Evidence-Based Practices for Students With Emotional and Behavioral Disorders: Improving Academic Achievement

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Most teachers can quickly name at least one student they clearly remember as challenging their classroom management skills. Most likely, the memory conjures up recollections of inappropriate outbursts, defiant remarks, enticing other students into negative interactions, and even physically harmful or injurious behaviors. These behaviors are typical of many students identified with emotional and behavioral disorders (EBD) and especially of those with externalizing behavior disorders (Kauffman & Landrum, 2009).

As Kim, Forness, and Walker (2012; this issue) pointed out, although the rate at which students are identified as having EBD for special education purposes has not varied tremendously from about 1% of the school-aged population for more than 30 years, the need (i.e., how many students really have EBD) is probably much greater. Kim et al. offered a conservative estimate that at least 12% of the school-aged population probably has childhood mental health disorders that may warrant special education services.

This of course does not include those students whose challenging behavior is troublesome but has yet to meet the threshold of identification as having EBD. The point is simply that it is highly likely that teachers will encounter students with EBD in their classrooms and in fact even more likely that they will observe behavior problems typically associated with EBD in any number of students with and without disabilities on a regular basis. In a review of published literature on EBD, Gage, Lewis, and Adamson (2010) found that more articles were written about training teachers, teacher perceptions, and teacher behaviors than any other topic in the literature on students with EBD, which may validate the frustrations teachers undoubtedly experience working with this group of children. No doubt, these frustrations stem largely from how difficult it is to effectively manage and effectively instruct students with or at risk for EBD. These frustrations seem unlikely to go away any time soon, with the current focus on pushing students to meet high standards on state proficiency tests, as well as the trend toward inclusive education and co-teaching, which too often may occur without sufficient preparation and co-planning to allow teachers to work out an effective approach to classroom management in their increasingly diverse classrooms (Niesyn, 2009).

We know that students with EBD have problematic behavior and impaired social skills that interfere with developing friendships, but these same challenges also lead to negative impacts on student learning and academic achievement (Trout, Nordness, Pierce, & Epstein, 2003). Providing teachers with effective strategies and practices that have been shown to work with students who have EBD and that focus on academics is crucial given the current focus on high-stakes testing and increased graduation requirements (Ysseldyke, 2004), as well as the increasing acknowledgment that strong academic instruction and interventions may be the first line of defense in working effectively with students with EBD.

The Individuals with Disabilities Education Act of 2004 promotes the rigorous use of scientifically based research practices in the educational decision-making process for students with disabilities, including students with EBD. However, absent from the debate regarding how to best identify and use so-called evidence-based practices (EBPs) was the voice of teachers, who in fact hold the key to ensuring that once evidence-based practices are identified, they are actually implemented correctly in classrooms. Teachers often feel they have limited access to research, and when they do take the time to find and read research, it often fails to clearly address the unique needs of their students (Boardman, Arguelles, Vaughn, Hughes, & Klingner, 2005). Moreover, research is often described in academic journals using terms and statistics that teachers are not trained to understand. Thus, many teachers feel distrustful toward research and, by extension, toward practices identified as effective based on research findings. But teachers should not view EBPs as imposed upon them by researchers to limit their instructional options and control. Rather, EBPs should be seen as a resource that allows teachers to quickly identify and consider practices that are more likely to work for their students. To address these concerns, in this article we (a) provide an overview of EBPs and their importance for students with EBD, (b) describe two EBPs shown to be effective in increasing academic outcomes for students with EBD, and (c) assist teachers in locating and using so-called evidence-based practices (EBPs) as a resource that allows teachers to work out an effective approach to classroom management in their increasingly diverse classrooms.

Why Use Evidence-Based Practices?

A growing body of literature on EBPs has emerged as a promising
Table 1 SOURCES AND WEB SITES FOR EVIDENCE-BASED PRACTICES

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form of help to teachers in meeting the needs of their students, including those with the various and complex needs associated with EBD. EBPs are those shown to be effective through rigorous research that, when implemented with fidelity, have the potential to improve outcomes for students with disabilities (Cook, Tankersley, Cook, & Landrum, 2008). By seeking out and implementing EBPs, teachers can focus on supporting students in their areas of greatest need and helping them realize their full potential.

