



Intervention in School and Clinic 48(4) 246–253
© Hammill Institute on Disabilities 2012
Reprints and permission: sagepub.com/journalsPermissions.nav
DOI: 10.1177/1053451212462878
isc.sagepub.com hosted at http://online.sagepub.com



Embedding "Clickers" Into Classroom Instruction: Benefits and Strategies

Erika Blood, PhD1 and Daniel Gulchak, PhD2



Keywords

student response systems, clickers, technology, mobile learning

Maria was a student who always struggled to keep up with her classmates on quizzes, tests, and writing assignments. It wasn't from lack of effort or trying, but she always seemed to miss the main points of the lesson her teacher was teaching. This translated into low grades and poor standardized test scores. Then one day her teacher introduced the class to *clickers*. These handheld devices, about the size of a credit card or TV remote control, allowed all students to independently respond to questions posed by the teacher. Instantly, Maria became more engaged in lessons and started to remember more content because of her increased engagement (see Note 1).

What Are Clickers?

Student response systems, often called clickers, have become more popular and visible in the K-12 classroom in

recent years. There are numerous competing systems on the market, but all perform the same function: to allow the student to use a small hand-held device (i.e., a clicker), or even web browsers on laptops or mobile phones, to respond to questions posed by the teacher. Student responses are then immediately displayed on a screen for all to see (usually in the form of a graph), allowing students to receive corrective feedback on their answer as well as compare their answer to peers' answers. Teachers prepare for a lesson by entering their questions, queries, or

Corresponding Author:

Erika Blood, Northern Illinois University, 162 Gable Hall, Department of Special and Early Education, DeKalb, IL 60115.
Email: eblood@niu.edu

¹Northern Illinois University, DeKalb, IL, USA

²Koi Education, Phoenix, AZ, USA

prompts, as well as possible answers to the questions, before class begins. Some products also let teachers enter questions spontaneously. These questions can be integrated directly into PowerPoint™ or other types of presentation software, including interactive whiteboards (IWBs). Then, students use their clicker to choose an answer from the choices presented. The visual display of student responses allows teachers to provide instant clarification of errors or reteach concepts that students had difficulty with. Instant feedback and evaluation for all!

Both students and teachers see student response systems as a positive addition to the classroom environment. Students report that using a student response system helps them pay attention in class and that response systems are fun to use (Kam & Sommer, 2006; Shapiro, 1997). Past studies involving student response systems also show that their use results in higher scores on assessments related to instructional content (Blood & Neel, 2008; Kennedy & Cutts, 2005), as well as increased responding during class sessions (Blood, 2010).

The many possible uses of student response systems make them a very versatile instructional tool. This article highlights multiple benefits of using clickers, for both teachers and students, and provides an overview of several strategies teachers can use with response systems in their classrooms to engage and motivate students and to improve teaching and learning.

Benefits for Teachers

Instruction

Acquisition of content knowledge is the "bread and butter" of many lessons in school. In language arts, students must differentiate among verbs, adverbs, and adjectives. In science, students learn about taxonomy or solar systems and must acquire new vocabulary. And in history, students are inundated with dates and events. If students don't understand the basics in these subjects, it will be difficult to build knowledge and comprehension. Student response systems allow teachers to receive immediate feedback about student understanding of information. Using clickers, a teacher can easily and quickly check student comprehension of important information and understanding of facts. Since clickers allow the teacher to check student understanding regularly throughout a lesson, when facts or concepts are not understood, the problem can be immediately corrected with on-the-spot reteaching or review. For example, if the results of a poll indicate that at least half of the class answered a question incorrectly, this would be a clear indication to the teacher that students did not understand the concept/information presented and that materials need to be taught in a different way or reviewed. Imagine the potential of knowing what students are thinking? Now

teachers can! When teachers immediately reteach any unclear parts of a lesson, students leave the class with the knowledge intended rather than with confusion over not knowing the point of the lesson.

