ADAPTING AN EVIDENCE-BASED EARLY CHILDHOOD TIER 2 PROGRAM FOR EARLY ELEMENTARY SCHOOL

ABSTRACT

Students' early school experiences have a significant and long-term effect on key academic and social/behavioral outcomes. Evidence-based programs that both increase the quantity and quality of positive teacher-student interactions and decrease the frequency of negative teacher-student interactions may be critical for changing negative patterns and improving students' early learning environments. The purpose of this article is to describe the iterative development of one such program, BEST in CLASS–Elementary, which has been adapted from an evidence-based program designed to reduce risk for emotional/behavioral disorders by improving teachers' interactions and relationships with preschool-age children with chronic problem behavior. Following a brief description of the parent program, 4 overlapping phases of intervention adaptation and development are described. Future directions for the intervention and applications of this iterative process to intervention development work and research are discussed.

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THE early years of school are critical in setting the stage for students' short- and long- term academic, social, and behavioral success. Some students enter school with behavioral challenges (Howes et al., 2008; Myers & Pianta, 2008). These behavioral challenges can affect the nature of stu-

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dents' educational experience (Spilt, Hughes, Wu, & Kwok, 2012) and increase their risk for continued behavioral difficulties (Conroy, Sutherland, Snyder, & Marsh, 2008). The risk faced by children who arrive at school exhibiting chronic problem behavior tends to increase across time (Broidy et al., 2003), which may in part be a function of ongoing negative interaction patterns with teachers who struggle to manage students' classroom behavior (O'Connor, Dearing, & Collins, 2011; Sutherland, Lewis-Palmer, Stichter, & Morgan, 2008). In fact, a strong relation exists between teacher-student relationship quality and academic achievement for young students with problem behavior (Hughes, Luo, Kwok, & Loyd, 2008; Spilt et al., 2012), and if left alone, the quality of the teacher-student relationship tends to be stable over time (Conner, 2010; Henricsson & Rydell, 2004).

The association between teacher-student relationship quality and academic achievement is particularly influential for young students with patterns of negative interactions with their teachers. Repeated negative interactions between students and teachers appear to have a larger impact on the developmental and academic outcomes than those that are more infrequent or episodic in nature (Spilt et al., 2012). Students who exhibit problem behaviors in school receive fewer learning opportunities from teachers than their peers who do not exhibit problem behaviors (Van Acker, Grant, & Henry, 1996; Wehby, Symons, Canale, & Go, 1998). This lack of learning opportunities (and, in many cases, negative teacher-student interactions) appears to accumulate across time (Doumen et al., 2008), resulting in increased risk for both long-term academic failure and detrimental social and behavioral outcomes (Brock, Nishida, Chiong, Grimm, & Rimm-Kaufman, 2008). Thus, evidence-based programs (EBPs) that both increase the quantity and quality of positive teacher-student learning interactions and decrease the frequency of negative teacher-student interactions may be critical for changing negative interactional patterns and improving students' early learning environments. Through addressing these key risk factors, EBPs may improve downstream academic and social/behavioral outcomes as well as reduce risk for the development and maintenance of students' behavioral difficulties.

The purpose of this article is to describe the development of one such EBP: a classroom-based intervention model, BEST in CLASS–Elementary (BEST in CLASS–E), that was developed via an iterative process designed to maximize feasibility of implementation, promise of reducing risk for student behavioral difficulties, and potential for sustainability in early elementary classroom settings. Specifically, BEST in CLASS–E was adapted from a Tier 2 classroom-based model, BEST in CLASS–Prekindergarten (BEST in CLASS–PK), that has demonstrated efficacy at improving teacher-child interactions and relationships and reducing problem behavior of young children at risk for emotional/behavioral disorders (EBD). Following a description of BEST in CLASS–PK, we describe the iterative development process used to adapt the parent program for delivery in early elementary (kindergarten to grade 2) classrooms. Specifically, we describe four overlapping phases of development that include (*a*) developmental and implementation considerations that informed initial adaptations of BEST in CLASS–PK, (*b*) a practice elements approach used to define and identify the core components of the intervention, (*c*) family interviews that informed the development of a home-school partnership component, and (*d*) qualitative and quantitative data from a feasibility study that was used to inform the final model (see Fig. 1).

BEST in CLASS–PK

BEST in CLASS–PK is a theoretically informed Tier 2 classroom-based intervention founded on evidence-based practices that target the chronic problem behaviors of preschool-age children at high risk for EBD. Whereas Tier 1 interventions are universal in nature, BEST in CLASS systematically screens children with elevated rates of problem behavior who have been unresponsive to universal supports. Using a practice-based coaching model (Snyder, Hemmeter, & Fox, 2015), BEST in CLASS–PK pairs teachers with coaches who provide professional development support to teachers to increase the quantity and quality of specific key practices with identified focal children to prevent and reduce the occurrence of their chronic problem behaviors and increase positive teacher-child interactions. BEST in CLASS–PK comprises six key practices: (*a*) rules, (*b*) behavior-specific praise, (*c*) precorrection, (*d*) opportunities to respond (OTR), (*e*) corrective feedback, and (*f*) instructive feedback. A final

