Welcome to Special Learning's Webcast Training Series August 30, 2012

Topic: Active Student Responding: Increasing Learner's Motivation and Self-Monitoring

Speaker: Michele LaMarche, BCBA

Special Learning

Professional Training Series

Active Student Responding: Increasing Learner's Motivation and Self-Monitoring

Presented by: Michele LaMarche, BCBA

Step by Step

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Speaker Bio

Michele LaMarche is a BCBA and co-founder of Special Learning, Inc. She is also the founder and Executive Director of Step By Step Academy (SBSA), a highly-regarded center-based non profit Autism treatment facility in Columbus, Ohio. Since its formation almost ten years ago, SBSA has touched the lives of over one thousand students through rigorous application of Applied Behavior Analysis (ABA) treatments, resulting in exceptional outcomes.

Michele, with over fifteen years of professional experience in the field of ABA, uses her knowledge of behavioral treatment to produce ground breaking, effective, empirically validated curricula, a critical factor in successfully mainstreaming hundreds of students with ASD. With her credentials and work through Special Learning and SBSA, she has changed the lives of countless individuals and families affected by ASD.

What is Active Student Responding?

- Active Student Responding is an antecedent intervention in which students are answering questions or responding in other ways to demonstrate
  - understanding of content that is being taught
  - following teacher directions to show that they are still engaged in the lesson/activity.

- Antecedent Interventions are an evidence-based practice to decrease interfering and off-task behaviors that interfere with student learning.
- The aim of antecedent interventions is to modify the environment or activity so the identified targeted behavior is not elicited during instruction.

Begin Code: ml22012s

Key Features of Active Student Responding

- When instruction is delivered, active student responding is:
- Observable
- Measurable

- Responding that is observable and measurable is objective
- Frequency and duration of responses can be observed by instructor

- ASR produces immediate feedback

- ASR reduces classroom disruption – promotes engagement in classroom activity

Why is Active Student Responding Important

- Being engaged in instruction and appearing to be on task is not sufficient to ensure students are learning the content being taught
  - We cannot measure internal behavior associated with learning including listening and understanding
  - We can measure the active responses students make and use them as a guide to determine understanding
- Student learn through practice and Active Student Responding is a direct measurement of how much instruction the students are receiving and subsequently how much learning is taking place in a classroom

What does the literature say about active student responding?

- Several studies have addressed both the techniques used in active student responding (response cards, etc.) and the best uses for active student responding in the classroom

Implementation of ASR

(Blackwell & McLaughlin, 2005)
(Kellum, Carr, & Dozier, 2001)
(Berrong, Schuster, Morse, & Collins, 2007)

- Incorporating audience participation when teaching has been found to increase learning – the more a student responds, the more they will learn

- Using ASR in various teaching environments:
  - Decreases the amount of downtime
  - Increases the amount of instructional time
  - Is cost effective – implementing various ASR methods are cheap and easy to do
  - Increases response accuracy

Examples of ASR

- The following are some examples of active student responding:

  - Answering questions vocally
  - Answering questions using response cards
  - Written answers to questions
  - Calculated math problems
  - Raising hands to answer questions
  - Peer tutoring/peers working in pairs/small groups
  - Choral responding
  - Computer-assisted instruction
  - Guided notes or fill-in sheets

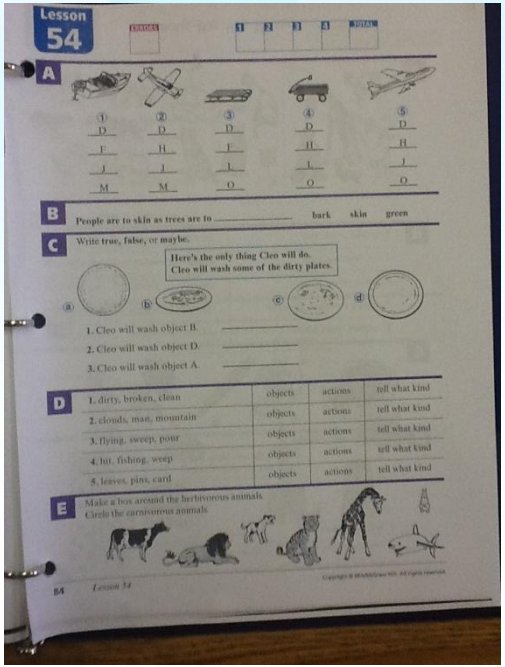
Choral Responding
(Blackwell & McLaughlin, 2005)

