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Applying Positive Behavioral Support and Functional Behavioral Assessment in Schools

OSEP Center on Positive Behavioral Interventions and Support[1]

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Introduction

On June 4, 1997, amendments to the Individuals with Disabilities Education Act (IDEA) became law (P.L. 105-I 7). These amendments introduced a number of new concepts, two of which are particularly important to the education of children whose behaviors violate school codes of conduct and/or are outside personal or interpersonal norms of acceptable social behavior: (a) positive behavioral support (PBS) and (b) functional behavioral assessment (FBA). Section 614 (d)(3)(B)(i) of P.L. 105-17 states that "in the case of a child whose behavior impedes his or her learning or that of others, the child's IEP team must consider, when appropriate, strategies, including positive behavioral intervention strategies and supports, to address that behavior." Section 615 (k)(l)(B)(i) of the law states, "if the local educational agency did not conduct a functional behavioral assessment and implement a behavioral intervention plan for such child before the behavior that resulted in the suspension described in subparagraph (A), the agency shall convene an IEP meeting to develop an assessment plan to address that behavior." In addition, "if the child already has a behavioral intervention plan, the IEP Team shall review the plan and modify it, as necessary, to address the behavior" [Section 615(k)(1)(B)(ii)]. (FBA and BIP are not required in all cases of discipline but, instead, are required only in some clearly specified circumstances. For more information on these matters, refer to Technical Assistance Guideline #2.)

Positive behavioral support and F BA are not new. However, in the context of IDEA, they represent an important effort to improve the quality of behavioral interventions and behavioral support planning. As schools organize to meet these requirements and to build their capacity to meet the behavioral needs of all students, especially students with disabilities, attention must be given to the definitions, features, and uses of PBS and FBA. The purpose of this paper is to describe what is meant by "PBS" and "FBA."

Context

Schools are important environments in which children, families, educators, and community members have opportunities to learn, teach, and grow. For nearly 180 days each year and six hours each d y, educators strive to provide students learning environments that are stable, positive, and predictable. These environments have the potential to provide positive adult and peer role models, multiple and regular opportunities to experience academic and social success, and social exchanges that foster enduring peer and adult relationships.

Despite these positive attributes, teachers, students, families, and community members face significant contemporary challenges (Figure 1). Every year schools are being asked to do more with fewer resources. New initiatives to improve literacy, enhance character, accommodate rapidly advancing technologies, and facilitate school-to-work transitions are added to the educator's workday. Schools are being asked to achieve new and more results, yet seldom are allowed to cease work on the growing list of initiatives.

Impact of Challenges

- A suburban high school with 1400 students reported over 2000 office referrals from September to February of one school year.
- An urban middle school with 600 students reported over 2000 discipline referrals to the office from September to May.
- A rural middle school with 530 students reported over 2600 office referrals. 304 students had at least one referral, 136 students had at least 5 referrals, 34 students had more than 20 referrals, and one student had 87 office referrals (Taylor-Greene et al.. 1997).
- In one state, expulsions increased from 426 to 2088 and suspensions went from 53,374 to 66,914 over a four year period (Juvenile Justice Fact Sheet).
- In another state, expulsions increased form 855 to 1180 between the 1994-95 and 199596 school year (a 200% increase from 1991-92 school year) (Juvenile Justice Fact Sheet).
- Being suspended or expelled school is reported by students is one of the top three school-related reasons for leaving school (Nationai Association of Child Advocates, 1998).
- In one state, 10.7% of students who had been suspended or expelled also were found in the state's Department of Juvenile Justice Database; 5.4% of suspended students were arrested while on suspension; and 18.7% were arrested while on expulsion (National Association of Child Advocates, 1998).
- 36% of general public school parents fear for the physical safety of their oldest child at school, and 31% fear for the physical safety of their oldest child while playing in their neighborhood (Gallup, Elam, & Rose, 1998).
- The general public rated fighting/violence/gangs, lack of discipline, lack of funding, and use of drugs/dope as the top four biggest problems facing local schools. These same four have been in the top 4 for over 15 years (Gallup, Elam, & Rose, 1998).