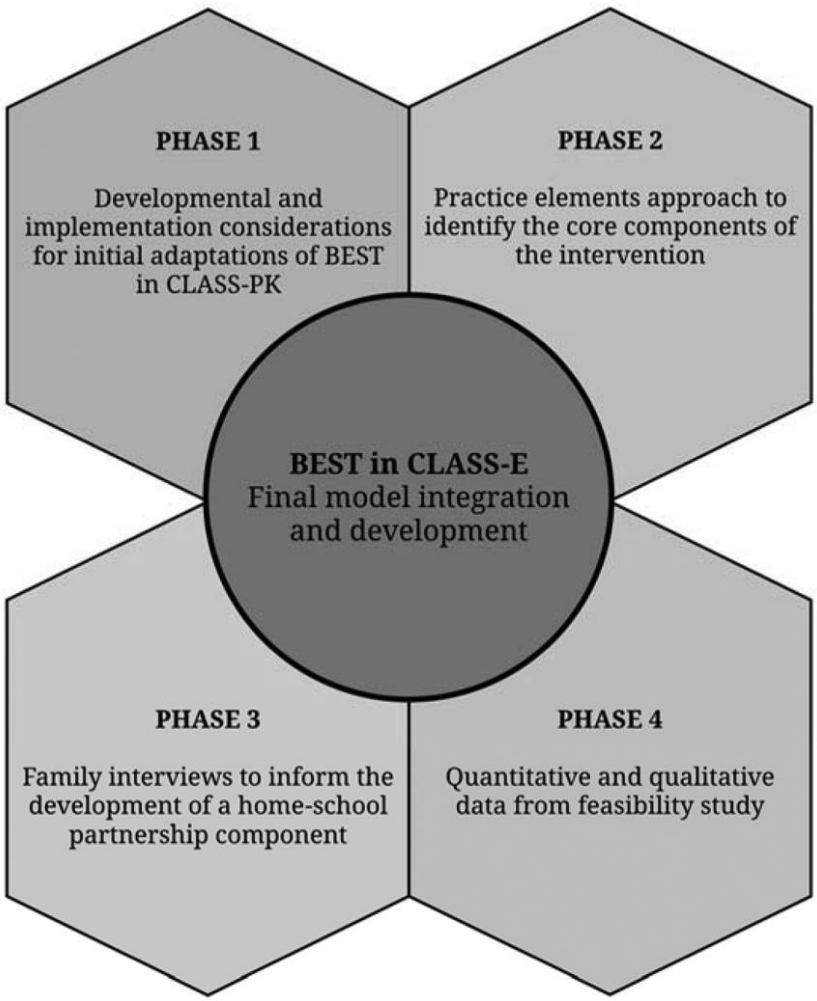

Figure 1. BEST in CLASS–E iterative development process. Color version available online.

learning module, "Linking and Mastery," provides training and coaching to teachers on efficiently and effectively linking practices together to maximize the effect of the intervention model. Each of the six practices includes a framework and strategies to facilitate positive communication and engagement with children's family members. Importantly, although all the practices that compose BEST in CLASS are often considered universal supports, teachers are trained and coached to increase both their frequency of delivery as well as their quality of delivery of BEST in CLASS practices with identified focal children within ongoing classroom activities.

BEST in CLASS–PK includes three components to support implementation: a teacher workshop, a teacher manual, and practice-based coaching. Initially, teachers are trained via a 6-hour workshop that uses both didactic and interactive learning activities. These learning activities include a rationale for the individual learning modules, video exemplars of practice implementation, and opportunities to rehearse individual practices with coaches. The teachers are provided with a teacher manual that summarizes the primary content of the training that serves as a framework for the skill acquisition and mastery (Sutherland, Conroy, Vo, & Ladwig, 2015). The resource manual is supported by 14 weeks of manualized practice-based coaching in which teachers receive weekly performance-based feedback on their implementation of the practices within their classroom and feedback regarding family communication strategies (Sutherland et al., 2015). The practice-based coaching cycle follows three steps. First, the teacher and the coach meet each week and collaboratively develop an action plan for implementing the BEST in CLASS practice for that week with each focal child in the classroom. The teacher then implements the practice while the coach observes and collects data on the teacher delivery of the practice as well as the child's behavior during the observation session. Finally, the coach and teacher meet to reflect on the practice implementation and the coach shares the data with the teacher; the coach and teacher spend 2 weeks on the implementation of each practice.

BEST in CLASS–PK has demonstrated efficacy at improving desirable teacher behaviors, reducing focal children's problem behaviors, and increasing focal children's desirable social and behavioral outcomes. Results from an efficacy trial that employed a multisite cluster randomized design (Spybrook & Raudenbush, 2009) conducted with 186 teachers and 469 children randomly assigned to BEST in CLASS–PK or business as usual indicated significant increases in teachers' use of instructional practices, self-efficacy, and overall classroom quality (Conroy et al., forthcoming) and reductions in problem behavior and improvements in teacher-child interactions and relationships (Conroy, Sutherland, Algina, Werch & Ladwig, 2018; Sutherland, Conroy, Algina, et al., 2018). Improvements in observed child behavior noted in a previous study (Conroy, Sutherland, Vo, Carr, & Ogston, 2014) were supported by teachers' reports of decreased problem behavior (effect size: –.42) and externalizing problems (effect size: –.42) associated with BEST in CLASS–PK. In addition, positive effects on all three dimensions of the CLASS (Pianta, La Paro, & Hamre, 2008) were noted (effect sizes of .47 for emotional support, .58 for classroom organization, and .65 for instructional support), highlighting the benefits of the program for all children in the classroom. Practice-based coaching had a significant impact on teacher behavior, as indicated by treatment integrity data collected with an observational treatment integrity instrument, BEST in CLASS Adherence