- What is choral responding?
- When instructor delivers a signal, students are required to respond at the same time, in unison
- A key component in Direct Instruction
- Because every student is required to respond, the instructor can identify who responds incorrectly, correctly, or not at all

Choral Responding
(Blackwell & McLaughlin, 2005)

- 3 criteria in choral responding:
- Students must have the ability to respond using short answers, typically one to three words – instructors must ask questions that require students to respond with only one correct answer
- Fast-paced instruction – enables students to produce greater attending to instructor, in addition to a more preferred learning environment for students
- Smaller groups are suggested – easy for instructors to provide feedback to students

Fill-in activity in the classroom



Response-Card Instruction

(Kellum, Carr, & Dozier, 2001)
(Blackwell & McLaughlin, 2005)

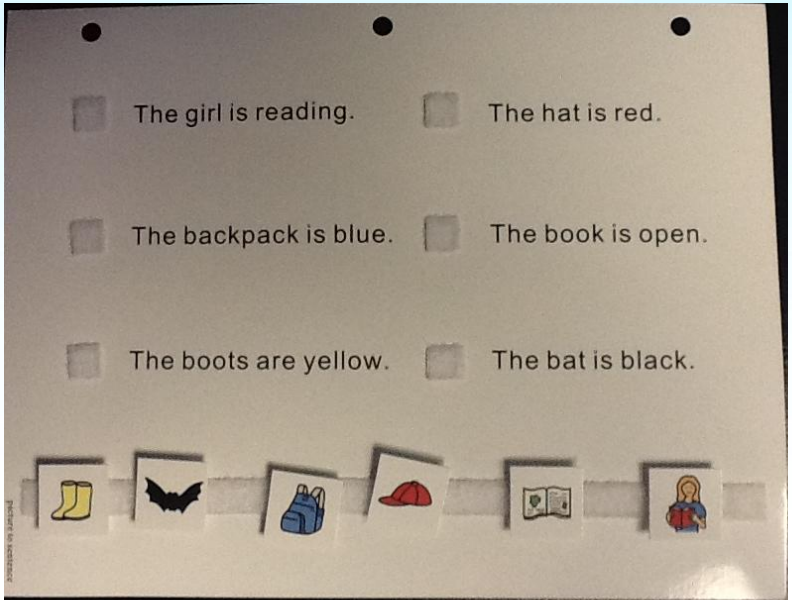
- What is a response-card?
- A card that answers a question posed by the instructor
- Every student in the class is required to hold up their card to respond
- The instructor is able to provide immediate feedback to all students

- What does a response card look like?
- Pre-typed card, sign, dry-erase board, felt board

- Responding with a response-card: card is held up so the instructor can see the answer to the question posed

- Research has shown that response cards increase class participation – leads to greater amount of learning

Reading Comprehension Example



Response-Card Instruction

(Berrong, Schuster, Morse, & Collins, 2007)

- Many skills can be taught using response-card instruction including:

  - Reading and comprehension skills
  - Math skills
  - Visual performance skills
  - Vocabulary
  - Intraverbals
  - Science
  - Social studies
  - And many more!