Figure 1 Impact of Changes

Educators also are being asked to educate an increasingly heterogeneous population of students. An increasing number of students in our schools have English as a second language, limited family supports, significant learning and/or behavioral problems, families who face financial barriers, and a great need for mental health, social welfare, medical, and vocational assistance (Knitzer, 1993; Knitzer, Steinberg, & Fleisch. 1990; Stevens & Price, 1992). Although most attention has focused on students with externalizing problem behavior (e.g., aggressive, antisocial, destructive), students with internalizing problem behavior (e.g., social withdrawal, depression) also represent an important concern of families, schools, and communities (Kauffman, 1997).

In addition, the challenges associated with educating students with severe problem behavior are increasing (Biglan, 1995; Kauffman, 1997; Sprague, Sugai, & Walker, 1998; Sugai & Horner, 1994; Walker, Colvin, & Ramsey, 1995). Although these students represent only 1 to 5% of a school enrollment, often they can

account for more than 50% of the behavioral incidents handled by office personnel. and consume significant amounts of educator and administrator time (Taylor-Greene et al., 1997; Sugai, Sprague, Horner, & Walker, in press). Many of these students require comprehensive behavioral supports that involve family, school, and community participation (Eber, 7996; Eber & Nelson, 1997; Epstein et al., 1993; Walker et al., 1995; Walker et al., 1996).

Many schools lack the capacity to identify, adopt, and sustain policies, practices and systems that effectively and efficiently meet the needs of all students (Mayer, 1995; Sugai & Homer, 1994, in press; Taylor-Greene et al., 1997; Walker et al., 1996). Schools often rely on outside behavioral expertise because local personnel lack specialized skills to educate students with significant problem behaviors. School morale is often low because on-going staff support is limited. Although many students have significant social skill needs, social skill instruction is not a conspicuous and systemic component of the school-wide curriculum. Behavioral interventions are not based on information obtained from assessments. In general, systems for the identification, adoption, and sustained use of research-validated practices are lacking.

In sum, the challenges facing educators are significant and persistent. If not addressed, their impact on students, school personnel, families, and community members can be dramatic. However, the problem is not that schools lack procedures and practices to address these challenges. Procedures and practices have been defined and growing over the past 30 years (Mayer, 1995; Peacock Hill Working Group, 1992; Sugai, 1998; Walker, 1995; Walker et al., 1998). The greater problem has been that we have been unable to create and sustain the "contextual fit" between what our procedures and practices and the features of the environments (e.g., classroom, workplace, home, neighborhood, playground) in which the student displays problem behavior (Albin, Lucyshyn, Homer, & F lannery, 1996). The systemic solution is to create effective "host environments" that support the use of preferred and effective practices (Sugai & Horner, 1994; in press; Zins & Ponti. 1990). Effective host environments have policies (e.g., proactive discipline handbooks, procedural handbooks), structures (e.g., behavioral support teams), and routines (e.g., opportunities for students to learn expected behavior, staff development, data-based decision making) that promote the identification, adoption, implementation, and monitoring of research-validated practices,

As a society, we are looking to schools to be or become settings where our children learn the skills for successful adulthood (e.g., IDEA, Goals 200, Improving America's Schools Act) in the context of an increasingly heterogeneous general student body and students with intense patterns of chronic problem behavior. The growir ȝ expectation is that schools will deliver socially acceptable, effective, and efficient interventions to ensure safe, productive environments where norm-violating behavior is minimized and prosocial behavior is promoted. Positive behavioral support and FBA represent important efforts toward achieving these goals.

Increasingly. efforts to establish school-linked service arrangements for children and families are appearing around the country (Sailor, 1996). These models have been tested and described in numerous schools (Adelman & Taylor, 1997; Dryfoos, 1997: Kagan, Goffin, Golub, & Pritchard, 1996; Schorr, 1997). In Kentucky, for example, efforts have been made to establish school-linked services in the context of state-wide school reform (Illback, Nelson, & Sanders, 1998; Kearns, Kleinert, Farmer, Warlick, Lewis, & Williams, in press; Kleinert, Kearns, & Kennedy, in press). More recently, these school, family, and community partnerships have been described under the "community schools" rubric (Benson & Harkavy, 1996; Lawson & Briar-Lawson, 1998).

