Emailed implementation supports to promote treatment integrity: Comparing the effectiveness and acceptability of prompts and performance feedback

Lindsay M. Fallon[*], Melissa A. Collier-Meek, Kathryn D. Kurtz, Emily R. DeFouw

University of Massachusetts Boston, United States

A B S T R A C T

Teachers struggle to maintain high levels of treatment integrity, which are associated with efficient improvements in student outcomes. To address this challenge, school psychologists can provide implementation support, such as prompts or performance feedback, to increase teachers' treatment integrity when it is low. Implementation prompts are an emerging implementation support having been investigated in one previous study, but are feasible and require little time to provide. Performance feedback is an evidence-based practice, but requires more time for school psychologists to coordinate and deliver. The current study sought to compare the emailed delivery of prompts and performance feedback directly. Three elementary school teachers from a diverse setting participated with their students in this experimental multiple baseline single-case design research study. Teachers were trained to implement a classwide group contingency intervention and, when treatment integrity was low, received prompts and then performance feedback. Direct observation of treatment integrity and classwide behavior indicated that performance feedback was slightly more effective at increasing treatment integrity, but implementation prompts were modestly effective, took less time to provide, and were viewed as more acceptable by teachers. Furthermore, student outcomes (academic engagement and disruptive behavior) were relatively stable across the emailed prompts and performance feedback phases, suggesting the supports were similarly effective. Future research might further investigate these findings and continue to build the research base for implementation supports to promote treatment integrity.

1. Introduction

Teachers who encounter an academic or behavioral concern in the classroom might seek consultative support from a school psychologist. In turn, the school psychologist may suggest an evidence-based intervention that requires the teacher to learn new techniques or implement a new procedure (Forman et al., 2013). However, given teachers' many competing responsibilities, implementing something new can present a challenge (Collier-Meek, Sanetti, & Fallon, 2017). In fact, research consistently indicates that after a week of initial training, many teachers struggle to sustain a student intervention (Gilbertson, Witt, Singletary, & VanDerHeyden, 2007; Noell et al., 2005). This is problematic due to the evidence of a relationship between high levels of consistent implementation (i.e., treatment integrity) and efficient improvement in student outcomes (e.g., Auld, Belfiore, & Scheeler, 2010; Collier-Meek, Fallon, & DeFouw, 2017; DiGennaro, Martens, & Kleinmann, 2007). As such, it is imperative that when introducing new

intervention techniques or procedures, school psychologists not merely offer didactic training, but also monitor teachers' treatment integrity and provide teachers with implementation support when necessary (Noell et al., 2014).

1.1. Performance feedback

Currently, the implementation support strategy with the most empirical support is performance feedback (Fallon, Collier-Meek, Maggin, Sanetti, & Johnson, 2015; Noell et al., 2014; Solomon, Klein, & Politylo, 2012). Performance feedback typically involves a brief meeting with an implementer to (a) review treatment integrity and student outcome data, (b) provide praise for what is going well, (c) problem-solve barriers to implementation, and (d) obtain the implementer's commitment to improved treatment integrity (Fallon et al., 2015). Performance feedback was adapted from the organizational behavior management literature for application in education by Noell and colleagues in the 1990s (e.g., Noell, Witt, Gilbertson, Ranier, & Freeland, 1997; Witt, Noell, LaFleur, & Mortenson, 1997). Grounded in behavioral theory, performance feedback is hypothesized to impact implementers' treatment integrity by serving as a consequence to low levels of treatment integrity (Collier-Meek, Sanetti, & Fallon, 2017). As such, the strategy is responsive in nature. That is, implementers must already be implementing the intervention and, in most cases, demonstrate low levels of treatment integrity to receive this implementation support (Auld et al., 2010; Gilbertson et al., 2007; Witt et al., 1997).