Response-Card Instruction

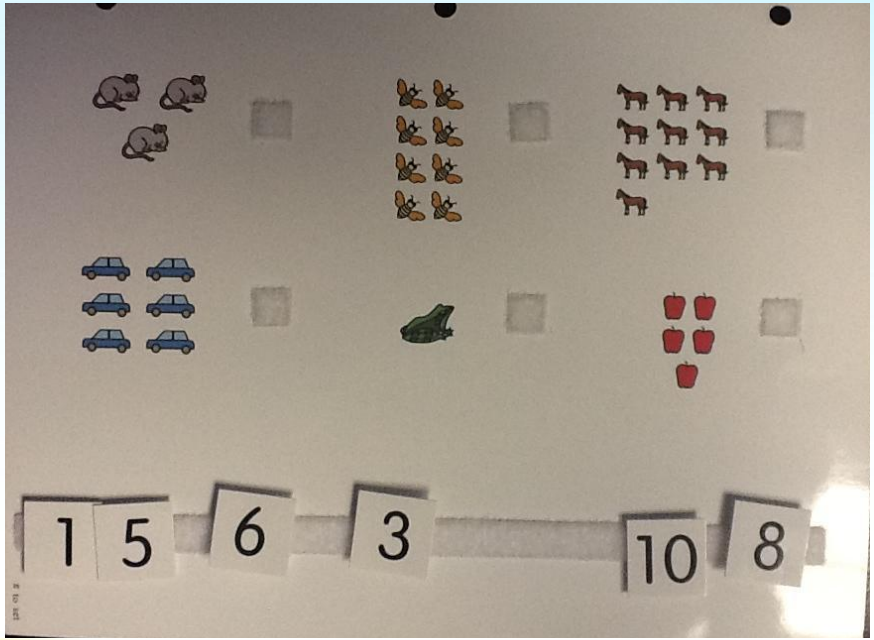
(Blackwell & McLaughlin, 2005)
(Berrong, Schuster, Morse, & Collins, 2007)

- Pros to using response-cards:

  - Increased amount of instruction
  - Leads to fast-paced instruction
  - Cheap to make and utilize
  - Increased amount of participation and feedback
  - Results in increased learning
  - Decreases inappropriate behavior

- Response-cards can replace choral responding
- Must evaluate students to determine which is most appropriate

Matching Number to Quantity Example



Response-Card Instruction
(Kellum, Carr, & Dozier, 2001)

- Individuals with and without disabilities have been shown to benefit from using response-cards

- Results in:

  - Individuals participating more during activities
  - A greater amount of student participation
  - Increases in exam scores
  - Decreases in disruptive behaviors

Response-Card Instruction

(Berrong, Schuster, Morse, & Collins, 2007)

- Research examined the use of a response-card intervention on children with moderate and severe disabilities

- The use of response-card participation was compared to hand-raising during a group activity

- Results:
- Response-cards increased on-task behavior
- Response-cards increased Active Student Responding

Using response cards in the classroom

Active Student Responding during Circle Time

Student Response Cards

(Guillaume, n.d.)

- Student response cards- these can be raised as an answer to instructor questions. Benefits- instructor can see all student responses, can give immediate feedback, all students are engaged
- Student uses of response cards- as an icebreaker at the start of class, as spots checks to make sure students are paying attention, to close- display any takeaways they got from the class information, can be used as discussion starters
- Tips suggested by the author:
  - use response cards regularly but don't overuse
  - don't use response cards for risky questions because all will be able to see the responses

Student Response Cards

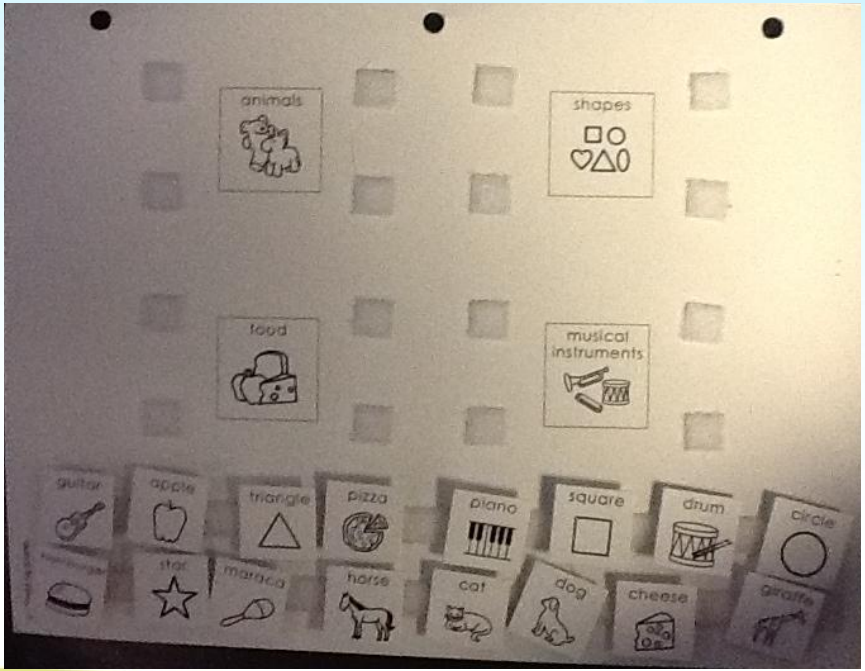
(Guillaume, n.d.),
cont.