and Competency Scale (BiCACS; Sutherland, McLeod, Conroy, Abrams, & Smith, 2014). Teachers in the BEST in CLASS condition demonstrated higher adherence ($d = 1.58$) and competence ($d = 3.20$) on all practices at the end of the intervention compared with the business-as-usual teachers.

BEST in CLASS–E

Although results from the initial investigations of BEST in CLASS–PK confirm the efficacy of the intervention, the educational needs of students of early elementary school age and the professional development needs of their teachers are different from those in preschool. Research suggests that elementary school teachers struggle to manage classroom behavior and report minimal training in behavioral interventions (Reinke et al., 2011), and EBPs do exist that target problem behavior reduction in elementary school, for example, "Incredible Years" (Webster-Stratton, Reid, & Hammond, 2004), "First Step to Success" (Walker et al., 1998), and the "Good Behavior Game" (Kellam et al., 2008). Some common components of the interventions found in these programs include practices for targeting student behavior and social outcomes. In addition, most of the EBPs are delivered in school settings by a teacher (e.g., Incredible Years) and include a home-school component (e.g., First Step to Success), suggesting that teacher delivery and home-school communication are important elements of effective programs.

However, a few components important for students with and at risk for EBD are missing from the existing EBPs. First and most notably, improving interactions between teachers and students with and at risk for EBD is not the central focus of any existing EBP. Second, few EBPs (e.g., First Step to Success) include systematic screening designed to identify high-risk students as soon as they enter school. Finally, although the literature supports the use of coaching for assuring implementation fidelity by teachers (Becker & Domitrovich, 2011; Reinke et al., 2011), none of the programs utilize practice-based coaching with performance feedback to improve and maintain teacher implementation.

BEST in CLASS–E, while including many of the strengths of existing EBPs, also addresses gaps in the programs by (*a*) focusing on improving teacher-student interactions during instructional activities; (*b*) systematically screening and targeting young school-age students (i.e., focal students) who exhibit risk for EBD; (*c*) providing training and practice-based coaching (with performance feedback) to early elementary school teachers in the use of key evidence-based instructional practices; (*d*) incorporating systematic measurement of teachers' and coaches' implementation fidelity of intervention components; (*e*) incorporating a home-school partnership component; and (*f*) emphasizing an outcome of building students' social, emotional, behavioral, and academic competence. In particular, the delivery of BEST in CLASS–E by teachers to students identified as at risk for EBD during ongoing classroom instruction clearly distinguishes BEST in CLASS–E from other EBPs. BEST in CLASS–E targets ongoing interactions between teachers and students during activities in authentic classroom settings, providing teachers with coaching in instructional practices that they can use across a variety of learning contexts (e.g., individual, small group, whole class) to improve teacher-student interactions; family

engagement in school; and, ultimately, student social, behavioral, and academic outcomes. By receiving coaching and feedback during typical classroom activities, teachers are able to more readily determine the value of their practice via their direct effects on focal student learning and behavior. Next we discuss adaptations made to BEST in CLASS–PK with an initial focus on developmental and implementation issues in early elementary grades.

Developmental Issues

Children's learning and development are characterized by periods of great change that quickly progress from early to middle childhood (Rathus, 2008), resulting in salient differences between preschool and early elementary school students. For example, between ages 5 and 7, children experience a shift in cognition that increases their sense of personal responsibility, self-direction, self-regulation, logical thinking, and engagement in learning (Copple & Bredekamp, 2009; Hyson, 2008). This change highlights the need for modifying BEST in CLASS–PK practices to more closely align with developmentally appropriate educational experiences for students of early elementary school age. Although preschool-age curricula focus on implementation of developmentally appropriate practices (Copple & Bredekamp, 2009; Wolery & Hemmeter, 2011), elementary school maintains a stronger focus on academic achievement, particularly in this era of standards-based reform (Sutherland et al., 2008). The identification of evidence-based practices was a particular focus of BEST in CLASS–E intervention development and a significant change from the focus of BEST in CLASS–PK (see Practice Elements Approach) that was associated not only with student social/emotional learning and growth but also with student academic growth. There was also an increased focus on development of a more comprehensive home-school partnership (see BEST in CLASS–E Home-School Partnership). Specifically, we modified the BEST in CLASS–PK home-school communication component to increase the development of a reciprocal partnership between families and teachers to support students' academic progress as well as their social/emotional and behavioral growth.

