

Assessing Success

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Interactive Response Systems Make a Difference in Osceola County School

By **Christine Roulston**

In Paula Rovnak's fourth-grade class at [Reedy Creek Elementary](#) in Kissimmee, Florida, there are only right answers. Or at least that's how it feels to her students.

Since last fall, Rovnak has been quizzing her class regularly using the SMART Response™ interactive response system. Throughout each school day, Rovnak brings up SMART Response questions on her SMART Board™ interactive whiteboard, students respond using their handheld remotes (or clickers), and then the whole class discusses the right answer. The key for the students is that while their teacher knows who answered the question correctly, the responses remain anonymous to classmates.

"Students often shut down when they happen to get something wrong, and that's when the learning shuts off," Rovnak says. "When they have SMART Response in front of them, they think, okay, I got this wrong but nobody else knows – so I can act like I got it right, keep paying attention and learn from it."

It's no coincidence that last spring, after a full school year of using SMART Response in her daily instruction, Rovnak saw her students' scores on standardized math tests increase. The veteran teacher of 10 years believes the constant quizzing and anonymity of results increased students' confidence and lowered their anxiety when taking tests. Also playing a part, she says, was the instant information that SMART Response gave her. It allowed her to better gauge students' understanding and modify her teaching accordingly.

Rovnak's experience with SMART Response was the focus of her master of science in education thesis, which she completed in June 2009 at Full Sail University. She began her research by looking at her students' scores from grades one to three on the Group Mathematics Assessment and Diagnostic Evaluation. The test, administered in the spring and fall of each year, served as a baseline by which to gauge her students' growth in the fourth grade. Rovnak then proceeded to use SMART Response on a daily basis over nine months. At the end of the year, she found that her students' average grade equivalency growth on the state math test was 52 percent, much greater than the 36 percent growth of the previous year. "For them to have grown that much is unusual," Rovak says. The increase, she believes, can be directly attributed to the use of SMART Response.

The formative years

It's no secret that an increased emphasis has been placed on standardized state testing in North America over the past few years. The results of these tests help make learning institutions accountable for their effectiveness and for student progress.

But for all the valuable data these tests supply, some leading experts argue that we've put too much emphasis on summative assessment at the expense of differentiated instruction.

[Clayton Christensen](#), Harvard Business School professor and author of *Disrupting Class*, asserts that we need to "disrupt" the current education system, including standardized testing, and put the focus on customizing education to each student's learning style.



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Dr. Rick DuFour has been an Illinois public school educator for 34 years, serving as a teacher, principal and superintendent. He's also the author of several books on education. Dufour goes so far as to liken summative assessment at the end of a unit to an autopsy – we may find out what the students didn't know, but there's no time to go back and save the patient.

It's an analogy that resonates with many educators, Rovnak included. "Sometimes as a teacher you feel overwhelmed trying to reach each student and getting them to find out what they need to know before the state test. Nobody likes to get a major test back and find out students didn't grasp a key concept."

Interactive response systems are being widely used to administer summative tests. The products enable educators to quickly gather information at the end of the year and find out what students did or did not learn.

But these systems are not just for summative assessment – SMART Response is especially useful for formative assessment. Because this interactive response system is built into SMART Notebook™ collaborative learning software, teachers don't need to waste time switching back and forth between programs – they can quiz students throughout their entire lesson. Teachers can build SMART Response questions into their plan or ask them on the fly. The information they receive allows them to quickly gauge how each student is doing and provide them with differentiated instruction.

Rovnak has found that formative assessment, which she conducts throughout the learning process, provides both her and her students with timely information and enables her to individualize instruction. "With Response, you're able to stop and go back and review this concept, and you can build on their knowledge instead of throwing knowledge at them and hoping that they catch it."

David Lapidés, SMART's director of education market development, believes good formative assessment, such as the kind Rovnak is doing on a daily basis, will continue to grow in importance. "The focus on helping all students succeed and adapting instruction to meet their needs will only increase," he says. "We see evidence of this trend in what individual educators tell us as well as broad national initiatives, such as the Obama administration's proposed education budget priorities for next year."

Confidence, a click away

Gauging how each student is doing is sometimes tricky in a conventional classroom. Invariably, one or two students are keen to answer all the questions, leaving teachers with the task of attempting to draw out responses from less eager classmates. Even on the best day, teachers are usually only able to generate feedback from a small section of the class.

"Having SMART Response makes things easier because you can find out exactly what everyone is thinking at the same time," Rovak says. She believes students are more apt to listen when results are anonymous, ultimately increasing learners' confidence, comprehension and retention.

In addition to the power of anonymity to build confidence, the frequency of the quizzes makes her students more comfortable with testing, something that paid off on the fourth-grade standardized math tests. To give her students even more familiarity and confidence, Rovnak modeled her SMART Response



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questions after those that students would encounter on the state test. According to the State Educational Technology Directors Association (SETDA) [Class of 2020 Action Plan for Education](#), many schools and districts that have made strong gains in student achievement regularly use low-stakes formative assessment. Rovnak explains that "instead of feeling anxious, students acknowledge the final test is important but know they're going to do well because they've learned from all the other tests."

By using an interactive response system frequently, students also began to feel ownership over their learning. A week before large graded tests, Rovnak would quiz students so they had the chance to determine what they most needed to study. Lapedes believes this kind of active learning is essential. He says, "The most meaningful part for kids is that it's an action process. The teacher and the students reach an understanding of where they need to improve."

Instant impact

Research has shown that elementary education forms the foundation for future grades. Achievement gaps in lower grades often widen as students move into middle and high school.

Rovnak believes the instant assessment information she receives is key for enabling her to intervene quickly. "When feedback is delayed, students create their own misconceptions." She says this is often the case in math class, where students can be under the impression they already know how to solve particular problems. Without direct feedback, students may stick to what they erroneously believe is correct, hindering their ability to move forward.

Using the SMART Response interactive response system, teachers can create questions on the fly and know instantly which students need extra help. "I love how quickly I can pull a set of questions up and do them anonymously if need be, just to check a knowledge base right away to see what they've gleaned from the lesson," says Rovnak. "You know who to target and how to help them individually, or if you are able to move on."

When Rovnak sees one or two students aren't grasping a concept, she can step in and work with them individually on extra activities and quizzes. If it's the majority of the class that gets a series of answers wrong, she will then go back and reteach the lesson, presenting it to them differently and adding interactivity through the resources available in [SMART Notebook software's Gallery](#).

Over the coming school year, Rovnak hopes to expand her research to test the effectiveness of SMART Response in the other subjects she teaches, such as reading. Already all the third-grade teachers in her school use it for the subject.

In the meantime, she has only to look around the classroom to see the product's impact on the students. Using SMART Response, the students are animated, acting as though they're working their way through a video game rather than a geometry lesson. After the lesson, they reluctantly place the clickers back in their cubbies. "The kids just love having the clicker in their hands and they don't like it when it's out of their sight. They love using SMART Response." **EC**

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