- Ask for student feedback and facilitate discussions based on the responses on the cards

- Allow students to give feedback about the response card process- does it work for them?

- This process won't feel natural as a teaching technique at first. That's ok.

Matching/Sorting by Category Example



Using response cards to increase participation in the classroom
(Narayan, et. al., 1990)

- Research finding: student achievement is correlated with active student responding in the classrooms
- "Students learn by doing."
- What has been observed are lower levels of students actively responding in the classrooms. In one study, even though teachers allocated 75% of the day for academic instruction, students spent less than 1% of the day responding whether by answering or reciting info back to the teacher. They actually spent 45% of their time passively attending to the teacher.
- Various strategies such as classroom peer tutoring systems, computer-based instruction, or even self-directed learning; but none of them are applicable to teacher directed large-group instruction.

Using response cards to increase participation in the classroom
(Narayan, et. al., 1990), cont.

- The “traditional” method: The teacher leads his/her classroom by asking questions about the subject matter and expecting the children to raise their hand to respond. He/she calls on one individual to answer. Although, this method of having students raise their hands provides an opportunity for active response by the student who is called upon, all the other students are passively participating.

- Goal of the study: to develop strategies to provide every student in the class with as many opportunities to respond.

Using response cards to increase participation in the classroom
(Narayan, et. al., 1990), cont.

- Benefits of Active Student Responding:
  - Low in cost
  - Easy to implement
  - Enjoyable for students and teachers
  - Applicable to the content areas
  - Produces better learning outcomes

Using response cards to increase participation in the classroom
(Narayan, et. al., 1990), cont.

- Examples of methods that meet these requirements:
  - Choral responding
  - Timed trials
  - Guided lecture
  - Student response cards

- Question: What are student response cards?
- Answer: A response card (like a flashcard) that is held up simultaneously by every student in the class as a means of responding to a question or problem presented by the teacher.

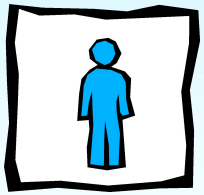
Using response cards to increase participation in the classroom
(Narayan, et. al., 1990), cont.

- This study evaluated the use of response cards in a fourth-grade social studies class.
- The teacher identified 6 children who represented overall skills levels in her class. The 6 students were divided into 2 groups. Each group of children sat in close proximity to each other which allowed for the observer to record their data accurately.
- Experimental design: ABAB reversal design for both conditions-hand raising (A) and response cards (B).

Using response cards to increase participation in the classroom
(Narayan, et. al., 1990), cont.

- During the first 2 sessions, the students were doodling on the response cards and therefore, missed the teacher's question. The teacher remedied this by offering 2 extra minutes of free time to doodle on their cards at the end of each session…as long as it wasn't during instruction time.
- Results: The students increased their quiz scores when using the response cards. Students were also much more likely to respond with the response cards than with hand raising. The majority of the students also chose response cards as their preferred method of responding.