Historically, researchers and providers of professional development have used vague and unclear terminology and criteria when describing the quality of research studies that support a given instructional practice. In response to this, scholars have devoted significant attention in recent years to designing clear standards for determining EBPs. Practices designated as EBPs have gone through systematic and intensive review. To classify a practice as an EBP is not merely to say that it is researched based. EBPs typically must meet standards related to (a) the research designs used in the supporting studies (i.e., studies must be designed to establish that a practice causes positive changes in student outcomes), (b) the quality of supporting studies (i.e., studies must be rigorously designed and conducted in order for them to be considered trustworthy), (c) the quantity of supporting studies (i.e., EBPs are typically supported by multiple studies rather than relying on the findings of a single study), and (d) the effect sizes of supporting studies (EBPs should have meaningful, not small, effects on student outcomes; Gersten et al., 2005; Horner et al., 2005). One point of using such standards to evaluate the research literature is to reduce ambiguity; the goal is for educators to have confidence that a practice deemed evidence based will in fact work for most students. However, it is important to note that a practice that does not meet these standards is not necessarily ineffective; it may simply be that there is not yet enough research conducted on the practice to meet the standards required for an EBP.

A number of organizations have analyzed the literature, applied specific standards, and organized lists of EBPs (Cook et al., 2008). We list some of the organizations that might be of interest to teachers in Table 1. Note that the National Secondary Transition Technical Assistance Center (NSTTAC) separates out studies conducted specifically with students with EBD when identifying EBPs. This is important because practices that are identified as EBPs based on research involving students without disabilities, or students with disabilities other than EBD, may not be as effective for students with EBD. Although practices that have been shown by multiple, high-quality studies to be effective for other children may also work for students with EBD, teachers of students with EBD can be most confident that the EBPs will also work for their students when the supporting research studies involved students with EBD. In the following section, we describe two EBPs identified by NSTTAC as effective for improving the academic outcomes of transition-aged youth with EBDs.

What Are Some Evidence-Based Practices?

Peer-assisted learning and self-management are two of the practices listed by NSTTAC as EBPs addressing academic outcomes for students with EBD. Both of these practices are versatile and relatively easy to implement across content areas and grade levels. They are a good starting point for teachers of students with EBD who want to start implementing EBPs to improve their students' academic achievement. We provide a brief overview of each practice.

Using Peer Assistance to Teach Academics

Research evidence strongly supports the use of peers for improving the academic achievement, time on task, and behavior of students with disabilities and specifically for students facing the challenges associated with EBD (Falk & Wehby, 2001). Peer assistance in education involves mixed-ability grouping of students to support each other through learning processes and tasks (Winokur, Cobb, & Dugan...
There are many varieties of peer-assisted learning, including classwide peer tutoring (CWPT) and peer-assisted learning strategies, both of which involve reciprocal, mixed-ability pairing to allow students to benefit from being the learner as well as from being the teacher (Falk & Webby, 2001). These models increase opportunities for students to receive one-to-one instruction, repeated practice, and immediate feedback, all of which support increases in academic achievement (Wolford, Heward, & Alber, 2001). CWPT is the most researched and widely recognized effective peer-tutoring model (Maheady, Mallette, & Harper, 2006). CWPT can be implemented across content areas using already existing curricular materials and requiring minimal restructuring of teachers’ lessons. The outline presented below is an example of a starting point for teachers who want to begin implementing peer-mediated instruction.

CWPT consists of assigning students to dyads (pairs) to peer tutor each other by reading, asking questions, and providing prompts and feedback on correct and incorrect responses in a highly structured format (Maheady et al., 2006). Bell, Young, Blair, and Nelson (1990) adapted the strategy and researched the effects of CWPT on academic achievement among secondary students and reported gains among students with EBD as well as their peers without disabilities. Based on the results of their study, the following guidelines can be used to implement CWPT for improving comprehension of expository reading passages. Note that the specific procedures could easily be adapted to use CWPT for almost any content area (e.g., reading fluency, math, science, spelling, social studies).