Assessment

A benefit of clickers is that they provide instant evaluative feedback to both the student and the teacher. Use of student response systems allows the teacher to perform frequent checks of student understanding and conduct ongoing formative evaluation of student learning. This type of ongoing evaluation is preferable to using solely summative evaluation techniques, where teachers give a test at the end of a unit to determine if students have learned the objectives of the unit. By the end of the unit it is too late to reteach content if students didn't understand. Regular use of clickers can provide useful information about student learning and student needs before it's "too late."

Using clickers, quizzes or exams can be given electronically with individual student responses tabulated and graded. Students simply respond to quiz questions displayed on a screen using their clicker. Precious minutes no longer need to be wasted standing at the copy machine. As an added bonus, quizzes and exams can be instantly graded. Imagine not having to grade papers on a Sunday night before returning to school. With clickers, quiz/exam results are automatically organized into a spreadsheet that can be exported to a favorite grading program.

Student response systems also allow teachers to track individual student progress and response to intervention (RTI). This is differentiated instruction on the highest level. Most systems allow teachers to track individual student responses by name or ID number. Now individual student answers can be evaluated to determine which students need additional assistance or support. These records can be compared across subjects or across time, providing a very accurate picture of individual student performance. This is a perfect tool for tracking individualized education program (IEP) or RTI objectives and student progress.

Engagement and Participation

Past research has established a clear relationship between high rates of task engagement and responding to teacher questioning and improved academic achievement and student behavior (Sutherland & Wehby, 2001). Research also shows that student achievement, attention, and behavior improve when students are provided multiple opportunities to respond to teacher-generated questions during instruction (Gunter & Denny, 1998; Sutherland, Alder, & Gunter, 2003; Sutherland & Wehby, 2001). Student response systems offer an inventive way to incorporate technology into instruction and to increase the opportunity to respond for all

students in a class. When teachers use a response system to request responses from students, it gives every student in the class the opportunity to respond to every question, without having to wait to be called on, thus increasing the number of opportunities to respond for all students in the class. The use of student response systems has also been shown to result in increases in student engagement and learning (Blood & Neel, 2008; Kennedy & Cutts, 2005) and in student responding (Blood, 2010). In addition, student response systems are viewed favorably by both students and teachers and are thought to increase engagement and interest in class activities (Blood & Neel, 2008; Graham, Tripp, Seawright, & Joeckel, 2007; Kam & Sommer, 2006).

Versatility and Ease of Implementation

Why reinvent the wheel? Clicker questions can be easily added and incorporated into existing lesson plans. Teachers can simply write down the questions typically asked class, then turn those same questions into question slides (i.e., "clicker slides"). The questions are displayed on a screen instead of asked verbally, allowing all students to respond using their clicker. In many cases, questions can be embedded into PowerPoint or other presentation applications, including IWBs. Questions can be typed in or pasted in from existing documents. Teachers choose the type of question—true-false, yes-no, multiple choice, opinion, Likert-type scale—and the complexity of the response. Response systems are user-friendly for both students and teachers. The learning curve on today's student response systems is low for any teacher familiar with a computer and with creating computer presentations. Anyone who can make a PowerPoint presentation can make clicker slides.

Student response systems are a teaching tool, not a curriculum. Thus, an advantage of student response systems for teachers is that they can be used across all academic, humanities, and extracurricular domains. Student response systems can be used when teaching the "Itsy Bitsy Spider," learning the parts of a friendly letter, studying geometry or algebra, debating The Great Gatsby, or discussing theories of evolution and quantum mechanics. Response systems can even be used in art class, physical education, band, choir, or any other subject that is taught in school. Also, clickers are not just for lecture classes. The versatility of clickers allows them to be used successfully with a variety of teaching styles and in a variety of ways. Ask students their opinion, test comprehension, survey their thoughts, vote on ideas, or collaborate on projects. Students can answer independently, compete for points, or have their points contribute to a group score.