Implementation Issues

In addition to considering the developmental needs of early elementary students, we considered implementation issues with regard to differences between early childhood and elementary school contexts. Early childhood classrooms often comprise a variety of teacher-led learning tasks and child-directed learning activities throughout the day (e.g., center time, play, art, music, small-group activities). In comparison, elementary school classrooms are more structured, giving students less time for child-directed learning activities and more time for academic content. These differences make the implementation of BEST in CLASS in early childhood classrooms (and early childhood centers) different than implementation in elementary school classrooms (and elementary schools).

One factor associated with teacher implementation that differentiated our early childhood teachers from elementary school teachers was our approach to pro-

fessional development (see Pianta et al., 2005; Williford, Wolcott, Whittaker, & Locasale-Crouch, 2015). To illustrate, elementary school teachers tend to have more training, teaching credentials, and certifications than teachers in early childhood settings (Pianta & Rimm-Kaufman, 2006). For example, the highest degree attained by 32% of teachers in the BEST in CLASS–PK efficacy trial was an associate's degree, with only 35% of the teachers holding a master's degree. In contrast, in our pilot study for BEST in CLASS–E, all elementary school teachers held a bachelor's degree and 46% held master's degrees. Furthermore, early childhood and elementary school teachers may have different behavioral expectations for their students based, in large part, on the different developmental and ecological contexts of early childhood classrooms versus elementary school classrooms and their training backgrounds (Pianta & Rimm-Kaufman, 2006). Therefore, to avoid being too prescriptive in our approach to professional development for the elementary school teachers, we sought to learn from teachers in elementary classrooms how they might prefer to receive training and coaching on the practice elements composing BEST in CLASS–E.

In Year 1 of the development project, we conducted focus groups with elementary teachers at three schools ($n = 11$) to identify potential adaptations needed for BEST in CLASS–E. The goal was to learn about teachers' experiences and strategies for partnering with families and their perspectives on identified practice elements to help us identify any training or implementation adaptations that might improve program delivery in elementary schools. One difference to emerge from these focus groups was that elementary teachers expressed a need for increased autonomy in selecting the practice elements on which they would receive coaching. To illustrate, BEST in CLASS–PK is prescriptive in that teachers received training and coaching on six specific practices. This approach worked for early childhood teachers, who typically have less formal training than elementary teachers. In contrast, the elementary teachers expressed interest in having choice in the practice elements on which they would receive coaching. To integrate this feedback, we arrived at a model in which teachers would be trained on eight practice elements (versus the six practices in BEST in CLASS–PK; see Table 1), receive coaching on four core elements (supportive relationships, rules, OTR, and praise), and then select two from the remaining four (active supervision, precorrection, modeling, and emotion regulation) to receive coaching. In addition, teachers reported significant challenges to partnering with families of young students with problem behavior and wanted more support to better engage families. As a result, development work moving forward prioritized enhancing the home-school communication component of BEST in CLASS–PK with a focus on helping teachers develop partnerships with families to better support young students' learning needs.

To summarize, although the previous development work on BEST in CLASS–PK provided a strong foundation for the development of BEST in CLASS–E, adaptations were necessary to address the unique learning and behavioral contexts of elementary school classrooms and students. Specifically, adaptations were made to use practice elements that aligned with the developmental level of students of elementary school age, address the professional development needs of more highly qualified teachers, and develop a home-school component to facilitate teachers in supporting family use of BEST in CLASS–E strategies and increase home-school partnerships about student academic and social emotional growth. The practice elements approach de-

Table 1. Development and Comparison of BEST in CLASS Practice Elements

Item	Definition	BiC–PK	BiC–E; Y2	BiC–E; Y3
Active supervision	Teacher actively engages in and monitors the behavior of the focal student including using verbal or gestural prompting and/or proximity		X	
Corrective feedback	Teacher provides corrective feedback following an incorrect response or undesirable behavior demonstrated by the focal student/group of students	X		
Home-school communication	Teacher has a regular system (written, electronic, or oral) for communicating with the focal student's parents or guardians about the student's social, behavioral, or academically related skills and/or difficulties	X	X	X
Instructive feedback	Teacher provides extra instructional information or discussion following a correct response or appropriate behavior of focal student/group of students	X		
Modeling	Teacher demonstrates, or has a peer demonstrate, to the focal student/group of students a behavioral or academic skill to promote learning the skill		X	
Opportunities to respond	Teacher uses questions or prompts (i.e., gestural, verbal, visual, physical) that seek an active, observable, and specific response from the focal student/group of students	X	X	X
Praise	Teacher provides positive verbal statements of approval in response to an appropriate social, emotional, behavioral, or academic response from the focal student/group of students	X	X	X
Precorrection	Teacher uses statements or prompts (i.e., gestural, verbal, visual, physical) that orient focal student/group of students to a setting by explaining desired behavior or correct responding before starting a task or entering a new setting	X	X	X
Rules	Teacher actively uses prescribed guidelines to teach the focal student/group of students the rules and behavioral expectations of the classroom	X	X	X
Supportive relationships	Teacher engages in verbal and nonverbal behavior(s) to convey warmth, closeness, and interest when listening to and interacting directly with the focal student (not group of students)		X	X

scribed next was useful in adapting the core practices of BEST in CLASS–PK for delivery in elementary school classrooms to support the learning of students with chronic problem behavior.