1. Group students in heterogeneous dyads (pairs), using assessments from the previous week to assign and adjust the high-low pairings. Dyads are also grouped into two teams in order to compete for highest number of points earned.
2. Use for approximately 20 min a day, with each student taking the role of tutor for 10 min and learner for 10 min.
3. Repeat three times weekly, resulting in a total of 60 min of CWPT each week.
4. Model and practice with students as the first step to implementation.
5. The procedure for the tutoring commences after students read a section of text.
6. The tutors read teacher-provided questions to assess the tutees’ understanding of the reading.
7. Tutors have the answers and provide positive feedback and acknowledgment for correct answers; tutors interrupt and model correct answers when the learner provides an incorrect answer. The tutors then ask the question again to provide the learner with the opportunity to answer correctly.
8. Students switch roles and repeat the process after 10 min.
9. The teacher circulates and randomly awards points to dyads for students’ responses and appropriate interactions.
10. End-of-unit test scores are added to group points, and winners are announced and reinforced (e.g., going to recess early, earning a certificate) the following week.

The content and questions used during CWPT are taken directly from the curriculum but are simplified to make them more accessible to all learners. Bell et al. (1990) employed an additional option of placing the questions on flash cards to facilitate random questioning. To increase student motivation, CWPT includes a competition between the two groups. Tutors typically award points for every correct answer, and teachers can add bonus points for engaging in appropriate academic behaviors (Maheady et al., 2006). To better engage students with EBD at the secondary level, Bell et al. (1990) altered the procedure so that the teacher randomly circulated throughout the class and awarded points for appropriate interaction and meaningful responses instead of awarding points for each correct answer. In addition, students’ points for correct answers on the subsequent tests were added to the overall group points.

Students and teachers alike have expressed satisfaction with the process, and both academic and social gains have been seen after using the strategy (Bell et al., 1990). These results support using peer-assisted learning, and specifically CWPT, for students with EBD to increase academic achievement as well as appropriate social interactions.

Using Self-Management Interventions to Improve Academic Outcomes

Another category of highly effective, yet easy-to-implement strategies that support students with EBD is self-management. Self-management interventions are “methods used by students to manage, monitor, record, and/or assess their behavior or academic achievement” (Reid, Trout, & Schartz, 2005, p. 362). Students with EBD often have trouble establishing an effective work atmosphere, have issues attending to what is being taught, and have difficulty relating new information to information they have already processed (Carr & Punzo, 1993). Self-management interventions can help students with EBD practice appropriate academic behavior while learning self-management skills that they do not already possess (Mooney, Ryan, Uhing, Reid, & Epstein, 2005). Whereas the NSTACC focuses primarily on secondary students, self-management interventions also were identified as being EBPs across grade levels through the National Professional Development Center on Autism Spectrum Disorders and the National Autism Center.
Teachers most frequently implement five different types of self-management interventions: (a) self-monitoring, (b) self-evaluation, (c) self-instruction, (d) goal-setting, and (e) strategy instruction. Self-monitoring refers to the student both observing and recording targeted behaviors. Self-evaluation refers to techniques in which the student compares his or her performance to established criteria. Self-instruction refers to student-directed behavior guided through the use of self-statements. Goal setting involves selecting a goal and creating personal guidelines for commitment and progress toward that goal. Strategy instruction refers to techniques involved in teaching the student steps that will be followed independently with the overall purpose of solving a problem or reaching a goal (Mooney et al., 2005). The most commonly reported and researched type of self-management is self-monitoring. This does not mean the other strategies are less effective, but it does seem to indicate that self-monitoring is one of the cornerstones of self-management.

Teachers have found self-monitoring simple to implement and straightforward to learn, as well as easy to integrate into the current curriculum. They generally do not find it to be time-consuming and, as expected, find that they do not have to spend a lot of time monitoring the students themselves (e.g., Shimbukuro, Prater, Jenkins, & Edelen-Smith, 1999). The following teacher procedures can be used as a guide for implementing self-monitoring in the classroom.

1. After deciding on the academic subject to be targeted, begin with a student conference. During that conference:
   a. Provide examples of the student's academic work that has met the expected criteria.
   b. Discuss the relevance of staying on task and paying attention to detail when doing classwork as well as the importance of academic task completion.
   c. Emphasize that both the quality and quantity of the assignments will be evaluated.
   d. Introduce the student to self-monitoring by proposing that he or she manages independent work by using self-monitoring and graphing.
   e. Show the student an example of a progress-monitoring chart.
   f. Give examples of how to calculate the scores for completion and accuracy and how to use the progress-monitoring chart.

