Journal of School Psychology xxx (2016) xxx–xxx

Contents lists available at ScienceDirect

Journal of School Psychology

journal homepage: www.elsevier.com/locate/jschpsyc

Examining the effects of adult and peer mediated goal setting and feedback interventions for writing: Two studies

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ARTICLE INFO

Article history:
Received 29 October 2014
Received in revised form 24 September 2015
Accepted 23 March 2016
Available online xxxx

Keywords:
Writing
Curriculum-based measurement
Intervention
Peer-mediated intervention
Feedback
Goal setting

ABSTRACT

The current study investigated the effects of goal setting and performance feedback on Curriculum Based Measurement in Written Expression (CBM-WE). This two-study investigation examined the utility of the intervention using two different delivery mechanisms. In Study 1, fourth grade students ($n = 114$) were provided both with (a) feedback from their teachers regarding their performance on CBM-WE probes and (b) new weekly goals or no feedback and goals, once a week for a ten-week intervention period. Study 2 examined the effects of this intervention with a sample of fifth grade students ($n = 106$) when feedback and individual goals were provided by peers within their classrooms twice weekly over the course of eight weeks compared to a practice only control condition. Results in both studies indicated that students receiving the goal setting and feedback intervention performed significantly higher on production-dependent writing indices post-intervention than control groups (ES = .12–.28). Implications regarding the usefulness of goal setting and feedback utilizing CBM procedures are discussed.

1. Introduction

With the distribution of information from the National Commission on Writing (2003) and writing assessment results from the National Assessment of Educational Progress (2002; 2012), educators are beginning to uncover the significant gaps in students' writing skills that currently exist in today's schools (Graham, Harris, & Herbert, 2011). For example, as many as 70% of students are not considered proficient in their writing (NAEP, 2012). Writing is a complex and intentional process used as a tool to communicate ideas, develop and support an argument, and is an indicator of content knowledge (Graham, MacArthur, & Fitzgerald, 2007; Rowland, 2014). Writing difficulties have been associated with greater risk for high school and college dropout, lower academic performance in other curricular areas, and has been noted by many employers as a critical skill in post-secondary success (Graham, 2006; Graham & Perin, 2007a; Graham et al., 2007). Considering the negative outcomes associated with writing deficits and the fact that early writing difficulties have been linked with writing difficulties in subsequent grade levels, it is important to determine strategies to remediate writing deficits early (Juel, 1988). The purpose of this two-part study was to investigate the utility of two practical and efficient interventions in writing that could be used to help improve students' writing in the later elementary and early middle school years.

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ACTION EDITOR: Craig Albers.

http://dx.doi.org/10.1016/j.jsp.2016.03.002
0022-4405/

2. Writing intervention and assessment

Intervention efforts in schools tend to focus on subjects such as reading and mathematics, which are subject areas that have gained more attention on state and national accountability tests (Cutler & Graham, 2008; Malecki, 2014; National Commission on Writing, 2003). However, with the adoption of the Common Core State Standards, more states are beginning to assess their students' writing skills; therefore, interventions designed to improve writing may begin to compete more readily for instructional time with reading and math (Malecki, 2014). However, several challenges impede the implementation of writing interventions in K-12 schools. First, it is important to emphasize interventions that are reasonable and relatively easy for teachers to implement in a time efficient manner to increase teachers' willingness to implement the intervention and to implement it with integrity (Eckert & Hintze, 2000; Finn & Sladeczek, 2001). In addition, because writing itself is a multifaceted skill that includes several components, it is difficult to determine what specific writing skills to target for intervention (Deno, 2003; National Commission on Writing, 2003). Finally, the evaluation of writing products is complex and time consuming, making objective, reliable, and valid intervention progress monitoring methods challenging (Watkinson & Lee, 1992).