Practice Elements Approach

To develop intervention programs delivered by teachers that have maximum utility and promise, prevention researchers have recommended concatenating practices that compose EBPs (Becker & Domitrovich, 2011; Dishion, 2011). These concate-

nated practices have been referred to as "practice elements" (Chorpita & Daleiden, 2010) or "evidence-based kernels" (Embry & Biglan, 2008), hereafter called "practice elements." Practice elements are the individual skills or practices common across various treatment protocols (Chorpita & Daleiden, 2010) that are associated with a desired treatment outcome. Becker and Domitrovich (2011) highlight the utility of using a practice elements approach to prevention via their application to a variety of youth problem behaviors, the ability to capitalize on naturally occurring learning opportunities, their fit within tiered levels of behavior support (e.g., response to intervention, positive behavior interventions and supports), and sustainability via the identification of high-quality implementers.

BEST in CLASS–E was designed to retain the core structure of BEST in CLASS–PK (i.e., focus on teacher-student interactions and family engagement) while adapting the program for authentic elementary settings (e.g., increased focus on academic learning and unique professional development needs). As noted earlier, BEST in CLASS–PK is composed of six practices. To help inform the revisions to BEST in CLASS–PK, we sought to distill the practice elements that targeted student social, behavioral, and academic outcomes from the early elementary literature following procedures created by Garland, Hawley, Brookman-Frazee, and Hurlburt (2008) and replicated by McLeod et al. (2017). A systematic literature review was conducted to identify studies delivered in early elementary school settings targeting one of nine social, emotional, or behavioral outcomes (e.g., teacher-student relationships, problem/challenging behavior, and engagement/task-oriented behavior). Instructional practices from the resulting studies were identified and distilled into 25 discrete practice elements (e.g., OTR, precorrection). To further explore the utility of each practice element, research experts in the field of EBD rated the 25 practice elements as "essential," "useful but not essential," or "not useful" in improving student outcomes. Twenty-four of the 25 practice elements were rated as either essential or useful by 75% of the experts (Sutherland, Conroy, McLeod, Kunemund, & McKnight, 2018).

Two steps were taken to identify which of the 24 practice elements would be included in BEST in CLASS–E. First, 15 elementary teachers (kindergarten, $n = 4$; first grade, $n = 4$; second grade, $n = 5$; special education, $n = 2$; these teachers were not participants in the previous focus groups) were surveyed to assess their ratings of each practice element. Definitions from the initial expert survey were simplified to remove jargon, and an example was provided for each definition. Teachers were asked to rate each of the practice elements on the same 3-point scale as the experts above (i.e., "essential," "useful but not essential," or "not useful" in improving student outcomes); 16 of the 24 practice elements were rated as essential by at least 80% of the teachers. Second, 11 elementary teachers (different from the teachers who rated practice elements in the previous step) in three focus groups were provided definitions and examples of the 16 practice elements and were asked to provide feedback on the potential effectiveness of the practice elements and the feasibility of implementation. Following the focus groups, eight practice elements were identified that the teachers indicated as most likely to improve outcomes for their students while also being feasible to use.

Although there was some general alignment of the practices used in BEST in CLASS–PK and the practice elements identified for BEST in CLASS–E, some differences did arise. For example, information gathered from teachers in both the sur-

vey group and the focus groups revealed that elementary teachers did not see "feedback" as essential in improving outcomes for students with or at risk for EBD. Although "feedback" was divided into corrective and instructive feedback for use in BEST in CLASS–PK, the practice was not included in the implementation phase of BEST in CLASS–E. Furthermore, the elementary teachers highlighted increasing challenges with the emotional dysregulation of their students and indicated a desire to improve supportive relationships in their classrooms. The focus group discussion around these topics as well as teacher ratings of emotion regulation and supportive relationships as essential led to the inclusion of both practice elements in the ensuing feasibility study (Table 1).

BEST in CLASS–E Home-School Partnership

In addition to adapting the BEST in CLASS–PK practices to align with characteristics of students, teachers, and elementary school classroom contexts, we adapted the BEST in CLASS–PK home-school communication component to support family engagement and partnerships for elementary-age students. Because families play a critical role in supporting the academic and behavioral success of their children (Reid, Webster-Stratton, & Hammond, 2007), we wanted to ensure that the teacher could partner with them when implementing the BEST in CLASS–E home-school partnership component.

BEST in CLASS–E targets students at early elementary school age who are at risk for EBD. However, families of students at risk for EBDs are often less involved with their children's educational program and may have a poor relationship with their children's teacher (Semke, Garbacz, Kwon, Sheridan, & Woods, 2010). Research has consistently documented that higher levels of family involvement (e.g., increased home-school communication) with their child's school are related to lower levels of problem behavior (Domina, 2005; Powell, Son, File, & San Juan, 2010). Moreover, longitudinal studies with elementary students (El Nokali, Bachman, & Votruba-Drzal, 2010) and younger children (Tichovolsky, Arnold, & Baker, 2013) have found that higher levels of family involvement predicted decreases in problem behavior. Because families' involvement with their children's school often declines as their children age (Catsambis & Garland, 1997; Crosnoe, 2001), partnering with families early in their children's school experience is important to promote positive teacher-family relationships (Reid et al., 2007). Therefore, building an effective home-school partnership is a key component of the BEST in CLASS–E program.

