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## Impact of Audio Feedback Technology on Writing Instruction

Key words: Audio feedback; writing instruction; teacher self-efficacy

### **Purpose**

High school writing teacher self-efficacy has suffered because the workload and emotional energy of grading papers is arduous, and despite their efforts to provide formative written feedback, many teachers believe students ignore or misunderstand it (Baker, 2014; Dunn, 2011; Kellogg & Whiteford, 2009; Kiuahara et al., 2009; National Commission on Writing, 2003; Orsmond & Merry, 2011; Stagg Peterson & McClay, 2014; Worthman et al., 2011). As a result, many teachers rarely assign papers of more than 3,000 words (Center for Survey Research and Analysis, 2002; Graham, Hebert, & Harris, 2015; Kellogg & Whiteford, 2009; Kiuahara, Graham, & Hawken, 2009), and some teachers lack self-efficacy for writing instruction (Kiuahara et al., 2009). Moreover, many students neither understand nor use feedback (Carless et al., 2011) because they perceive written feedback as inadequate and often unhelpful (Bruning, Dempsey, Kauffmann, McKim, & Zumbrunn, 2013; Calvo & Ellis, 2008; Gulley, 2012; Kluger & DiNisi, 1996; Mulliner & Tucker, 2015; Shute, 2008; Vardi, 2012; Weaver, 2006; Wingate, 2010).

One promising area of research has been in the use of audio feedback technology, which has shown to improve feedback practices (Cann, 2014; Cavanaugh & Song, 2014, 2015; DiBaptista, 2014; Knauf, 2015; McCarthy, 2015; McCullagh, 2010; McKeown, Kimball, & Ledford, 2015; Middleton, 2010a, 2010b, 2013a, 2013b; Nerantzi, 2013). However, most existing research on audio feedback has been conducted at the higher education level; none has been conducted at the high school level. Therefore, the purpose of this study was to investigate how high school teachers believed Kaizena, (2016) a software system that facilitates the

provision of teacher-generated feedback, impacted their writing instruction, particularly in relation to teacher self-efficacy.

### **Theoretical Framework**

Bandura's (1991) social cognitive theory served as the conceptual lens for interpretation of study data and the major themes that emerged in the literature review. A key tenet of social cognitive theory is self-efficacy, which affects an individual's choice of activity, motivation, and expectancy outcome for a given task and is mediated by feedback messages and emotional reactions to stress (Bandura, 1991). A major theme found in the literature on self-efficacy was that teachers struggle to keep up with the time demands of generating quality feedback, which could negatively affect teachers' emotions and their self-efficacy for writing instruction (Brackett et al., 2013; Chambers et al., 2009; Corkett et al., 2011; Gibson & Dembo, 1984; Kihuara et al., 2009; Tschannen-Moran & Johnson, 2011; Tschannen-Moran & Woolfolk Hoy, 2001). Brackett et al. (2013) contended that teachers' everyday experiences "are laden with emotion" (p. 641) and that teacher emotions "may bias the grades that teachers assign to their students" (p. 634). Given that high school students' grades have high stakes consequences for their college and career paths, Beckett et al suggested that more research is needed to understand how teachers' workloads and emotions affect their grading practices.

### **Methodology**

This multiple case study investigated how high school teachers believed Kaizena, a digital audio feedback technology, influenced their writing instruction and self-efficacy. The central research question was: How do teachers believe Kaizena, as an online digital audio feedback tool, impacts writing instruction, particularly in relation to teacher self-efficacy? Participants included a user group of 3 United States high school teachers and a user group of 3

international high school teachers. Data sources included individual teacher interviews, participant journals, and artifacts such as teacher-created writing assignments and rubrics. Data analysis included both single case and cross case analyses. Single case analysis included coding and categorizing of interview and participant journal data and content analysis of artifacts. Cross case analysis included identifying emerging themes and discrepant data.

## **Results**

Results of this study indicated that all 6 teachers believed they gave more high quality, detailed, and personalized feedback to students in less time with the audio feature of Kaizena than with written feedback. Teachers in both user groups also believed Kaizena positively impacted their confidence and efficacy as writing instructors and that students liked audio feedback because it was more understandable than written feedback. All teachers in both user groups believed audio feedback saved them time, which in turn reduced their frustration, stress, and boredom with providing feedback on student papers. Another key finding was teachers believed using audio feedback helped them build closer relationships with their students because audio felt more like a conversation in which they could express emotions such as pleasure, frustration, and empathy, and that the sound of their voices and background noises, indicative of their lives at home outside of school, humanized them to students.

## **Conclusion and Educational Implications**

The ability to communicate thoughts and ideas in the rapid pace of change in the global knowledge economy is more critical than ever before (National Governors Association & Council of Chief State School Officers, 2010). However, national student achievement scores indicate that many students fail to acquire proficient writing skills, and evidence from the research literature indicates that teachers struggle to keep up with the workload of providing

feedback on student papers (Achieve, Inc., 2014; Graham, & Perin, 2007b; Graham, Harris, & Hebert, 2011; Graham, Hebert, & Harris, 2015; National Commission on Writing for America's Families, Schools, and Colleges, 2003, 2004, 2005; National Institute of Child Health and Human Development, 2000). This study contributes research evidence on how high school English teachers perceive the impact of audio feedback on their instruction. The use of audio feedback in high school writing instruction is nascent; however, the growing body of research on audio feedback and the results of this study indicate that audio feedback should be more widely adopted because it is an effective tool for providing detailed, dialogic feedback to students, and it has the potential to reduce teachers' grading workloads and improve their self-efficacy as writing instructors, which could also improve student writing.

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