved from an academically acceptable rating on the TAKS test to an exemplary rating, the highest rating a campus can earn on the state assessment. The student passing rate for all tests taken was 82% in 2005 and improved to 91% in 2009 (see figure below).



**Figure 1 Curtis Elementary's TAKS Data**



TAKS: Texas Assessment of Knowledge and Skills

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