These comprehensive systems-change initiatives are designed to create a seamless web of supports and services that "wrap around" children and families and to bring an end to the current fragmentation and categorical separation of school agency directed programs. These systems-change efforts create a gateway through which to

integrate PBS methods into the culture of the school and to extend effective and coordinated participation in the behavioral support plan to family members and community agency personnel (Sailor, 1996; in press).

Definition and Features of Positive Behavioral Support in Schools

Optimizing the capacity of schools to address schooi-wide, classroom, and individual problem behavior is possible in the face of current challenges, but only if working policies, structures, and routines emphasize the identification, adoption, and sustained use of research-validated practices In recent years, PBS has been emerging as an approach to enable schools to define and operationalize these structures and procedures. Newjournals (e.g., Journal of Positive Behavioral Intervention), technical assistance centers (e.g., Beach Center, Center on Positive Behavioral Interventions and Supports), and personnel preparation programs have established PBS as the focus of &heir purpose and activities.

Definition

Positive behavioral support is a general term that refers to the application of positive behavioral interventions and systems to achieve socially important behavior change. PBS was developed initially as an alternative to aversive interventions used with students with significant disabilities who engaged in extreme forms of self-injury and aggression (Durand & Carr, 1985: Meyer & Evans, 1989). More recently, the technology has been applied successfully with a wide range of students, in a wide range of contexts (Carr et al., in press; Horner, Albin, & Sprague, 19XX), and extended from an intervention approach for individual students to an intervention approach for entire schools (Colvin, Sugai, Good, & Lee. 1996; Coivin, Kame'enui & Sugai, 1993; Lewis, Colvin, & Sugai. in press; Lewis, Sugai & Colvin, 1998; Taylor-Greene, et al., 1997; Todd. Horner, Sugai & Sprague, in press).

Positive behavioral support is not a new intervention package, nor a new theory of behavior, but an application of a behaviorally-based systems approach to enhancing the capacity of schools. families, and communities to design effective environments that improve the fit or link between research-validated practices and the environments in which teaching and learning occurs. Attention is focused on creating and sustaining school environments that improve lifestyle results (personal. health, social, family, work, recreation, etc.) for all children and youth by making problem behavior less effective, efficient, and relevant, and desired behavior more functional. In addition, the use of culturally appropriate interventions is emphasized. Haring and De Vault (1996) indicate that PBS is comprised of (a) "interventions that consider the contexts within which the behavior occurs," (b) "interventions that address the functionality of the problem behavior," (c) "interventions that can be justified by the outcomes," and (d) "outcomes that are acceptable to the individual, the family, and the supportive community" (p. 116).

Features

At the core, PBS is the integration of (a) behavioral science, (b) practical interventions, (c) social values, and (d) a systems perspective (Figure 2).

Behavioral Science	Practical Interventions	Lifestyle Outcomes	Systems Perspective
♣ Human behavior is affected by behavioral, bio-behavioral, social, and physical environmental factors. ♣ Much of human behavior is associated with unintentional learning opportunities. ♣ Human behavior is learned and can be changed.	♣ Functional behavioral assessments are used to develop behavior support plans. ♣ Interventions emphasize environmental redesign, curriculum redesign, & removing rewards that inadvertently maintain problem behavior. ♣ Teaching is a central behavior change tool. ♣ Research-validated practices are emphasized. ♣ Intervention decisions are data-based.	♣ Behavior change must be socially significant, comprehensive, durable, & relevant. ♣ The goal of PBS is enhancement of living and learning options. ♣ PBS procedures are socially and culturally appropriate. Applications occur in least restrictive natural settings. ♣ The fit between procedures and values of students, families, educators must be contextually appropriate. ♣ Non-aversive interventions (no pain, tissue damage, or humiliation) are used.	♣ The quality & durability of supports are related directly to the level of support provided by the host environment. ♣ The implementation of practices and decisions are policy-driven. ♣ Emphasis is placed on prevention & the sustained use of effective practices. ♣ A team-based approach to problem solving is used. ♣ Active administrative involvement is emphasized. ♣ Multi-systems (district, school-wide, nonclassroom, classroom, individual student, family, community) are considered. ♣ A continuum of behavior supports is emphasized.

