

Teacher Collaboration in Raising Student Achievement

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Are you teaching math? Reynoldsburg City School District Superintendent Dr. Richard Ross frequently asked this simple question to Reynoldsburg Junior High School's administration and math teachers. The teachers, in response to the constant barrage of questioning and public criticism of not meeting the 7th grade mathematics state benchmark of 75%, met to devise a plan of action. Their action plan required that teachers, during the 2006-2007 school year, create, implement, and analyze Quarterly Common Assessments and its data as part of their department meetings. Student results from the quarterly assessments provided timely feedback.

Teachers utilized the results from the assessments to monitor which instructional strategies were more effective based on the data and academic gains. Areas of weakness on the common assessments were reviewed and discussed. General weaknesses were analyzed to determine if the clarity of the question was the cause, or whether it was an area in which a different instructional approach was needed. Individual teachers reviewed their data and assessed what more could they have done to improve student performances in mathematics. The teachers working collaboratively went about their work with an attitude of "No Blame, No Shame, and No Excuses" in assisting students toward mastery of mathematical content and skills.

Out of the math meetings came about three types of math intervention programs. One program featured a hands-on mathematics approach where select students were targeted by prior student achievement data during the summer of 2006. The teacher individualized her math instruction to meet the needs of each child in her class. She investigated each child's learning style and incorporated specific instructional strategies to meet the differentiated learning styles. Her classes were filled with a variety of engaging activities that promoted student interactions and participation. The class was run as a learning community where every student was expected to participate in the learning process, as each student brought a special talent to the class.

Another intervention program consisted of two intervention teachers who targeted a small group of students who received a second class period of mathematics daily. Many of these students, based on prior years' school data, just missed being proficient on the state achievement test. Specialized instruction was provided in hopes that the students would be successful during the next state testing. Teachers in these classes taught mastery skills designed to fill academic skill gaps. Teachers provided one-on-one support, whole group instruction and reviewed building-wide content deficiency areas. These teachers created and shared lesson plans that targeted building-wide mathematical weaknesses and frequently assessed items.

The last intervention was a change in our enrichment program designed as an Action Research project to accelerate student achievement of students already exceeding state minimum standards based on their achievement history in mathematics. The teacher working with the enriched students reorganized her classes so that she could teach Algebra I to the 7th grade students who demonstrated mastery of 7th grade standards from the start, and were ready for a more rigorous course. In the past, only a few students were accelerated through the standards to take Algebra I as 7th graders and then geometry as 8th graders. Historically, the school sent roughly five students to the high school for Geometry instruction.

The reorganization of the classes was supported and driven by data. As a result of the reorganization plan, the teacher ended up with an additional 20+ students receiving Algebra I within our junior high building. The reorganization of her classes proved to be fruitful and wise as the lowest of her enriched student sections received an additional 15 minutes of instruction daily. The academic gap between the lowest and highest performing enriched students based on common assessment data were less than 5 points. The notion of accelerating the top and bottom student groups while strengthening the middle group of our highest achieving math students was a critical piece in the math department improvements.

Data from 2006-2007 was utilized in creating our 2007-2008 math schedules as well. Based on the reorganization of the math program and how we look at data, we (Waggoner Road Junior High School) currently have 31 8th grade students taking Geometry and 40+ 7th grade students taking Algebra I. The numbers in the enrichment program have grown; however, it will change due to having two junior high schools now.

Overall, teachers of the math intervention program have utilized "teach to mastery" instructional strategies. Math teachers working collaboratively and using data from common assessments drove instructional practices that raise student achievement. Due to the efforts of these dedicated teachers, Battelle recognized Reynoldsburg Junior High School this fall for Kids for our progress in raising math achievement. In the 7th grade, math scores increased over 20 points (36% increase) from 58% (Spring 2006) to 78% (Spring 2007)! Teachers have worked on their CRAFT increasing student achievement. CRAFT is teachers collaborating on teaching and learning, reflecting on their practice, adapting instruction to meet the needs of the students, and using data in a timely manner to focus attention. We now know what works, so our next challenge is to utilize CRAFT in raising our science and social studies achievement scores. We know we can produce similar results to those of the math teachers, who collaborated to make a difference for kids.

Below are the criteria required for the SOAR Value-Added award:

Reynoldsburg Junior High School (Waggoner Road Junior High School & Baldwin Road Junior High School) is being recognized and awarded on behalf of Battelle for Kids for the 2007 SOAR Award for High Progress. This annual award is designed to acknowledge Ohio schools participating in SOAR for their high academic progress in multiple grade

levels and subjects over the past three years (school years 2005-2007).

As an award recipient, we are among approximately the top 3.5% of schools (out of 435 eligible schools) making exceptional growth with our students.

2007 SOAR Award for High Progress Award Criteria: To qualify for the 2007 SOAR Award for High Progress, schools must be part of the Battelle for Kids' SOAR school improvement collaborative and show:

- A minimum of 18 indicators of school effectiveness in the three most recent school years (2005-2007). Each grade and subject analyzed represents an indicator.
- Above average growth in the three most recent school years (2005-2007). Average growth is measured by averaging three years of cumulative gain index (CGI) scores (CGI = School Effect / Standard Error). An average CGI score of 2.0 or higher is required.
- Consistency in school effects across grades and subjects, which is validity by ensuring there is a 95 percent certainty that the average cumulative gain index is at least 1.5% or higher.
- Above average school effects on common state-administered tests in the most recent school year. An average CGI of 1.0 higher is required.
- Minimal negative school effects in the most recent year's analysis. Less than 25 percent of the most recent year's school effects are below average.