2. Have the student complete an assignment.

3. Allow the student to correct the assignment as the teacher gives the correct answers.

4. Have the student compute the accuracy and productivity score and then record and graph these scores on the progress graph.

5. Encourage the use of self-monitoring across different subject areas.

Students who use self-management techniques for academics have shown greater achievement gains and a higher level of satisfaction with their work (e.g., Lapan, Kardalsh, & Turner, 2002). Given the research findings indicating the effectiveness of self-management interventions for academic outcomes and increased student motivation (e.g., Lapan et al., 2002; Mooney et al., 2005), teachers can reasonably conclude that integrating self-management interventions into classroom procedures will benefit students who have EBD. Specific ideas, guidelines, and lesson plan starters for implementing self-management routines are provided on the NSTTAC Web site (http://www.nsttac.org/content/using-self-management-teach-academic-skills) and the National Professional Development Center on Autism Spectrum Disorders (http://autismpendc.fpg.unc.edu/content/self-management).

How Do Teachers Find and Implement EBPs?

As with peer-assisted learning and self-management, we know that some practices are generally more effective than others in achieving desired student outcomes (Forness, Kavale, Blum, & Lloyd, 1997). And it goes without saying that teachers should select practices that are most likely to improve the academic outcomes of their students. However, it is important to realize that implementing EBPs does not guarantee improved student outcomes or replace effective teaching. Rather, using EBPs enhances the positive effects that good teachers are already having on their students. That is, EBPs that are taught poorly (e.g., without enthusiasm, in disruptive classrooms, without matching instruction to students' unique characteristics and cultural backgrounds) are unlikely to be effective. In contrast, using EBPs appropriately will make an effective teacher even more effective. Teachers can follow these step-by-step procedures for using EBPs, recommended by Torres, Farley, and Cook (2012), while always taking care to engage in high-quality teaching to enable their students to achieve their potential.

**Step 1: Establish the Characteristics**

Before delving into the resources available for EBPs, a teacher should first think about the unique characteristics of students, the environment, and the instructor. Student characteristics obviously include age, grade level, and the disability area(s). Environmental characteristics include the funding available, if any, and the resources and materials already in the classroom. It is also important to consider the knowledge base, experience, philosophy, and style of
the teacher to ensure feasibility of implementation. A teacher must know and consider these characteristics in advance to select EBPs that are most likely to work for his or her students.

**Step 2: Examine the Sources**

The sources listed in Table 1 are just a few of the reputable organizations available that have compiled resources relating to EBPs. Finding an EBP is not always a simple process. The majority of organizations do not report on effective outcomes specific to students with EBD, even though those students may have been included in the original research studies. Sometimes teachers of students with EBD may need to access original studies noted by the Web sites to determine whether students with EBD were involved in the supporting studies. Accessing and understanding the information may take an initial time investment, but learning what information and resources are available can have rewarding payoffs. Fortunately, some EBP sources, such as the What Works Clearinghouse (http://whatworks.ed.gov/), are beginning to establish EBPs specifically for students with EBD.

**Step 3: Decide on an EBP**

There may not always be an exact match between the student, teacher, and environmental characteristics and available EBPs, but the more similarities, the greater the odds the EBP will produce the desired outcomes (Cook et al., 2008). For example, a practice that requires an hour a day to implement, involves reading from a script, and has been validated for young children without disabilities would not be a good selection for a teacher who cannot imagine herself reading from a script, has little free time in the school day, and teaches middle students with EBD. When choosing an EBP, the teacher can access the studies used in identifying the EBPs to find more detailed information about the specific student, instructor, and environmental characteristics with which the practice has been found effective. All of the Web sites listed in Table 1 include different sources and materials, providing a variety of resources for teachers to use in implementing the EBPs.

