An exploratory investigation of teachers' intervention planning and perceived implementation barriers ☆

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ABSTRACT

Increasingly teachers are the primary implementer responsible for providing evidence-based interventions to students. However, there is little knowledge regarding the extent to which teachers plan for intervention implementation, receive implementation support, or identify and address implementation barriers. This study explores survey data from over 1200 preschool through grade 12 teachers from 46 public school districts in a Northeastern state. Results indicate that teachers spend significant time engaging in intervention-related behavior and may be a primary source responsible for selecting student interventions. However, the current extent to which they plan for implementation and present levels of implementation support are inadequate to produce high levels of sustained intervention implementation. In addition, almost 60% of implementation barriers reported related to aspects of the intervention itself. Findings from this study provide guidance for future research and preliminary recommendations for ameliorating implementation barriers and proactively supporting treatment integrity in schools.

1. Introduction

In an age of accountability, ensuring the implementation of evidence-based interventions (EBIs) in schools is of great importance to school professionals and researchers. Currently, teachers are often the primary implementer responsible for providing EBIs to students (Forman, Olin, Hoagwood, Crowe, & Saka, 2009). EBIs only lead to benefits for students, through the extent to which they are implemented as planned, a concept referred to as treatment integrity (Gresham, 1989, 2009). Treatment integrity is critical because examining the degree of implementation facilitates decisions regarding the need to continue or modify students' intervention plans (McIntyre, Gresham, DiGennaro, & Reed, 2007; Roach & Elliot, 2008; Sanetti, Fallon, & Collier-Meek, 2011). Despite the importance of treatment integrity, research consistently reveals that teachers struggle to carry out EBIs with adequate levels of treatment integrity in the absence of implementation support (DiGennaro, Martens, & McIntryre, 2005; Noell et al.,

2005; Noell, Witt, Gilbertson, Ranier, & Freeland, 1997; Reinke, Lewis-Palmer, & Merrell, 2008). These common implementation challenges can significantly reduce the likelihood of producing desired intervention outcomes and result in the depletion of school resources without realizing the expected intervention gains (Durlak & Dupre, 2008; Forman et al., 2013; Noell, 2008; Sanetti & Kratochwill, 2009a). Although recent educational research has highlighted the necessity of attending to treatment integrity and greatly increased our knowledge of the construct and its promotion, two major issues remain. First, there is a lack of research elucidating a variety of implementation support strategies that can be used to assist teachers prior to, in addition to during intervention implementation. Second, there is no resolution regarding the most salient (i.e., most common and challenging) barriers that might impact teachers' intervention implementation.

1.1. Defining implementation

Implementation is often described in terms of the activities and stages thought to comprise it. For example, in a formative synthesis of the literature on implementation, Fixsen, Naoom, Blasé, Friedman, and Wallace (2005) defined implementation as "a specified set of activities designed to put into practice an activity or program of known dimensions" (p. 5). Activities related to implementation were defined as two distinct sets (intervention-level activity and implementation-level activity) that should be well-defined, purposeful, and measurable. Intervention-level activity refers to the delivery of the intervention (e.g., a teacher's implementation of a behavior support plan), while implementation-level activity refers to the actions required by the organization or setting to ensure effective intervention delivery (e.g., provision of training, materials, ongoing support; Forman et al., 2013). Both sets of activities are considered intimately linked to intervention outcomes. Fixsen et al. also proposed stages of implementation including exploration and adoption (i.e., finding and selecting an intervention for use), program installation (i.e., completing the tasks necessary to be ready for implementation), initial implementation (i.e., attempting to implement the intervention), full operation (i.e., implementation with adequate treatment integrity), and innovation and sustainability (i.e., continually integrating and maintaining intervention implementation overtime).

Similar to Fixsen et al.'s (2005) model of implementation, other widely popularized implementation frameworks, such as the Reach, Effectiveness, Adoption, Implementation, and Maintenance framework (RE-AIM; Glasgow, McKay, Piette, & Reynolds, 2001; Glasgow, Vogt, & Boles, 1999), also stress the importance of understanding implementation in terms of its activities and stages. RE-AIM describes these features of implementation as follows (Glasgow, Lichtenstein, & Marcus, 2003): reach—the number of students reached by the intervention; effectiveness—the impact of the intervention on the outcomes of interest; adoption—the decision to use an intervention; implementation—the treatment integrity or ability to implement the intervention consistently and as designed; and maintenance—the sustainment of intervention-level and implementation-level activities. Across these models of implementation two prominent commonalities exist. One, intervention success requires the deliberate completion of multiple implementation-related activities. Two, intervention implementation (or intervention-level activity) occurs in two broad phases: initial implementation (the time period during which an intervention is selected and first tried) and sustainability (the success of maintaining adequate levels of intervention implementation over time). These commonalities serve as the basis of the conceptualization of implementation for the current study.

1.2. Implementation-level activity

Over the last two decades, significant progress has been made in the identification of strategies to support teachers' treatment integrity. The vast majority of studies in this area have focused on evaluating the effectiveness of reactive strategies that promote high levels of treatment integrity following the initiation of an intervention. To date, performance feedback is the most widely studied reactive strategy for increasing teachers' treatment integrity and has a systematic line of research that repeatedly demonstrates it to be effective (e.g., Codding, Livanis, Pace, & Vaca, 2008; Gilbertson, Witt, Singletary, & VanDerHeyden, 2007; Mortenson & Witt, 1998; Noell et al., 1997; Noell et al., 2000, 2005). Performance feedback involves monitoring target behaviors and providing specific feedback to the individual about the accuracy of his or her behavioral performance (Noell et al., 2005). This feedback is typically provided within a consultative relationship and can be communicated in writing, verbally, and/or graphically as a means of improving and maintaining the individual's behavior change (DiGennaro, Martens, & Kleinmann, 2007; Noell, 2010; Sanetti, Luiselli, & Handler, 2007). Performance feedback has demonstrated effectiveness in increasing treatment integrity across a wide variety of school implementers, interventions, and contexts (Noell, 2010; Solomon, Klein, & Polityo, 2012). For example, the effectiveness of performance feedback has been replicated with problem solving teams (Burns, Peters, & Noell, 2008; Duhon, Mesmer, Gregerson, & Witt, 2009), paraeducators (LeBlanc, Ricciardi, & Luiselli, 2005; Maggin, Fallon, Sanetti, & Ruberto, 2012), and teachers at various grade levels in general and special education (DiGennaro et al., 2005; DiGennaro et al., 2007; Pellecchia et al., 2011). Furthermore, performance feedback has been shown to increase treatment integrity to academic (Gilbertson et al., 2007; Noell et al., 2005), behavioral (Codding et al., 2008; DiGennaro et al., 2007), student-specific (Codding, Feinberg, Dunn, & Pace, 2005; Noell et al., 2005) and classwide (Reinke et al., 2008; Simonsen, Myers, & DuLuca, 2010) interventions.

In comparison to reactive strategies, such as performance feedback and its variations (e.g., negative reinforcement; DiGennaro et al., 2007), proactive strategies aimed at promoting high levels of treatment integrity prior to intervention implementation have been much less studied. Preliminary work in this area suggests that teachers' treatment integrity may be enhanced by (a) providing a choice between intervention options (Dart, Cook, Collins, Gresham, & Chenier, 2012); (b) using a collaborative consultation model (Kelleher, Riley-Tillman, & Power, 2008); (c) completing training procedures that include direct training methods and/or provide models performing the intervention (DiGennaro-Reed, Codding, Catina, & Maguire, 2010; Pence, St.