Empirical support for performance feedback. Results from school-based research document the effectiveness of performance feedback in promoting both treatment integrity (Fallon et al., 2015; Noell et al., 2014) and student outcomes (Solomon et al., 2012). Performance feedback has been shown to be effective with a variety of implementers including teachers (Noell et al., 1997, 2005; Sanetti, Fallon, & Collier-Meek, 2013), paraeducators (LeBlanc, Ricciardi, & Luiselli, 2005), parents (Penton, 1999), and problem-solving teams (Burns, Peters, & Noell, 2008; Duhon, Mesmer, Gregerson, & Witt, 2009), to support students with a variety of demographic characteristics (e.g., across age-level and grade-level, with various disabilities; Fallon et al., 2015). Furthermore, performance feedback has been provided to support implementation of interventions that target academic (Gilbertson et al., 2007; Witt et al., 1997) and behavioral concerns (DiGennaro et al., 2007) for individual students (LeBlanc et al., 2005; Noell et al., 1997) and students classwide (Codding & Smyth, 2008; Sanetti et al., 2013). In a meta-analysis of school-based studies, performance feedback was found to be most effective (a) in preschool and elementary school settings, (b) for special education teachers, (c) for interventions that address behavioral outcomes, and (d) when delivered shortly after intervention delivery (rather than weekly; Solomon et al., 2012). In addition to performance feedback with only core components, performance feedback with modeling or role play, and performance feedback with negative reinforcement have also been found to be effective (Noell et al., 2014).

Feasibility of performance feedback. This strong empirical support suggests that performance feedback has wide relevance to supporting the treatment integrity of implementers' school practice. Yet, there are a few considerations that may impact the feasibility of school psychologists delivering performance feedback regularly. One consideration pertains to the availability of research evaluating the impact of personnel providing feedback to colleagues. Only two known studies evaluated the impact of performance feedback delivered by school-based consultants (e.g., special education teacher, social worker) rather than researchers (Sanetti et al., 2013; Sanetti, Chafouleas, Fallon, & Jaffrey, 2014). Results from these studies indicated school-based consultants required implementation support from researchers to deliver performance feedback accurately and teachers' responded variably to feedback provided by school-based consultants. Further, the results from social validity measures indicated the school-based consultants found aspects of performance feedback unappealing. Specifically, school-based consultants indicated that, although performance feedback is relatively brief, it was challenging to schedule regular in-person meetings that occurred shortly after intervention implementation. Also, school-based consultants indicated that it felt uncomfortable to discuss a colleague's low levels of implementation (Sanetti et al., 2013). These concerns may limit the widespread adoption of traditional performance feedback in school settings.

Written performance feedback. To address this concern, some studies have evaluated the impact of performance feedback delivered via varied formats, as opposed to solely via traditional face-to-face meetings (Fallon et al., 2015). Written performance feedback combined with face-to-face meetings has been shown to be effective at improving teachers' implementation of behavior-specific praise statements (Duchaine, Jolivette, & Fredrick, 2011) and function-based behavior support plans (DiGennaro et al., 2007; DiGennaro, Martens, & McIntyre, 2005), suggesting that written feedback can be a worthwhile supplement to this implementation support. In an investigation of the Classroom Check-Up, written performance feedback (which included a graph of teacher behavior and student outcomes) was given to teachers by paper after an observation and subsequently improved their delivery of behavior-specific praise (Reinke, Lewis-Palmer, & Merrell, 2008).

Emailed performance feedback. Emerging research has also evaluated the impact of performance feedback delivered via email (Barton & Wolery, 2007; Hemmeter, Snyder, Kinder, & Artman, 2011). Across two multiple baseline designs, performance feedback delivered via email after every observation session increased undergraduate students' delivery of expansions in a university-based preschool, as well as graduate student teachers' use of behavior-specific praise in public schools (Barton & Wolery, 2007). In a multiple probe design, the impact of performance feedback embedded into conversational emails increased teachers descriptive praise, although the impact did not sustain for all participants (Hemmeter et al., 2011).

These findings suggest performance feedback via paper and email may be effective and could be more feasible to deliver than face-to-face meetings. However, performance feedback still requires time to provide individualized support and school-based consultants' concerns about delivering feedback to colleagues may remain. As such, to advance the science of treatment integrity assessment and intervention, it is critical to further evaluate a proactive implementation support strategy that prepares individuals to deliver interventions with high levels of treatment integrity (Collier-Meek, Sanetti, & Fallon, 2017).