Applications for Students With Disabilities

The versatility of clickers can make them a valuable and effective instructional tool for any teacher. There are many

ways clickers can be used to enhance instruction for students with and without disabilities. For students who may have difficulty with study skills, self-control, attention, or memory (Lerner, 2003; Mercer, 1997), such as students with learning disabilities, clickers can help them maintain attention during class while also helping students focus on the key concepts or "big ideas." For students who often do not respond to questions during class or exhibit high levels of distractibility (Wagner et al., 2006), such as students with emotional/behavioral disabilities, clickers can help increase academic engagement and participation in instructional activities. Plus, using clickers is fun, and what teacher doesn't want learning to be fun?

Benefits for Students

Possible benefits of clickers for students are presented using five broad categories: clarifies big ideas and main concepts, provides immediate feedback, allows anonymous responding, increases participation, and makes learning fun.

Clarifies Big Ideas and Main Concepts

Throughout a class session, chapter, or unit, students are often bombarded with information, terms, definitions, and concepts. For some students, identifying the important information (i.e., information that will be on the test) from the mass of information shared with them can be challenging. A benefit of response systems for students is that clicker questions are typically written to test student understanding of key information and concepts presented within a lesson or chapter. Therefore, clicker questions highlight critical information for students and focus student attention on the main ideas. Consequently, when teachers use response systems to highlight the main ideas, it can help clarify key concepts and prevent students from inadvertently learning or memorizing the wrong information.

Provides Immediate Feedback

Immediate feedback and error correction are important aspects of teaching and learning, helping students to recognize and fix their errors (Cutts & Kennedy, 2005). The real-time and visual feedback provided by a response system gives the student this essential feedback, quickly, and without publicizing mistakes to peers (as is possible with verbal response or hand raising).

Response systems also provide immediate feedback on the correct answer. Students enjoy seeing if their choice is correct. Plus, clickers provide instant validation and reinforcement when they're correct and nonjudgmental feedback when they're not. In today's fast-paced world, students expect instant answers and access to information. Clickers meet this need.

Allows Anonymous Responding

Student response systems allow for anonymous responding. Many students feel self-conscious answering questions in class, especially older high school students. Clickers are perfect for shy students, English language learners, and reluctant and resistant learners because they allow students to test their answer anonymously. There is no need to be embarrassed about providing an incorrect response in front of peers ever again. Furthermore, by anonymously polling students, everyone's voice is heard and no one can dominate a classroom conversation. The extrovert's and the shy student's opinions are both valued and shared. There has never been a more democratic tool for the classroom.

Increases Participation

A benefit of clickers for students is that all students are prompted to provide an individual response. Thus, response systems include all students in thinking and responding to a question. This forced participation gives each student time to think about the question and make a decision, encouraging critical thought on the part of each student in the class. As a result, instead of thinking about the question only when a teacher calls on one student to respond, all students are motivated to think about and answer every question. Use of student response systems increases opportunity to respond (no raised hand needed). Increased opportunity to respond during instruction has been proven to increase task engagement and decrease inappropriate and disruptive behaviors (Lewis, Hudson, Richter, & Johnson, 2004).

Response systems dynamically encourage active participation in the lesson. It's far too easy for most students to disengage from class and allow a few enthusiastic students answer each and every question the teacher poses. Clickers can combat this student apathy. Recent research has shown that students are more likely to respond to teacher questioning if they are asked to respond using a clicker, versus giving a verbal response (Blood, 2010).

Makes Learning Fun

Clickers fit the ubiquitous computing style of today's students. Many of today's learners have interacted with computers almost from birth. Student use iPods and iPads, text messaging on cell phones, and video game controllers from dawn to dusk. They expect interactive learning in the classroom too.