Learning Safety Signs with Response Cards



Guided Notes

(Blackwell & McLaughlin, 2005)

- What are guided notes?
- An outline that is provided to the student
- The outline follows a lecture, discussion, class readings, etc.
- Notes that enable learners to provide information based on what is being addressed in class

- They have been shown to increase learning in both typical children and individuals with developmental disabilities

Guided Notes

(Blackwell & McLaughlin, 2005)

- What do guided notes look like?
- Any type of outline that provides a template for the learner

- Learner must have the opportunity to actively respond during teaching session

- They learner may be required to participate by:
  - Filling in the blank
  - Provide a summary for a listed concept
  - Provide definitions

- Main points of teaching session are addressed

Guided Notes

(Blackwell & McLaughlin, 2005)

- Many advantages with using guided notes include:

  - Greater amount of participation during instruction
  - Assists teachers in sticking to lesson topic
  - Cheap and easy to implement - teachers must involve class when presenting material
  - Provides learner with a completed summary consisting of important lecture points – assists in studying behaviors
  - Helps learners to increase note-taking abilities

Fill-in Homework Organizer

Homework for Mon Tues Wed Thurs Fri _____/_____/_____

Period	Subject	Assignment	Do I need my:			
			Book	Notebook	Folder	
1 & 2	Language Arts		Yes No ☐	Yes No ☐	Yes No ☐	Completed ☐ ☐ turned in
3	Science		Yes No ☐	Yes No ☐	Yes No ☐	Completed ☐ ☐ turned in
4	Math		Yes No ☐	Yes No ☐	Yes No ☐	Completed ☐ ☐ turned in
7	Computer		Yes No ☐	Yes No ☐	Yes No ☐	Completed ☐ ☐ turned in
8	Social Studies		Yes No ☐	Yes No ☐	Yes No ☐	Completed ☐ ☐ turned in

Important things to remember for tomorrow:

Step by Step
www.stepbystepacademy.org

Special Learning
www.specialLearning.com

Computer-Assisted Instruction

(Shin, Deno, Robinson, & Marston, 2000)

- What is computer-assisted instruction?

- Involves the use of computer software
- Provides students with a method of direct instruction
- Enables students to engage in active participation
- Lessons are programmed – teachers are no longer needed to present lessons

Computer-Assisted Instruction

(Shin, Deno, Robinson, & Marston, 2000)

- Research examined the use of a computer-assisted software program called Discourse GroupWare Classroom
- A computer system that delivers instructions to students
- Enables teachers to track and monitor student's responding as they work

- Results:
- Students who utilized the software and participated more had a higher increase in achievement
- Students who demonstrated a higher rate of achievement at the beginning of the study engaged in greater participation compared to those with a lower rate of achievement

Computer-Assisted Instruction

(Shin, Deno, Robinson, & Marston, 2000)

- Pros of computer-assisted instruction:

  - Allows for teachers to be more available to students
  - Enables increased student participation
  - Results in increased learning
  - Greater student motivation
  - Greater time spent in instruction
  - Allows for customizable programming for each student

Computer-assisted instruction coupled with active student responding (Jerome & Barbetta, 2005)

- This study looked at active student responding combined with computer assisted instruction for students with learning disabilities and whether this intervention allowed the students to learn and retain social studies lessons.
- Methods: 5 students participated , all had at least a first grade reading level, and all were diagnosed with a learning disability
- The active student responding consisted of the student clicking on the correct response to a social studies question by use of a computer mouse
- The results of this study showed that students who used the combination of computer assisted instruction and active student responding learned more and also maintained more

Computer-assisted instruction coupled with active student responding
(Jerome & Barbetta, 2005), cont.

- The results of this study showed that students who used the combination of computer assisted instruction and active student responding learned more and also maintained more knowledge.
- The study suggested that student success can be enhanced when active student responding is paired with computer assisted instruction
- The study also suggested that oral active student responding produces more effective learning than clicking a button in computer assisted instruction

Classwide Peer Tutoring (CWPT)

(Arreaga-Mayer, 1998)

- Peer-mediated method of teaching and responding
  - Students are trained to tutor peers, providing each student with an increased opportunity to learn
  - Students reinforce each other for correct responding, deliver feedback, and assist each other when additional help is necessary
  - Increases the amount of times a specific skill is practiced
  - Incorporates everyone within the classroom to engage in a game-like environment

- Purpose:
  - To assist individuals with disabilities, and those from disadvantaged backgrounds
  - Allows for increased responding during training
  - Provides friendly competition between teams to increase learning – increases student motivation

Classwide Peer Tutoring (CWPT)

(Arreaga-Mayer, 1998)

- Procedure:

- Students are assigned to pairs
- Randomly or matched according to skill level
- Pairs include a trainer and trainee – roles are switched during tutoring sessions to allow each student the opportunity to be both

- Training for trainers include:
  - Information regarding what is to be trained
  - How to deliver feedback, both positive and negative
  - How to correct any error made by the trainee

- Students are required to complete pre-test and post-tests developed by the instructor to test knowledge of subject material covered in CWPT

Classwide Peer Tutoring (CWPT)

(Arreaga-Mayer, 1998)

- Procedure (con't):

- All dyads are required to engage in CWPT simultaneously
- Classrooms are divided up into 2 teams for competition
- Teams are awarded points for correct responding during tutoring – the winning team is recognized by the entire class

- Instructor's role during CWPT:
  - Providing immediate feedback to students, both positive and negative
  - Deliver positive reinforcement to students
  - Monitors student's roles of trainer and trainee

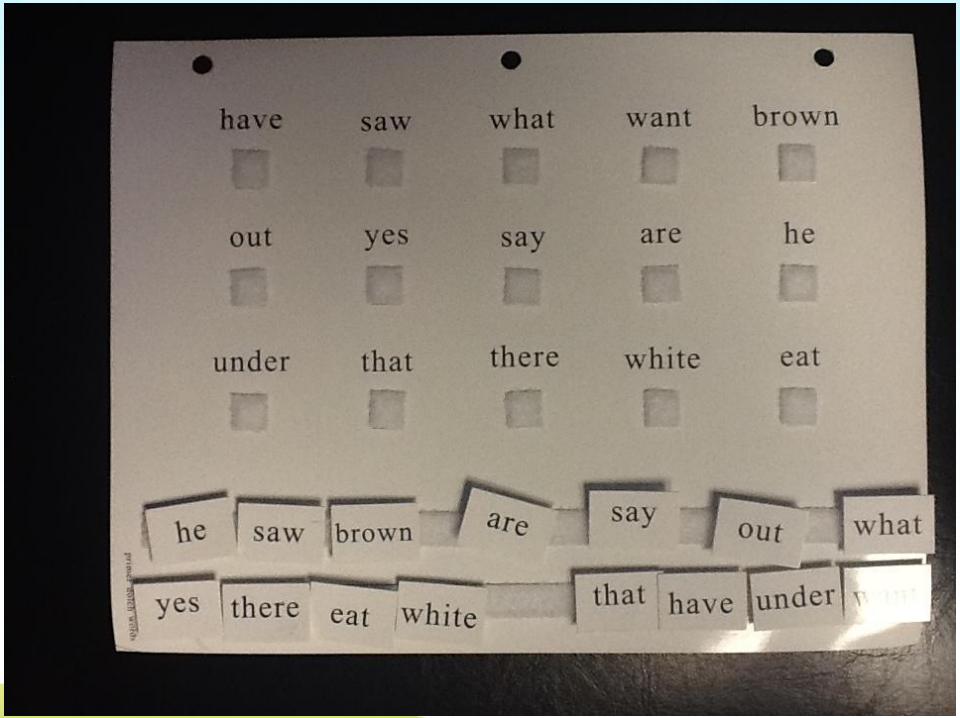
Classwide Peer Tutoring (CWPT)

(Arreaga-Mayer, 1998)

- Research has shown to be effective for individuals in the following populations:

  - Autism
  - Developmental disabilities
  - ADHD
  - Hearing impairments

Peer Reading Activity



Effects of active student response during error correction

(Drevon, et.al., 1994)

- The authors examined the use of active student responding while correcting errors during student instruction when learning science terminology
- The active student responding for error correction consisted of students repeating the correct definition back after the teacher prompted the correct answer.
- This study built on previous studies that looked at only students with disabilities, not general education students.
- 5 students participated in the study- 2 were identified as gifted and 3 were identified as at risk for failing. All were general education students.

Effects of active student response during error correction

(Drevon, et.al., 1994), cont.

- Students were given science terms that they were unfamiliar with to learn.
- The active student responding error correction (student repeating back the corrected answer) was found to be much more effective at actually teaching the students the correct response than a no-response error correction.
- This was true for both gifted students and students who were struggling academically
- The authors recommended that active student responding error correction be paired with other teaching strategies that have proven efficacy to create a best practices teaching style.

