



VIRTUAL REALITY CHECK

**TEACHERS USE
BUG-IN-EAR
COACHING
TO PRACTICE
FEEDBACK
TECHNIQUES
WITH STUDENT
AVATARS**

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There isn't just one way to give feedback, nor is there just one kind of feedback. Bug-in-ear technology, which allows coaches to give teachers in the classroom immediate feedback, has been used successfully for 35 years (Rock, Gregg, Gable, & Zigmond, 2009; Scheeler, Bruno, Grubb, & Seavey, 2009). In an updated twist on this method, researchers at the University of Kansas used bug-in-ear coaching in a virtual classroom called TeachLivE (Dieker, Hynes, Hughes, & Smith, 2008) to give four secondary teachers a chance to practice giving feedback to students.

Studies in the last 35 years have shown the positive effects

of using bug-in-ear technology to assist teachers with explicit instruction, delivery of feedback, opportunities to respond, and classroom management. Three benefits stand out:

1. Immediate feedback has a significantly positive effect on instructional practice, regardless of the amount of teaching experience.
2. Overall, participants using wireless technology to give or receive feedback react positively.
3. Students react positively to teachers' improved instructional practices (Goodman, Brady, Duffy, Scott, & Pollard, 2008; Scheeler, McAfee, Ruhl, & Lee, 2006; Scheeler, Ruhl, & McAfee, 2004).

To prepare for the TeachLivE KU setting, coaches instructed

the four secondary teachers on how to provide feedback to students as a routine for classroom management. First, coaches explained and modeled the formula for feedback designed for the pilot study: Redirect, re-engage, and reinforce. Next, the teachers practiced the feedback routine in the TeachLivE KU lab by delivering a mini-lesson to student avatars while wearing a Bluetooth device to receive real-time coaching.

ROLE OF COACH

The coach provided the training, modeling, and cuing, then led guided reflection at the end of each session. With the training, teachers were given a one-page summary of the feedback routine, including definitions and examples. The coach modeled the feedback routine for the teachers in the TeachLivE KU lab, where each session would occur. Teachers then practiced the routine and received onsite coaching after the practice session.

The coach also instructed teachers about the cues or prompts they would receive during the TeachLivE KU sessions. The four teachers had time to ask questions, offer suggestions, and practice with the bug-in-ear technology before the coaching sessions began. Finally, the coach led each teacher in a guided reflection at the end of each session.

PROCEDURE

Each teacher presented a lesson divided into four sessions on a topic of his or her choice, including math, language arts, and social studies. The sessions were structured to include three parts:

- **Organization:** The coach outlined each session’s objectives, addressed the teacher’s concerns, and allowed investigators to assess the teacher’s comfort level.
- **Simulation:** Participants spent five minutes teaching their lesson segment to student avatars while using the provided feedback strategies to address behaviors.
- **Review:** The review served as an exit interview to allow teachers to discuss their interactions with the student

WAYS TO GET AND GIVE FEEDBACK

Immediate: Immediate feedback occurs within seconds or moments of the event. Recipients don’t need to wait to discover if their efforts are moving them closer to their goal.

Delayed: Delayed feedback occurs some time after the event or action.

Written: Written feedback can be a performance review, a note in response to an observation, or just a few phrases describing what occurred. It offers a permanent record of the feedback that can be referenced at a later time.

Verbal: Verbal feedback is spoken and can be delivered immediately, face-to-face or remotely.

Nonverbal: Nonverbal feedback is often noticed in body language, such as students off-task during class or someone sleeping during a speech. Even a person who fidgets or looks away is giving feedback to the speaker that she is not completely comfortable.

Positive: Positive feedback can be described as anything that encourages a person toward the desired goal.

Negative: Negative feedback can feel like criticism or redirection.

Critical: Webster defines critical feedback as “the act of criticizing unfavorably.” However, critical feedback can be constructive feedback when delivered properly and without judging.

Affirming: Feedback that affirms is direct, specific, and nonattributive (Kegan & Lahey, 2001). This type of feedback infuses ongoing regard from the speaker.

PERCENTAGE OF DISRUPTIVE BEHAVIORS ADDRESSED USING POSITIVE FEEDBACK

	SESSION 1	SESSION 2	SESSION 3	SESSION 4
Participant 1	75%	70%	90%	100%
Participant 2	70%	90%	80%	100%
Participant 3	60%	75%	80%	75%
Participant 4	55%	55%	80%	80%

Shaded boxes indicate the sessions in which participants were coached remotely.

avatars and their comfort level with the technology, both TeachLivE and bug-in-ear.

During each session, teachers wore a Bluetooth device. Coaching prompts were delivered during two out of the four sessions for each teacher. The delivery of coaching prompts was assigned randomly, as well as the order in which each teacher entered the TeachLivE KU lab for his or her session. The coach observed teacher behaviors from a remote location via Skype and prompted each teacher to follow the management routine to address student behaviors.

OUTCOMES

The teachers wore the Bluetooth device during every session, and coaches followed the same procedure to prepare teachers for each session. None of the teachers knew the sessions in which they would be coached remotely until they heard a prompt during the simulation period of the session.

The percentage of addressed behaviors increased when participants were coached remotely, with positive feedback increasing from 20% to 30% across all participants and all sessions. (See table above.) An unanticipated result occurred in the last session,

Let's get reel: Video brings practices to life

While having a coach at a teacher's side — or in his ear — is a powerful, real-time support system, opportunities to watch and discuss real-life teaching are flourishing, thanks to the use of video cameras. Here is a sampling of tools and strategies.

VIDEOS OF ONE'S OWN PRACTICE

Like the bug-in-ear coaching model described in these pages, having a coach observe and discuss specific practices offers educators authentic input on their actions.