Students really like clickers and believe they make learning fun. There is no better test of the social validity of a classroom intervention than asking the students if they like the intervention. Teachers will likely find that students will

ask to use the clickers again and again. The variety of questioning styles, response formats, and result display methods means that students will never get bored of using the clickers. The versatility of this tool may make it the most used technology in the classroom.

Getting Started: Create Student Response Questions

All companies making student response systems have proprietary software that is required to utilize their clickers. Many of the products listed in Table 1 integrate directly into a slide presentation such as PowerPoint, integrate into PowerPoint via a plug-in or add-in that can be downloaded, or offer a floating tool bar to integrate into other applications such as spreadsheet programs or web browsers. Since each software application functions slightly different from others, only general tips and strategies are offered here. Step 1 requires installing the provided software onto the computer that will be used to run presentations. Step 2 involves creating questions. Step 3 is choosing the graphic display options for the response such as bar graph, histograph, pie graph, or others (see Figure 1).

There are three primary ways to build a question library. First, questions can be created to align with lesson objectives, goals, or big-picture main ideas, as stated previously. If this is the chosen method, find the "Add Question" link or similarly named button in the student response software application being used and type in a question prompt along with the answer choices. Standard options for question format includes true-false, multiple choice, and in some cases text-based responses if the response device supports this. A second option is to copy and paste questions from state or district standards, curriculum maps, or instructor textbooks or study guides. Depending on each individual's typing dexterity, this may or may not be quicker and easier than retyping the content read from a page. Consider resizing each application so that it takes up half of the computer screen width and the applications are side by side. This will allow for both applications to be seen at the same time and can expedite the copying and pasting process. Finally, questions can be created spontaneously based on classroom discussions or topics that come up during the course of a lesson. This is where the power of student response systems shines: authentic learning, student engagement embedded into the context of the lesson, and a truly interactive classroom experience.

Ten Strategies to Embed Clickers Into Classroom Instruction

This section outlines several different ways teachers can use response systems in their classrooms to improve teaching and learning and engage and motivate students.

Table 1. Student Response Systems.

Company	Tech specs
elnstruction (www.einstruction.com)	Radio frequency (RF)
	 2 AA batteries with a typical life of 9–12 months
	 Mobile and browser-based version available
Padgett Communications (www.pcipro.com)	• RF
	 3 AAA batteries with a typical life of 18 months
	 Compatible with PC or Mac with Reply software or PowerPoint add-ins
Promethean (www.prometheanworld.com)	• RF
	 3 AAA batteries with a typical life of 18 months
	Compatible with or without an interactive whiteboard (IWB)
	 Compatible with PC or Mac with ExpressPoll or Wonder Wheel software
	 Mobile and browser-based version available
Qwizdom (www.qwizdom.com)	• RF
	 2 AA batteries with a typical life of 150 hours
	 Compatible with PC or Mac with Qwizdom Actionpoint
	software
SMART Technologies (www.smarttech.com)	• RF
	 2 AA batteries
	 Compatible with or without an IWB
	 Compatible with PC or Mac with SMART Response software
	 Mobile and browser-based version available
Turning Technologies (www	• RF
.turningtechnologies.com)	 2 coin cell lithium batteries with a typical life of 6–12 months
	 Compatible with PC or Mac and TurningPoint software
	 Mobile and browser-based versions available

Teaching Strategies

Review main ideas. Clickers can be an effective way to review the main ideas of a lesson. Within any given lesson, or class session, there are likely to be a few core concepts or big ideas that teachers want their students to come away with. These main ideas may also align with district or state standards, making student mastery of lesson objectives even more critical. To use a student response system to review main ideas of a lesson, first identify the core concepts or big ideas. Next, write clicker questions based on those same core concepts and big ideas. Make sure the questions are in true-false or multiple-choice format. Then, insert clicker slides into an existing presentation or use the question slides as a stand-alone method of review. Finally, show the question slides to students, allowing time for each student to respond, then display the responses. Students will receive immediate feedback as to the correctness of their answer and how their answer compares to peers' answers. Most response system software also allows the correct answer to be highlighted or marked when responses are displayed, making it quick and easy for students to identify the right answer. This type of review can be done periodically throughout the lesson, before moving from one main concept to another, or at the end of the entire lesson as a review. If most students answer correctly, proceed to the next question or move forward and begin teaching the next concept. If a majority of students choose an incorrect answer (i.e., 50% or more), it is likely that they have not yet mastered that lesson objective or concept and could benefit from clarification or reteaching.