Active Student Responding and group instruction

(Lerner, 2011)

- Active student responding involves students making observable responses to any type of instruction or error correction that shows that they understand what is being taught.
- The amount of responses can predict how likely it is that the student will learn what is being taught
- This provides information to see if the student is actually learning because they are actively responding to questions or requests for responses
- Student receive feedback in the moment

Active Student Responding and group instruction
(Lerner, 2011), cont.

- Some examples of active student responding are in a classroom setting are:
  - reading out loud
  - Answering questions out loud
  - Holding up answer cards/response cards
  - Doing math problems
  - Choral responding
- Some benefits of active student responding:
  - in the moment feedback to students
  - instructors can identify issues early
  - students learn information faster
  - students more likely to stay on task and pay attention, thus reducing disruptive behavior

Active Student Responding and group instruction
(Lerner, 2011), cont.

- Benefits, cont.

  - all students stay engaged instead of waiting for one student to give an answer

  - Allows students who want to respond the chance to do so, thus reducing inappropriate behavior due to frustration

  - Everyone gets to participate in discussions and answering questions

Active Student Responding and group instruction

(Lerner, 2011), cont.

- Ways to initiate active student responding:
  - Individual white boards- students can write their answer on the board
  - response cards
  - answering in unison
  - cards on a stick

Active Student Responding and group instruction

(Lerner, 2011), cont.

- Applications of active student responding for groups:

  - Great for peer programs- the peers can act as a prompt for answering or participating in the activity

  - Calendar activities- each student can keep track of his or her own calendar

  - Class voting- using two sided cards

  - Matching activities

  - Benefits all students whether or not they have a disability

Active learning in the Classroom
(Bonwell & Eison, 1991)

- The authors noted that many people have learning styles that are more compatible with teaching styles other than just lecturing
- Some of the techniques for active learning that are suggested by the authors include: role playing, debating, in class writing assignments, and peer teaching
- Main barrier is that faculty members are hesitant to take a risk
- Active learning should become part of the faculty's work culture in order to facilitate it becoming part of the daily routine

Example of Active Student Responding in a Classroom

Response cards and parenting skills training

(Colbert, 2005)

- This study suggests the use of response cards as an effective learning technique
- Reviews of literature for this study showed that students who utilized response cards showed improved quiz and test scores, more active involvement in answering instructor's questions, and high preference of response cards over traditional hand raising. This was true for special education and regular education students.
- This study looked at using response cards to teach foster parents parenting skills

Response cards and parenting skills training

(Colbert, 2005), Cont.

- This study showed mixed results when using response cards with adult learners. Some adults increased their rate of participation (particularly the more reserved ones) and some did not.
- The study also showed that the adult learners had a higher mean score on quizzes than without the use of response cards, suggesting that the use of response cards may have assisted in better retention of material learned.
- The adults in this study were also able to demonstrate more knowledge about the procedures in demonstrations after using response cards.

Improving outcomes with active student responding
(Mahon, 2012)

- Classrooms today often use software and portable devices for students to respond as a group. The answers are tallied instantly for the instructor, making this very quick and easy.
- Using active student responding improves students' learning for the following reasons:
  - There are more chances for students to respond to the questions
  - Students can get in-the-moment feedback about their answers
  - For students with behavior problems or disabilities, active student responding allows them to be an important voice in the group.
  - Students don't have to wait a long time to answer, thus decreasing opportunities for problem behavior.

Increasing student outcomes

(Mahon, 2012), cont.

- This study also explored the benefits of using high tech devices for active student responding. These include:
  - data can be collected automatically
  - the tools are usually easy to use
  - all the students can receive immediate feedback
  - there is more privacy with high tech devices so students who may be reluctant to answer questions are more likely to respond with these devices.

Response card effects on problem behavior

(Lambert, Cartledge, Heward, and Lo, 2006)

- These authors looked at the use of response cards and their effect on problem behavior in a classroom
- The authors thought that the use of response cards and the dynamic responding by the students that often accompanies these cards, would decrease disruptive behavior in the classroom.
- This study suggested that the use of response cards significantly decreased the problem behavior in the students who used them. The students also reported that they enjoyed using the cards and it made learning more fun for them. Students also showed more learning of the math skills as shown by a higher number of correct responses to questions.