Figure 2 Foundations and Features of Positive Behavioral Support

Behavioral science. An existing science of human behavior links the behavioral, cognitive, bio-physical, developmental, and physical-environmental factors that influence how a person behaves (Baer, Wolf, & Risley, 1968; Bijou & Baer, 1978; Schwartz, 1989; Wolery, Bailey, & Sugai, 1988). Of particular interest are factors that affect the development and durability of disruptive and dangerous behaviors (Biglan, 1995; Kauffman, 7997; Mayer, 1995; Patterson, Reid, & Dishion, 1992; Walker et al., 1995). To a great extent, when these behaviors are observed in our schools, they can be traced to unintentional behavioral student, peer, and/or teacher exchanges (Gunter, Denny, Jack, Shores, & Nelson, 1993; Sasso, Peck, Garrison-Harrell, 1998; Shores, Gunter, & Jack, 1993; Shores, Jack, Gunter, Ellis, DeBriere, & Wehby, 1993).

Although learning and teaching processes are complex and continuous and some behavior initially is not learned (e.g., bio-behavioral), key messages from this science are that much of human behavior is learned, comes under the control of environmental factors, and can be changed. The strength of the science is that problem behaviors become more understandable, and as our understanding grows, so does our ability to teach more socially appropriate and functional behavior. The PBS approach is founded on this science of human behavior. Different procedures and strategies are applied at different levels, but the fundamental principles of behavior are the same.

Practical interventions. The science of human behavior has **led to the** development of practical strategies for preventing and reducing problem behavior (e.g., Alberto & Troutman, 1999; Cooper, Heron, & Heward, 1987; Kerr & Nelson, 1998; Koegel, Koegel, & Dunlap, 1996; Reichle & Wacker, 1993; Woiery, Bailey, & Sugai, 7988). Although implementation details vary across age groups, contexts, and behavior, PBS interventions have common features. Foremost among these features is the application of FBA, but equally important are emphases on environmental redesign (changing aspects of the setting), curriculum redesign (teaching new skills), modification of behavior (teaching and changing student and adult behavior), and removing rewards that maintain problem behaviors (Carr et al., 1994; Luiselli & Cameron, 1998; O'Neill et al., 1997).

Positive behavioral support procedures emphasize assessment prior to intervention, manipulation of antecedent conditions to reduce or prevent the likelihood that a problem behavior will occur, development of new social and communication skills that make problem behaviors irrelevant, and careful redesign of consequences to eliminate factors that maintain problem behaviors and to encourage more acceptable replacement social skills and behaviors. Positive behavioral support is an approach that emphasizes teaching as a central behavior change tool, and focuses on replacing coercion with environmental redesign to achieve durable and meaningful change in the behavior of students. As such, attention is focused on adjusting adult behavior (e.g., routines, responses, instructional routines) and improving learning environments (e.g., curricular accommodations, social networks).

Educators, parents, and community agents must "work smarter" (Kameenui & Carnine, 1998) by using time more efficiently and strategically selecting instructional and behavioral strategies for which clear evidence of their effectiveness exists. Working smarter means using what works for all students, not just those with learning and behavioral difficulties (Delpit, 1995). The PBS approach emphasizes the identification. adoption, and sustained use of practices that have been research-validated. For students with serious antisocial behaviors, a number of recent meta-analyses and descriptive literature reviews support the use of strategies that can be applied by educators in school environments, especially, (a) contextually-targeted social skills instruction, (b) academic and curricular restructuring, and (c) behaviorally-based interventions (Gottfredson & Gottfredson, 1996; Kavale, Forness. 1999; Lipsey, 1991, 1992; Lipsey & Wilson, 1993; Tolan & Guerra, 1994). Other more specific research-validated practices

include FBAs, direct instruction, and other applied behavior analytic strategies (Carr et al., in press).