End of chapter/unit review. Similar to reviewing main ideas of a lesson, clickers can also be used to provide an end-of-chapter or end-of-unit review. To use clickers for this type of review, first identify the core concepts or main ideas that were covered in the chapter or unit (these could also be the chapter/unit learning objectives). Use the learning objectives or "big ideas" to write clicker questions, again making sure the questions are in true—false or multiple-choice format. Since these questions will be used as an overall review of content, clicker slides do not need to be embedded into an existing presentation; instead, create a new presentation just for the review questions. Finally, use the review presentation to review content with students at the end of each chapter or unit, or before an upcoming exam.

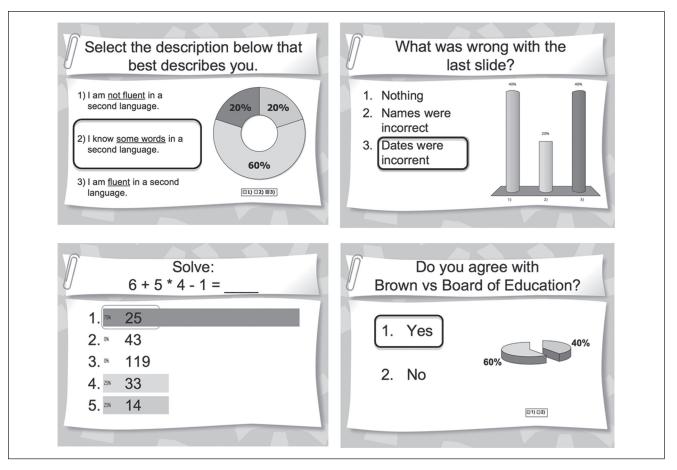


Figure 1. Images of student responses integrated into PowerPoint slides.

Spark class discussions. Sometimes students may feel reluctant to volunteer an idea or thought because they are unsure where others in the class stand. Using clickers can be a great way to engage a class in a discussion. At the beginning of a class session, use clicker slides to poll the class and inquire about student opinions or experiences on issues related to that day's topic or discussion (e.g., statement: "I have traveled outside of the United States"; answer choices: "Yes/No"; question: "Do you agree with Brown vs. Board of Education?"; answer choices: "Yes/No"). This could also be the perfect time for Likert-type scale questions asking students to rate their agreement with a statement (e.g., statement: "War is always wrong"; answer choices: "strongly agree, agree, neutral, disagree, strongly disagree").

Games and competitions. Team competitions can be a fun way to encourage collaboration and cooperative learning. Plus, the spirit of positive peer pressure can encourage students to think and respond. Many response systems allow teachers to group students into teams, so that student responses are recorded and displayed under a team "score" instead of individually. The grouping and competition

features of such response systems allow a teacher to turn a traditional review into an interactive and engaging, friendly competition among peers. Some response system software also allow for additional options such as for questions to be set up as "faster responder questions," so that points are awarded for quick responding, or for "leader board" slides to periodically pop up and inform participants of the current team scores and rankings.

