

SMART Action Research

With more than 1 million SMART Board™ interactive whiteboards in classrooms worldwide and more than 25 million students actively learning with SMART products every day, SMART can be found in every U.S. state, every Canadian province, every Local Authority in the UK and more than 170 countries. To demonstrate the effects of educational technology on teaching and learning, many educators have initiated action research projects.

SMART is immersed in a dynamic research community and often provides product loans and other support to qualified educators who undertake research on a variety of topics. This action research summary presents findings from recent projects that explored how interactive response systems are being used to improve learning outcomes.

SMART Response™ Interactive Response Systems

"I am an avid SMART product user and I create and employ the use of digital media and content on a daily basis. I believe strongly that such tools enhance the learning, retention, attention, participation and test scores of my students." (Barrieau, 2009, p. 3)

Immediate Feedback: Student Response Systems

Rovnak, P. (2009). *Immediate Feedback: Student Response Systems*. (Unpublished master's thesis). Full Sail University, Winter Park, FL.

This four-year study, conducted as part of a master's degree in education media design and technology, concluded that interactive response systems help increase student learning and enhance teachers' ability to target areas of concern. Interactive response systems allow students to respond immediately to questions and enable teachers to give fast feedback. Without having to wait until tests and quizzes are graded, teachers can quickly adapt their teaching to address gaps in learning before moving on to more advanced lessons.

The research data showed grade-level equivalency growth of 30–36 percent from grades two to three and 52 percent from grades three to four. Given these increases, the paper concluded that interactive response systems "are invaluable tools to have in an elementary classroom" (p. 21).

smarttech.com/PaulaRovnakThesis

Keywords: classroom response systems; educational assessment; formative assessment; interactive response systems; student assessment; student response systems; summative assessment

Analyzing the Effectiveness of Curriculum-Based Digital Content Used in a Grade 6 French Immersion Classroom

Barrieau, A. (2009). *Analyzing the Effectiveness of Curriculum-Based Digital Content Used in a Grade 6 French Immersion Classroom. (Research project for SMART Technologies Learning Environments Initiative). District 16, Miramichi, NB.*

This research, conducted from April to June 2009, concluded that SMART products improve student learning in French immersion math, French immersion science and English language arts. Through a series of surveys, video diaries, interviews, photos and a student feedback blog, Barrieau and her colleagues at Harkins Middle School in New Brunswick, Canada, demonstrated that SMART products, including SMART Response interactive response systems and SMART Board interactive whiteboards, foster improved student learning, enhanced literacy skills and active collaboration in the classroom.

smarttech.com/researchHarkins

Keywords: assessment; collaborative learning; curriculum-based digital content; learning environments; SMART Board interactive whiteboards; SMART Response interactive response systems

Using Technology to Support the Development of Mental Math Strategies in Mathematics with Grades 4 and 5 Students

Schmitt, A. (2009). *Using Technology to Support the Development of Mental Math Strategies in Mathematics with Grades 4 and 5 Students. (Unpublished research project). Toronto District School Board, Toronto, ON.*

This project was conducted at a Toronto District School Board elementary school in 2009. It explored how the SMART Response interactive response system (formerly Senteo™) could be used to “inform formative assessment and planning of mental math strategies using number strings” (p. 6).

The researcher offered a number of conclusions. Interactive response systems, for example, helped fourth- and fifth-grade students with mental math mini-lessons (e.g., splitting, adding on and moving). Interactive response systems were also motivational and helpful for both students and teachers because they could keep track of responses. The systems also provided teachers with evidence of participation and accuracy in mental math exercises. Additionally, the researcher felt that integrating products such as the SMART Board interactive whiteboard could provide “a detailed picture of what is happening during a lesson” (p. 12) when, for example, a teacher wants to know how students have arrived at their answers.

smarttech.com/researchToronto

Keywords: formative assessment; mental math; mini-lessons; number strings; SMART Board interactive whiteboards; SMART Response interactive response systems

Using SMART Technology to Create a More Successful, Student Centered Classroom

Moylan, K. (2009). *Using SMART technology to create a more successful, student centered classroom. (Unpublished research project). Worcester Technical High School, Worcester, MA.*

“Many students feel that the Senteo [SMART Response] device adds an important aspect to the lesson. Students feel empowered by using the device and they like to see the variety of student responses.” (Schmitt, 2009, p. 11)

"Student writing improved as a result of greater understanding of the historical information, facilitated through whole class, small group and individual instruction using SMART [products]." (Moylan, 2009, p. 2)

This project, undertaken at Worcester Technical High School from 2008 to 2009, explored whether the use of interactive technologies would create a more student-centered classroom and increase student achievement. It found that using SMART Response interactive response systems and other SMART products increased student comprehension and retention in ninth-grade honors U.S. history classes. For example, there was a 10 percent increase in average test scores for two in-class assignments after the introduction of SMART Response.

In addition to their effect on test scores, SMART Response and other SMART products helped students take charge of their learning and become more accountable for the material. A student commented that with the interactive response system, "I could tell if I got the question wrong or right and I knew what I needed to study" (p. 11).

smarttech.com/researchWorcester

Keywords: educational assessment; formative assessment; measured annual progress (MAP); primary research; SMART Response interactive response system; student assessment; student-centered learning

Real people. Real results.

SMART Response interactive response systems are easy to use, integrate seamlessly with other SMART products and deliver ongoing insight into student comprehension and learning needs. The following stories show you real people using SMART Response interactive response systems to achieve real results.

SMART products increase student engagement in U.S. classrooms

Integrating Technologies for Teaching and Learning

Three U.S. schools reported that using SMART Response interactive response systems in their classrooms has increased student engagement. Oak Park Unified School District in Oak Park, California, surveyed teachers using the product and found that 91 percent believed their students enjoyed the learning process more and that 94 percent felt their students were more engaged in learning.

New York school district chooses SMART

The Elmont Union Free School District in Elmont, New York, chose the SMART Response interactive response system for its elementary school classrooms, installing nearly 100 of the systems in its kindergarten to sixth-grade classes. The decision to purchase the systems was made because of their seamless integration with other SMART products.

Teachers use new interactive system to connect with students

Teacher Frank Moeller at Bowcroft Elementary School in Calgary, Alberta, Canada, found that using the SMART Response interactive response system increased student engagement and improved learning outcomes in his German language classes. Students used the product to receive instant feedback on their answers, which Moeller cited as the main reason SMART Response is so effective.

Improved test scores with SMART products

Hurst Junior High School in the Hurst-Euless-Bedford Independent School District in Hurst, Texas, has experienced a 25–30 percent improvement in math scores since it began using SMART Board interactive whiteboards and SMART Response interactive response systems.