Home-School Partnership Conceptual Framework

BEST in CLASS–E incorporates effective strategies and processes designed to help enhance positive teacher-family interactions, fosters productive conversations and family engagement, and provides support to both teachers and families to help proactively solve problems and support focal students in the classroom and at home. The CARES framework (Rosenberg, 2007), an intervention originally developed to support culturally responsive and supportive interactions between teachers and students in their classrooms, was adapted to support teachers' responsiveness and en-

gagement with the families of students in their classrooms. Using CARES as a framework, teachers are trained and coached in five skills: (*a*) helping families understand the BEST in CLASS practice elements for use at home, (*b*) creating authentic and reciprocal relationships with families, (*c*) using reflective thinking when interacting with families, (*d*) identifying strategies for effective communication with individual families, and (*e*) engaging in culturally sensitive interactions with families. Finally, teachers are coached to use a cyclical problem-solving process when challenges arise in the home-school partnership process.

Iterative Development of BEST in CLASS–E Home-School Partnership

An iterative process was used to develop the BEST in CLASS–E home-school partnership component. First, we conducted a systematic literature review to identify programs and practices that foster family engagement with a particular focus on families of young students who are at risk for EBDs. Next, we partnered with two members (a family outreach coordinator at a community center and a mother) from the community in which our partner schools were located to conduct family interviews. With the local community members' assistance, we interviewed seven mothers with children of elementary school age in our partner schools to identify barriers and supports to home-school communication and partnerships. Information gathered from these interviews included identification of strategies for promoting positive engagement and communication between teachers and families (e.g., consistent personal contact) as well as barriers (e.g., lack of transportation, competing work and family commitments) that limited families' ability or willingness to engage with their children's schools. These data were combined with the literature review and used to develop an initial manualized version of the home-school partnership component of BEST in CLASS–E. Once developed, a family consultant (i.e., a mother from the community) reviewed all materials, contributing suggestions to make materials and examples culturally relevant. This process resulted in a revised manualized version of the home-school partnership component that was tested in a feasibility study (see below).

Home-School Partnership Coaching and Teacher Implementation Process

To support teachers' implementation of the home-school partnership component, we trained coaches in the process and incorporated activities related to building a partnership between teachers and families into the weekly practice-based coaching sessions. Coaches and teachers discussed their progress each week. Coaching teachers to deliver this component included several specific activities and milestones occurring at key time points. During the first two coaching meetings, the coach introduced the teacher to the home-school partnership process and supported the teacher in developing goals for facilitating family partnership goals. The coach and teacher discussed concerns about the student's behavior and the teacher's current relationship with the student's family. This discussion was followed by a review of the home-school partnership forms (i.e., "Establishing a Connection," "Action Plan," "BEST in CLASS–E Behavior Report Card," and "BEST in CLASS–E At-Home Notes") and instruction in how and when to use the forms. Next, the coach worked

with the teacher to schedule an initial meeting with the family. In this initial home-school partnership meeting, the teacher met with family members to provide information about the BEST in CLASS–E intervention and to complete an action plan for facilitating communication and collaboration between the family and the teacher supporting the student both at school and home. In addition, they used the Establishing a Connection form to facilitate discussion about the student's strengths and behavior and the family's communication preferences (e.g., text, behavior report card). After the first home-school partnership meeting occurred, the coach and teacher met to review the materials developed, including the action plan and strategies for communicating with the family. Each week during coaching meetings the coach checked in with the teacher on progress surrounding the home-school partnership goals and communication. The coach reviewed the CARES framework and worked with the teacher to discuss any challenges that may be preventing the teacher and family from achieving their home-school partnership goals. The teacher and coach reviewed the action plan developed in the first meeting, whether the home-school partnership goal was met for that week, and whether additional meetings might be needed with the family. If another home-school meeting was needed, the teacher scheduled a meeting and used the "Checking in and Reconnecting" form to reevaluate the weekly communication goals, making adaptations if indicated. This process was repeated throughout the 14 weeks of coaching.

Feasibility Study

To inform the final BEST in CLASS–E model, we conducted a feasibility study that included eight teachers (who did not previously participate in the survey or focus groups) who were trained and coached on the use of BEST in CLASS–E practice elements with 14 students identified to be at risk for EBD (one to two students per classroom). Both quantitative and qualitative data were collected to inform adaptation decisions. These data included (*a*) direct observations of teacher and student behavior, including teacher implementation integrity; (*b*) teacher reports of student behavior and teacher self-efficacy; (*c*) teacher and coach ratings of effectiveness and feasibility of the practice elements; (*d*) teacher and family structured interviews; and (*e*) a coach focus group.