3. Curriculum Based Measurement in Written Expression

One effective tool that can address the issues of complexity and subjectivity in the assessment and monitoring of writing is Curriculum Based Measurement in Written Expression (CBM-WE). CBM-WE produces scores shown to be reliable and valid indicators of general writing achievement that are sensitive to change over time and have been found to increase student performance when used as a progress monitoring tool (Deno, Fuchs, Marston, & Shinn, 2001; Fuchs & Fuchs, 1986). CBM-WE is a General Outcome Measure (GOM) as it requires students to integrate many basic writing skills required to successfully produce a writing sample and it is related to other overall writing quality measures (Amato & Watkins, 2011; Coker & Ritchey, 2010; Codding, Petscher, & Truckenmiller, 2015; Fuchs, 2004). As an efficient GOM, CBM-WE provides an objective measurement of students' performance that can be clearly communicated to parents, teachers, and students (Deno, 2003).

CBM-WE can be scored using several indices, or objective scores, that tap into key components of effective writing. The most widely accepted scoring indices utilized in CBM-WE to evaluate individual facility with written language can be divided into three broad categories: production-dependent indices, production-independent indices, and accurate-production indices (Espin et al., 2000; Jewell & Malecki, 2005; Tindal & Parker, 1989). Production-dependent indices rely on how much writing a student actually produces during probe administration and include the number of Total Words Written (TWW), the number of Words Spelled Correctly (WSC), the number of Correct Writing Sequences (CWS) and the number of Incorrect Writing Sequences (ICWS). Production-independent indices do not depend on the amount of writing the student generates but instead depend on the overall percentage of grammatical precision in a given sample and include the percent of Words Spelled Correctly (%WSC) and percent of Correct Writing Sequences (%CWS). The accurate-production indicator quantifies the amount of Incorrect Writing Sequences in a sample and deducts that value from the total Correct Writing Sequences.

Previous research has demonstrated the reliability and validity of the scores derived from the production-dependent, production-independent, and accurate-production measures when utilized in elementary and middle school student populations (e.g., Deno, Mirkin, & Marston, 1980; Espin et al., 2000; Gansle, Noell, VanDerHeyden, Naquin, & Slider, 2002; Malecki & Jewell, 2003). These scores also correlate with measures of overall writing performance, suggesting that they are appropriate indicators of students' general writing skills (Amato & Watkins, 2011; Coker & Ritchey, 2010). As a result of the standardized and time efficient qualities of CBM-WE, educators may use this assessment as part of interventions aimed to improve students' writing.

4. Goal setting and feedback intervention strategies

One practical and effective set of intervention strategies often used to improve students' academic performance across subject areas includes goal setting, feedback, and self-monitoring (Graham, Harris, & Troia, 1998). Setting ambitious content-area goals and providing specific feedback regarding individual progress towards these established targets could be a powerful intervention approach for educators to utilize with their students. However, to utilize this approach, feedback on progress and specific goals must be provided in a clear, objective way that is easily communicated and in a manner that is understood by the individual receiving the intervention. The literature has suggested that evaluation of students' performance using self-referenced standards based on individual improvement results in greater academic gains and self-efficacy over the use of normative standards as a comparison (Graham et al., 2011; Hattie & Timperley, 2007; Schunk, 1996; Stipek, 1996). In sum, providing students with objective information on their individual performance and progress using individualized standards and goals can facilitate both learning and motivation to improve through the development of self-regulation skills (Graham & Harris, 2005: Zimmerman, 2008). CBM-WE is an ideal tool that could be used to provide this performance feedback on writing.

5. Self-regulated learning and goal setting/feedback interventions

Goal setting and performance feedback interventions are considered to be effective tools to promote learning across subject areas in that they promote self-regulation and self-monitoring of performance. Self-regulated learning is a defined as "…the degree to which students are meta-cognitively, motivationally, and behaviorally active participants in their own learning process" (Zimmerman, 2008, p.167). It is a self-directed process that focuses on using specific learning strategies, actively monitoring

Please cite this article as: Alitto, J., et al., Examining the effects of adult and peer mediated goal setting and feedback interventions for writing: Two studies, *Journal of School Psychology* (2016), http://dx.doi.org/10.1016/j.jsp.2016.03.002