ASR and Social Validity

- Active student responding has been shown to be an affordable, easy to implement procedure for instructors to utilize within a classroom environment
- Using a questionnaire, Kellum, Car, and Dozier found that participants favored using response cards (2001)
- According to Narayan, Heward, Gardner, Courson, & Omness, using response-cards to participate in class was more preferred than other participation methods such as hand-raising (1990)
- According to Arreaga-Mayer, classwide peer tutoring was rated as a preferred procedure by both teachers and students (1998)

Resources

Arreaga-Mayer, C. (1998). Increasing active student responding and improving academic performance through classwide peer tutoring. *Intervention in School and Clinic, 34*(2), 89-94.

Berrong, A. K., Schuster, J. W., Morse, T. E., & Collins, B. C. (2007). The effects of response cards on active participation and social behavior of students with moderate and severe disabilities. *Journal of Developmental and Physical Disabilities*, *19*, 187-199. doi: 10.1007/s10882-007-9047-7

Blackwell, A. J. & McLaughlin, T. F. (2005). Using guided notes, choral responding, and response cards to increase student performance. *The International Journal of Special Education*, *20*(2), 1-5

Bonwell, C., & Eison, J.A. (1991). Active learning: Creating excitement in the classroom. *ERIC Digest, ED340272.*

Colbert, B.L. (2005). The effects of response cards on the performance and generalization of parenting skills (masters thesis). Retrieved from: University of South Florida Scholar Commons (2829).

Drevno, G.E., Kimball, J.W., Possi, M.K., Heward, W.L., Gradner III, R., & Barbetta, P.M. (1994). Effects of active student response during error correction on the acquisition, maintenance, and generalization of science vocabulary by elementary students: A systematic replication. *Journal of Applied Behavior Analysis*, 27,179-180.

Resources

Guillaume, A.M. (n.d.). Student response cards: Low instructor investment, high learner yield. Retrieved from: http://fdc.fullerton.edu/newsletters/teachingtips/TT%20student%20response%20cards.pdf

Jerome, A., & Barbetta, P.M. (2005). The effect of active student responding during computer-assisted instruction on social studies learning by students with learning disabilities. *Journal of Special Education Technology*, *20*(3), 13-23.

Kellum, K. K., Carr, J. E., Dozier, C. L. (2001). Response-card instruction and student learning in a college classroom. *Teaching of Psychology, 28*(2), 101-104.

Lambert, M.C., Cartledge, G., Heward, W.L., & Lo, Y. (2006). Effects of response cards on disruptive behavior and academic responding during math lessons by fourth-grade urban students. *Journal of Positive Behavior Interventions, 8*(2), 88-99.

Lerner, M.K. (2011). Active student responding: Getting the most out of group instruction. Retrieved from: blueprintinstitute.wikispaces.com/file/...ACTIVE+STUDENT+RESPONDING

Resources

Mahon, K.L. (2012). Using student response systems to improve student outcomes. Retrieved from: mimio.dymo.com.

Narayan, J. S., Heward, W. L., Gardner III, R., Courson, R. H., & Omness, C. K. (1999). Using response cards to increase student participation in an elementary classroom. *Journal of Applied Behavior Analysis*, *23*, 483-490.

Shin, J., Deno, S. L., Robinson, S. L., & Marson, D. (2000). Predicting classroom achievement from active responding on a computer-based groupware system. *Remedial and Special Education, 21*(1), 53-60

Active Student Responding: Increasing Learner's Motivation and Self-Monitoring

1. **CE Credits:** This training is eligible for *type of CE eligibility here* credits
2. **CE Credits:** You will need the “Begin” and “End” codes to apply for CEU credits.
3. **To apply for CE Credits, go to:**

http://www.special-learning.com/webinar/august/learner_motivation/credits

Active Student Responding: Increasing Learner's Motivation and Self-Monitoring

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Active Student Responding: Increasing Learner's Motivation and Self-Monitoring

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