Assessment Strategies

Quizzes or exams. Save time, energy, and trees. It is no longer necessary to spend hours grading student's weekly quizzes or exams. Instead, create a new clicker presentation for each quiz or exam that will be given to students (i.e., Quiz 1, Quiz 2, etc.). In that presentation, make a clicker slide for each question that would typically appear on the paper and pencil quiz or exam (remember to stick with true–false or multiple-choice format questions). Assign each student a specific clicker and clicker number (this is an option provided with most response system software). This will

allow the teacher to later identify each student's responses to each question. Then, instead of handing out individual copies of quizzes/exams to each student, the teacher can just open the presentation. Show students one question at a time, allowing plenty of time for each student to read and respond to each question. When the quiz is finished, student responses will automatically be recorded in an Excel-style spreadsheet. The spreadsheet will calculate the number of responses correct and display the answer chosen by each student to every quiz question asked. Save the responses at the end of the session and, grading complete!

Pretest and posttest. Rather than having students take a paper-and-pencil pretest at the start of a new unit or posttest at the end of a unit, transfer the same questions that would normally be asked onto clicker slides. The clicker format will decrease grading time (responses automatically recorded on an Excel file) and allow for easy comparison of improvement pre to post.

Review of assigned readings. Encourage students to come to class prepared by beginning the lesson with a clicker-facilitated reading review. Students may be more likely to arrive to class having read assigned readings if they know they will be quizzed/questioned at the start of class over content covered in assigned readings. To use clickers to review assigned readings, simply create a separate "reading review" presentation that contains only questions relating to content in the assigned readings, or add a few new clicker slides at the beginning of an already existing PowerPoint presentation. Then, start the lesson off with a brief review of assigned readings before transitioning into that day's content.

Motivating Strategies

Attendance. Assign students their own clickers (i.e., response cards) at the beginning of the semester or school year (most clickers have ID numbers on the back). Then, make sure each student uses his or her assigned clicker each day in class. This will allow student names to be matched with the numbers on the back of the response cards and individual student responses to be tracked over time. To use clickers to take attendance, create an "attendance slide," where students can respond to a statement to indicate their presence in class (e.g., statement: "I am here today"; answer choices: "yes/no" or "a) Yes, b) No, c) Only physically"). If a student responds, he or she is counted as present. If there is no response, the student is marked as absent or tardy. Taking attendance (using clickers) at the start of each class session can be an easy, no-hassle way to take attendance—students are either in their seat, ready to go, and clicking, or they are not. Students will catch on quickly, and instances of tardiness to class may even decrease.

Classwide voting. Trying to decide where to go on an upcoming field trip? Debating over what to do on "Friday

Fun Day" for the class reinforcement activity? Deciding whether to take the exam before or after the holiday break? Put it to a classwide vote using clickers. Create a clicker slide displaying the available options. Have students vote for their preferred option. Majority vote wins!

Assessment of engagement, interest, learning. Teachers often value and appreciate feedback from students concerning class activities, topics covered, and teaching methods. Clickers can be used to gather this type of feedback from students. Clicker slides can be used to anonymously question, or survey, students at the end of class sessions on a variety of topics. For example, a teacher interested in measuring student engagement or interest across class sessions could conclude class with a clicker slide asking students to rate their overall level of interest in that day's class session (e.g., statement: "Please rate your level of interest/ engagement in today's lesson"; answer choices: "4) I was highly engaged and hanging on every word, 3) Mostly engaged/interested, 2) Somewhat engaged/interested, 1) I was thinking about my weekend plans and what TV shows are on tonight"). This type of class polling can provide helpful information that can be used to adjust, modify, and improve class instruction according to student needs and preferences.

Conclusion

The varied, and multiple, uses of student response systems make them a versatile instructional tool. Clickers can be used across disciplines and with students of all ages. This article has outlined several ways teachers can use response systems in their classrooms to engage and motivate students and improve teaching and learning. Potential benefits of response systems for teachers include enhanced instruction and increased engagement for students with and without disabilities. Response systems also provide a way to assess student progress toward meeting learning objectives and are easy to use and implement in the classroom. Students benefit because student response system use by the teacher can help clarify main ideas and key concepts, provide immediate feedback, allow anonymous responding, and encourage increased participation, and response systems are fun to use. Getting started tips provided here included installing the software, creating questions, and selecting graphic display options. Finally, 10 strategies were provided for teaching, assessing, and motivating students—all with the goal of improving academic achievement. The only thing left is to do is to start using clickers today.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Note

 The student name is a pseudonym based on a student who was observed by the authors.