Findings from these data indicated teachers' adherence to and competence in the BEST in CLASS–E practice elements improved from pretest to posttest. To illustrate, observers used a 7-point Likert-type rating scale to assess teachers' delivery of practice elements on two dimensions: adherence and competence. Adherence for the eight items representing practice elements increased from pretest ($M = 2.85$, $SD = 1.36$) to posttest ($M = 3.55$, $SD = 1.51$), and competence also increased from pretest ($M = 2.73$, $SD = 1.40$) to posttest ($M = 3.56$, $SD = 1.82$). Teachers also reported small mean increases on the three subscales of the Teacher Sense of Self-Efficacy Scale (Tschannen-Moran & Hoy, 2001) from pretest to posttest. In terms of teacher reports of student behavior, positive changes were noted across subscales of the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001) and Social Skills Improvement System (SSIS; Gresham & Elliot, 2008), with the greatest reduction in problem behavior noted on the total problems subscale of the CBCL (pretest

$M = 87.00$, posttest $M = 78.71$); the largest change on the SSIS from pretest to posttest was noted on the academic competence subscale (percentile score: pretest $M = 15.12$, posttest $M = 21.21$). Whereas these data suggest that training and coaching in the BEST in CLASS–E practice elements led to increased and higher quality delivery and some promise on student outcomes, qualitative data also informed adaptations to finalize the BEST in CLASS–E model.

Following the feasibility study, we conducted interviews with the eight teachers involved in the feasibility test and 11 of the 14 families of focal students identified as at risk for EBDs. These interviews were coded using consensual qualitative research methods (Hill, Thompson, & Williams, 1997) with codes adapted from the BEST in CLASS–E teacher interviews (McKnight, 2017). Atlas.ti was used to create, organize, and connect themes. Relations between conceptual codes of the family interviews were identified using the approach proposed by Bradley, Curry, and Devers (2007). Analyses revealed that some families felt less satisfied than teachers with the quality of home-school communication, and there was a lack of trust between families and teachers (Miller et al., 2017). At the same time, other families highlighted supports for home-school partnerships that included culturally sensitive collaboration with teachers, contributing to positive communication, and several families noted improved communication with their child's teacher. Inferences and themes from the teacher interviews included lack of trust between teachers and families and highlighted the critical role played by BEST in CLASS coaches in facilitating meetings and ongoing collaborative relationships between families and teachers. That is, teachers indicated that having coaches help facilitate family meetings assisted them in overcoming some of the initial trust issues they felt with their families.

Final Integration

Data from the feasibility study were used to make four adaptations to the BEST in CLASS–E model. First, based on treatment integrity data as well as teacher and coach interviews in which the practice elements were rank ordered by importance, one of the eight practice elements, active supervision, was not a priority for teachers or coaches, as teachers were already proficient in this practice element; therefore, it was dropped from the model. A second practice element, modeling, was integrated into OTR as a competence characteristic (i.e., teachers often used modeling while providing OTR, increasing the competence of delivery of OTR). Finally, supportive relationships practice element was expanded (an additional week was added) to allow for the integration of emotion regulation. Teachers reported struggling to integrate emotion regulation into their typical routines but felt it would integrate well with attempts at developing relationships with their students. These changes resulted in the following practice elements for training and coaching: (1) home-school partnership, (2) supportive relationships, (3) rules, (4) precorrection, (5) OTR, (6) praise, and (7) linking and mastery.

A second adaptation included a return to a prescribed program. In the feasibility study, teachers were able to select six (of eight) practice elements on which they would receive coaching, after having received training on all eight practice elements. After the feasibility study was completed, structured interviews with the eight partic-

ipating teachers were conducted (*a*) to identify potential issues that arose during training and implementation of model components, (*b*) to identify barriers and supports encountered during implementation of the intervention components, and (*c*) to assess the social validity of the individual components. Data from these interviews revealed teachers did not see added value in the blended model and preferred a more prescriptive approach. Therefore, the blended approach was removed from the final model in which teachers are trained and coached on the same BEST in CLASS practices.

Third, data from coach and teacher interviews also highlighted barriers and supports to coaching, and information gleaned from these interviews was used to identify particular supports that may be necessary to maximize the effectiveness of the coaching model. Specifically, we learned that implementing the model in elementary schools can be challenging given competing priorities at the schools, making scheduling of coaching meetings difficult. In the final model, we identified the importance of partnering with school district administration, and particularly with principals, to support and prioritize time for teacher and coach meetings during the school day.

Finally, revisions were made to the home-school partnership component based on interviews with teachers and families as well as a coach focus group. Taken together, these data signaled the need for increased time to be devoted to home-school partnerships and for teachers to have greater support from their coaches in facilitating these partnerships, particularly the initial family meetings. In response to this need and to better support teachers to engage and partner with families, we made modifications to the teacher training to emphasize the importance of authentic and reciprocal communication strategies to build trust with families. We also reorganized the order of the training modules so that home-school partnership begins during the first week of coaching, is integrated throughout each practice element coaching module, and is revisited in the middle of the 14-week coaching period (during Week 8). Finally, we increased our focus on building family partnerships early in the coaching process and expanded the home-school partnership focus during weekly coaching sessions.

Discussion

The purpose of this article is to describe the iterative development process of a classroom-based intervention model, BEST in CLASS–E. Over the four overlapping phases of development (see Fig. 1), we worked closely with schools, teachers, families, and community partners to adapt BEST in CLASS–PK into a developmentally appropriate model for use in elementary school settings. Our intention was to adapt and create BEST in CLASS–E to have maximum feasibility of implementation, promise of reducing risk for student behavioral difficulties, and potential for sustainability in early elementary classroom settings. At the conclusion of the feasibility study, quantitative and qualitative data signaled promise for BEST in CLASS–E to fulfill these goals while indicating needed areas for adaptation to fulfill this promise. We focus our discussion next on three interrelated areas: usability, feasibility of implementation, and integrity of implementation. We finish with a brief discussion of next steps for BEST in CLASS–E.

