

# Leveraging Interactive Clickers as a Tool for Formative Assessment

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## **EXECUTIVE SUMMARY**

*This chapter provides an overview of interactive remote clickers and how they can be used in an elementary school classroom as a tool for formative assessment in mathematics. The authors share the perspective of a university professor, two teachers, and an elementary school student about the benefits of these types of devices in mathematics classrooms. To this end, they present two vignettes from two fourth grade classrooms and findings from an exploratory study that examined the influence of clickers on teaching and learning in classrooms. Implications and recommendations for using these devices in elementary mathematics classrooms are also provided.*

## **OVERVIEW**

### **The Start of Using Interactive Clickers**

As new educational technologies make their way into classrooms, teachers are sometimes unsure or unaware of the potential that these new tools can have to support the processes of teaching and learning (Lawless & Pellegrino, 2007). One such device in recent years is the interactive clicker, hand-held devices that allow students to transmit an answer choice to a computer and receive immediate feedback. In this chapter, we describe how interactive an interactive clicker system and other associated technologies supported teaching and learning in fourth grade math classrooms. We describe our experiences and also provide suggestions for those looking at using similar technologies in their classrooms.

The partnership between Polly, a university faculty member, and Little and Rodgers, two elementary school teachers, began as part of the University of North Carolina at Charlotte's Professional Development School partnership with local schools, including Shady Brook Elementary School. Through the years this partnership has involved professional development, co-teaching, research projects, and the hosting of university students for clinical and student teaching experiences (Polly & Little, 2012).

Kannapolis City Schools, where Rodgers and Little both teach, has used Mimio technologies since 2008. The primary uses have been Mimio's interactive whiteboards and notebook software, which allows teachers to design activities that students can work on and manipulate on an interactive whiteboard using a stylus. During the 2010-2011 year, the school district purchased Mimio Votes, interactive clicker devices. After a few professional development workshops on how to use the clickers and set up interactive activities, we began to use them with students.

While the clickers could be used in every subject area, specifically in our math lessons we used them primarily to support formative assessment and to review concepts. During a unit, when we reached a point where we wanted to review concepts that students had been working on, we would use Mimio Votes to create multiple choice questions to pose to our students. Each time that students used the Mimio Votes devices, students used the same one, which allowed us to track their performance in each lesson and see students' progress over time. The Mimio questions can be imported directly from PowerPoint or set up using Mimio's presentation software, which looks just like PowerPoint.

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