References

- ActivClassroom [Computer software]. Alpharetta, GA: Promethean, Inc. Retrieved from http://www.prometheanworld.com/
- Audience Response Systems [Computer hardware and software]. (2010). Clearwater, FL: Padgett Communications. Retrieved from http://pcipro.com/
- Blood, E. (2010). Effects of student response systems on participation and learning of students with emotional and behavioral disorders. *Behavioral Disorders*, *35*, 214–228.
- Blood, E., & Neel, R. S. (2008). Using Student response systems in lecture-based-instruction: Does it change student engagement and learning? *Journal of Technology and Teacher Education*, 16, 375–383.
- Cutts, Q. I., & Kennedy, G. E. (2005). Connecting learning environments using electronic voting systems. *Conferences in Research and Practice in Information Technology*, 42, 181–186.
- eInstruction. [Computer software]. Scottsdale, AZ: eInstruction Corporation. Retrieved from http://www.einstruction.com/
- Graham, C. R., Tripp, T. R., Seawright, L., & Joeckel, G. (2007).
 Empowering or compelling reluctant participators using audience response systems. *Active Learning in Higher Education*, 8, 233–258. Retrieved from http://alh.sagepub.com
- Gunter, P. L., & Denny, K. R. (1998). Trends and issues in research regarding academic instruction of students with emotional and behavioral disorders. *Behavioral Disorders*, 24, 44–50.
- Kam, C. D., & Sommer, B. (2006). Real-time polling technology in a public opinion course. *The Teacher*, *39*, 113–117.

- Kennedy, G. E., & Cutts, Q. I. (2005). The association between students' use of an electronic voting system and their learning outcomes. *Journal of Computer Assisted Learning*, 21, 260–268.
- Lerner, J. (2003). *Learning disabilities: Theories, diagnosis, and teaching practices*. Boston, MA: Houghton Mifflin.
- Lewis, T. J., Hudson, S., Richter, M., & Johnson, N. (2004). Scientifically supported practices in emotional and behavioral disorders: A proposed approach and brief review of current practices. *Behavioral Disorders*, 29, 247–259.
- Mercer, C. D. (1997). Students with learning disabilities. Upper Saddle River, NJ: Merrill/Prentice Hall.
- Qwizdom SRS [Computer software]. (2010). Puyallup, WA: Qwizdom, Inc. Retrieved from http://www.qwizdom.com/
- Shapiro, J. A. (1997). Electronic student response found feasible in large science lecture hall. *Journal of College Science Teach*ing, 26(6), 408–412.
- SMART Response Interactive Response Systems [Computer hardware and software]. (2011). Calgary, Canada: SMART Technologies. Retrieved from http://smarttech.com/
- Sutherland, K. S., Alder, N., & Gunter, P. L. (2003). The effect of varying rates of opportunities to respond to academic requests on the classroom behavior of students with EBD. *Journal of Emotional and Behavioral Disorders*, 11, 239–248.
- Sutherland, K. S., & Wehby, J. H. (2001). Exploring the relation between increased opportunities to respond to academic requests and the academic and behavioral outcomes of students with emotional and behavioral disorders: A review. Remedial and Special Education, 22, 113–121.
- Turning Point [Computer software and manual]. (2002–2011). Youngstown, OH: Turning Technologies. Retrieved from http://www.turningtechnologies.com/
- Wagner, M., Friend, M., Bursuck, W. D., Kutash, K., Duchnowski, A. J., Sumi, C., & Epstein, M. H. (2006). Educating students with emotional disturbances: A national perspective on school programs and services. *Journal of Emotional and Behavioral Disorders*, 14, 12–30.