The New Teacher Center's

longstanding model of teacher induction relies on a research-based framework supported by processes that guide

growth-oriented conversations between mentors and teachers. Technology tools that help mentors implement the center's framework include a video observation platform that allows teachers to upload videos of themselves teaching so that mentors can watch and offer feedback.

Educators also have an array of options for videotaping themselves, whether with their own camera or by participating in a system built specifically to support video observations. For example, **thereNow** offers a suite of video hardware, software, and services created specifically to support teacher observations for individual and collaborative reflection and discussion.

Two recent **JSD** articles explore the use of videotaping lessons and how to make

this strategy work. See "Record, replay, reflect: Videotaped lessons accelerate learning for teachers and coaches" from the April 2012 issue of *JSD* and "Pause, rewind, reflect: Video clubs throw open the classroom doors" from the October 2011 issue of *JSD*.

VIDEOS OF OTHER EDUCATORS IN ACTION

PD 360 is part of the School Improvement Network's suite of products and services and hosts thousands of teaching videos in a professional development framework that includes a large online community. Formerly the Video Journal of Education, School Improvement Network has produced

when two teachers used positive feedback 100% of the time during the simulation even though they were not being coached.

These outcomes indicate that every teacher responded to the prompting he or she received through remote coaching by increasing the rate of positive feedback for addressing disruptive behaviors.

In addition to data collected during bug-in-ear coaching, the reviews following each session were videotaped. During each review, researchers asked teachers a series of open-ended questions related to their experience with bug-in-ear coaching in the TeachLivE KU lab.

Although all teachers felt some trepidation about the TeachLivE KU lab, each one expressed surprise at how quickly he or she stopped being bothered by the computer-generated images and started interacting with the students as if they were real. One participant noted that the behaviors and personali-

ties aligned perfectly with her 9th-grade students, particularly those who are at risk.

The student avatars seemed so real to one teacher that, by the second session, he was talking about one student as if she were human and not a computer-generated image. "I've been thinking about different ways that I can engage Maria, the teacher said. "If she were one of the students in my class, I

would probably refer her to the guidance counselor." He followed this comment with some details he had picked up about Maria's home life.

In addition to adapting quickly to the augmented reality environment of the TeachLivE KU lab, teachers also responded favorably to the remote coaching through bug-in-ear. None of the teachers described wearing the earpiece as distracting or uncomfortable. One participant said that she thought she offered more positive feedback because she was anticipating a prompt. Another described the remote coaching through bug-in-ear as a good reminder for addressing behaviors. She said that she normally used the classroom management strategy of ignoring disruptive behaviors, but she found that giving positive feedback added to her relationship with the student avatars.

All four teachers said that it was difficult at first to remember how they were supposed to respond to each of the prompts. However, the teachers agreed that delivering positive feedback to redirect, re-engage, and reinforce students appeared to be effective. One teacher said: "I'd been thinking anyway as we were moving through these experiences about the sequence. It is hard to remember in the moment. ... After four times, even though you were prompting me, I was probably going there anyway."

All four teachers agreed that five minutes in simulation was not enough time. For secondary teachers, delivering content holds a certain priority, and all the teachers described their frustration with overplanning or being unable to deliver the entire lesson. None of the teachers thought that the time spent in simulation was too long or created stress.

FEEDBACK ROUTINE

Redirect: Call attention to the disruptive behavior.

Re-engage: Ask a follow-up question.

Reinforce: Make a positive comment about the desired behavior.

videos specifically for professional development for more than 20 years.

Reality PD, part of District of Columbia Public Schools' educator performance evaluation system, offers teachers a range of videos of excellent teaching practices found in the district. Created to enhance the teaching and learning framework, teachers can watch examples of specific instructional moves for discussion and reflection.

Success at the Core is a free set of research-based tools and videos organized in a structure of leadership and teacher development for whole-school improvement. Videos support exploration of specific instructional (for example, checking for understanding) or leadership (for example, using data effectively) concepts. The materials are based on a theory of action that improved instruction

FOR MORE INFORMATION

JSD articles: www.learningforward.org/publications/jsd

The New Teacher Center: www.newteachercenter.org

PD 360: www.schoolimprovement.com/products/pd360

Reality PD: <http://dcps.dc.gov/DCPS/realitypd>

Success at the Core: <http://successatthecore.com>

The Teaching Channel: www.teachingchannel.org

thereNow: www.therenow.net

will improve student engagement and ultimately lift student outcomes.

The Teaching Channel is a free video library that includes hundreds of videos organized by content area, grade level, educator role, and pedagogical topic. Designed to showcase effective teaching practices, the site features an active online

community to encourage discussion and allows registered members to make personal notes on what they watch. The site includes discussion questions for the videos and alignments to the Common Core standards.

— Tracy Crow

One participant noted that, even though she was highly motivated to learn, four sessions weren't enough time to learn a new strategy.

From a professional learning perspective, all four teachers said they had learned a lot in a short time. Each gained a heightened awareness of delivering positive feedback to prevent disruptive behaviors before they occur. One participant wondered if the TeachLivE lab could be brought to his high school. He said, "I wish this had been available when I was in college. I know this technology didn't even exist, but getting this kind of practice is so much more meaningful than just listening to someone talk about how to do a certain strategy."

Although bug-in-ear coaching has been around for almost four decades, it is not a widely used method of coaching. TeachLivE KU is a new technology that is gaining popularity in teacher preparation programs. As this pilot study shows, these two technologies combined make a powerful professional learning experience for secondary teachers. Using bug-in-ear coaching to provide immediate feedback definitely changed how teachers addressed disruptive behaviors and delivered positive feedback to the students.

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