**Step 4: Identify Fundamental Elements of the EBP**

To replicate the positive effects found in research, fundamental elements of the practice need to be identified and implemented with fidelity. If important critical elements are omitted or altered, the teacher cannot expect to experience the reported positive effects (Cook & Smith, 2012). Many sources of EBPs include step-by-step instructions and implementation fidelity checklists, which are lists of the critical elements of the practice. If these are available, they can be a valuable resource for teachers. If these guides are not available for the selected EBP, teachers can look to the supporting studies to find detailed descriptions of the practice in the methods section and create their own checklists from those descriptions. Using a fidelity checklist, whether provided or teacher made, will help ensure the practice is implemented with fidelity, as it has been designed and tested.

**Step 5: Apply the Practice Through Effective Teaching**

After selecting the practice and developing an implementation fidelity checklist, it is time to plan the delivery of the practice. Even the most effective practice may not produce desired outcomes if it is not implemented with effective teaching strategies (Billingsley, 2004). Effective teaching includes maximizing academic engagement, using appropriate pacing, preteaching key vocabulary, previewing instruction, reviewing previous instruction, monitoring student performance, circulating and scanning the instructional environment, recognizing appropriate behavior, teaching with enthusiasm, having an awareness of the classroom, and implementing wait time after questioning (Brigham, Scruggs, & Mastropieri, 1992; Brophy & Good, 1986; Cook, Tankersley, & Harjusola-Webb, 2008). As the teacher implements the practice through effective teaching, a peer or mentor should observe, using the implementation fidelity checklist to help confirm that the critical elements of the practice were implemented, as well as to validate that generally effective teaching practices were observed. If having someone else observe is not feasible, teachers can self-assess using the fidelity checklist.

**Step 6: Monitor Outcomes**

EBPs are shown to work with a majority of students; however, it is important to monitor student progress to evaluate the practice objectively. Progress monitoring, broadly defined, is the systematic measurement process designed to determine the effectiveness of instruction (Johnson, Mellard, Fuchs, & McKnight, 2006). One well-known tool is curriculum-based measurement, a short and simple process that can provide reliable and valid measures (Hosp, Hosp, & Howell, 2007). Although it is necessary to maintain fidelity to the critical components, teachers may need to adapt the practices to fit the student, environment, and their own characteristics after they become familiar with how the selected EBP works. Continued progress monitoring is especially important after adapting an EBP to continue to evaluate the effectiveness.

Occasionally, a teacher may have a particular student or group of students who are “treatment resisters” (one of the few individuals for whom the EBP will not be effective; Torgeson, 2000), even when the EBP is implemented with fidelity and adapted appropriately. If this occurs, another EBP should be chosen. If there is not another EBP that fits the characteristics, teachers
should look at practices that have not yet been identified as EBPs but are found on the referenced Web sites as highly likely to be effective, supported by some research, recommended by trusted and effective mentors and colleagues.

**Step 7: Adapt Instruction and Monitor Outcomes**

After understanding the fundamental components of the practice (see Step 4), a teacher can adapt the process to better match student and teacher needs and abilities, particularly if student outcomes do not show the desired results. Implementing the practice within guidelines that are too strict can cause diminished outcomes because the unique student needs and environmental characteristics may not be addressed (Hogue et al., 2008; McMaster et al., 2010). Teachers must take care not to alter or compromise the key elements of the practice as a result of the adaptation. Finally, an essential component of the implementation process is engaging in a cycle of progress monitoring and adaptation to best meet the needs of all students.

**Conclusion**

The majority of students with EBD struggle in school, and unless teachers address their academic deficiencies in conjunction with their behavioral issues, the gap between the achievement levels of students with EBD and their peers will persist. Inadequate academic progress has been shown to result in school failure, greater dropout rates, and unsuccessful transition to the work force, among other negative long-term life outcomes (Ryan, Pierce, & Mooney, 2008). In this article, we have presented a rationale for using practices that are not merely supported by research but also have been evaluated systematically based on standards for the rigor, quality, and quantity of research support they have, and have thus been deemed to be evidence based. In describing sources in which teachers may find examples of EBPs, and in further describing two specific examples of evidence-based strategies with an academic focus, we have tried to further make the case that teachers have the best chance of positively influencing outcomes for students with EBD when they implement practices that are both (a) evidence based and (b) academically focused. Only when both conditions are met will students with EBD have their best chance for long-term success in school and beyond.

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