Usability

Usability focuses on how easy BEST in CLASS–E is to use for teachers and the extent to which teachers are willing to use the BEST in CLASS–E model and practice elements. Our iterative process determined two key ways to enhance teacher usability. First, teachers' willingness to use the BEST in CLASS practice elements was increased by returning to a prescribed program in which all teachers were coached on the same practice elements. Although this was surprising, teacher feedback revealed that they appreciated having a program already designed and packaged for their use. Second, compared with BEST in CLASS–PK, we experienced greater challenge implementing BEST in CLASS–E within the constraints of elementary school schedules and elementary school teachers' responsibilities (i.e., competing professional development responsibilities associated with the school's accreditation status). Teachers engaged more with the BEST in CLASS team members and coaches when we showed flexibility regarding our approach and teachers' schedules. To illustrate, teachers were willing to attend the 1-day training (before coaching began) after we presented two scheduling days as options for the training. In addition, teachers were increasingly willing to schedule meetings with coaches who adapted to teachers' schedules (e.g., scheduling different meeting times each week around teachers changing schedules and commitments). This demonstrated the flexibility of BEST in CLASS–E and the usability of the program within the constraints of teachers' responsibilities and a structured elementary school schedule.

Feasibility of Implementation

After model integration in Year 1, our feasibility study in Year 2 demonstrated the feasibility and promise of the program. All participating teachers completed the 14 weeks of coaching and descriptive results from a small sample of eight teachers and 14 students suggested promise for improving child outcomes and teachers' adherence to and competence in the BEST in CLASS practice elements. However, given the available supports and resource constraints in elementary school settings, the feasibility study of BEST in CLASS–E yielded some challenges. As mentioned, elementary school teachers have more demands placed on them during in-school planning times, other school service responsibilities, and more after-school commitments (e.g., professional development meetings) compared with preschool teachers. To adapt to this difference, coaches in BEST in CLASS–E were required to be flexible in scheduling with teachers (e.g., meeting before, during, or after the school day). This constraint highlights the importance of working closely with school administrators who can support teachers' time for involvement in BEST in CLASS–E. This resource need was emphasized in the final BEST in CLASS–E model.

Integrity of Implementation

To assess the extent to which teachers used BEST in CLASS–E practice elements as intended within elementary school classrooms, we used an instrument developed by the study team. This measure, the Treatment Integrity Instrument for Elementary School Classrooms (TIES; BEST in CLASS–E Project, 2017), is adapted from a

previous observational measure that has promising score reliability and validity (BiCACS; Sutherland et al., 2014). The TIES assessed teachers' adherence and competence of delivery of BEST in CLASS–E practice elements, and results showed promise for teachers' delivery of the practice elements. In addition to assessing the prescribed practice elements in BEST in CLASS–E, the TIES addressed a limitation of the BiCACS by assessing proscribed practice elements that teachers may deliver, thereby assessing treatment differentiation, a dimension of treatment integrity that is underreported in the education literature (Sanetti, Gritter, & Dobey, 2011). That is, practices identified in the practice elements phase of the intervention development process (see Sutherland, Conroy, McLeod, et al., 2018) that were not included in the final BEST in CLASS–E model (e.g., error correction, self-management) were used as differentiation items on the TIES.

Next Steps

The final BEST in CLASS–E model described in this article is currently being tested in a small randomized controlled trial (RCT). Twenty-six elementary teachers (who have not yet participated in BEST in CLASS surveys, focus groups, or the feasibility study) and 45 students and their families are participating in the study, with 14 teachers and 25 students in the BEST in CLASS–E condition and the remaining teachers and students in a business-as-usual condition. A number of teacher and family report measures, direct observation measures, and direct student assessments are being used to examine the promise of the model with young elementary students with problem behavior and their teachers. We hope to further test the model in a large multisite cluster RCT, pending promising results of the current pilot study.

Conclusion

Throughout the iterative development process, we collected multiple forms of data from diverse sources and adapted BEST in CLASS–E in response to implementation barriers. As a result, we anticipate the potential for BEST in CLASS–E to be a sustainable and scalable program in elementary school classrooms. Furthermore, BEST in CLASS–E fits into tiered systems of behavior support via the screening of students who need additional behavioral supports and the intensification of practice delivery from teachers. In addition, the intensification (via frequency and quality of delivery) of practices has implications for behavior support within and across tiers. In the future, we intend to conduct a large RCT to test the efficacy of BEST in CLASS–E; this larger study will allow us not only to examine potential mediators of treatment effects (e.g., teacher self-efficacy) but also further examine factors associated with treatment implementation that might be associated with treatment outcomes. We hope that what we learn in this program of research benefits not only the teachers, students, and their families that participate in this research but also other researchers who may take what we learn and apply it to their own intervention development work in schools with vulnerable populations of students.

Note

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