Finally, the PBS approach emphasizes the use of data collection and analysis to inform decision making (e.g., direct behavioral observations, curriculum-based measurement). A variety of data sources (e.g., office discipline referrals, attendance and tardy reports, and academic progress) are collected through a range of methods (e.g., archival review, interviews, direct observations) and from multiple sources (Le., students, family members, educators, community members). In addition to behavioral factors, assessments consider cognitive, bio-physical, developmental, and physical-environmental factors to assist in understanding problem behavior and in guiding the development of comprehensive behavioral support plans. Collectively, these data can be used to determine the student's current level of functioning, the impact of the intervention on problem behavior, and/or improvements in other lifestyle results (e.g., family, work, recreation). With on-going data collection, intervention and instructional modifications can be made in a timely manner.

Social values. Positive behavioral support emphasizes consideration of social values in both the results expected from behavioral interventions and the strategies employed in delivering the interventions, A central PBS tenet is that behavior change needs to be socially significant. Behavior change should be (a) comprehensive in that all relevant parts of a student's day (before, during, and after school) and important social contexts (home, school, neighborhood, and community) are affected, (b) durable in that the change lasts for long time periods, and (c) relevant in that the reduction of problem behaviors and increases in prosocial behaviors affect living and learning opportunities (academic, family, social, work). The goal of PBS is more than the control of problem behavior: it also includes the enhancement of the living and learning options available to the student and to his or her peers and family (Risley, 1996; Turnbull & Turnbull, 1996).

Social values are also important in defining acceptable types of intervention procedures. Positive behavioral support emphasizes the importance of procedures that are socially and culturally appropriate. The contextual fit between intervention strategies and the values of families, teachers, schools, support personnel, and community agency personnel may affect the quality and durability of support efforts (Albin, 1998; Sailor, 1996). No intervention should cause pain, tissue damage, or humiliation to children and their families. Finally, careful consideration is given to lifestyle outcomes that go beyond simple behavior reduction and enhancement. The development of behavioral support plans and the evaluation of their effects consider the student's current and future quality of life in all setthgs and circumstances. Koegel, Koegel, and Dunlap (1996, p. xiv) add that "interventions should strive to enhance a person's competencies and access to desirable environments, social circumstances, and activities" and "all people should be treated with respect and dignity and that interventions must therefore refrain from interactions that are degrading, humiliating, or pain inducing."

Systems impact. PBS is of particular importance for schools given the emphasis on behavioral "systems" as well as individual children. A systems perspective provides support for the adoption and sustained use of effective school practices (Sugai & Horner, 1994, in press). Without a systems approach, identification of practices is limited, adoptions are incomplete, and attention to school initiatives to address discipline is episodic and short term (e.g., 18-24 months) (Sugai & Horner, in press: Zins & Ponti, 1990).

PBS implementations consider multiple contexts: community, family, district, school, classroom, nonclassroom (e.g., cafeteria, hallways, bus, playground, parking lot), and individual. Efforts are policy-driven to ensure accountability, maximum positive results, participation in and progress through the general curriculum, and effective and efficient communications. In addition, a proactive (positive and preventative) perspective is maintained along three levels:

(a) PRIMARY: reducing the number of new cases of problem behavior, (b) SECONDARY: reducing the number of current cases of problem behavior, and (c) TERTIARY: reducing the intensity and complexity of current cases (Walker et al., 1996). A team-based approach is applied to program assessment, development, and problem solving (Adefman & Taylor, 1997; Lawson & Briar-Lawson, 7997). This approach enables input from multiple sources, broader expert knowledge base, and improved sustainability over time.

At all levels in the system, active administrator support and participation are required. Without strong leadership from school administrators, program efforts often are inefficient, incomplete, and ineffective (Colvin & Sprick, 1999). Similarly, when problem behavior is chronic and intense, comprehensive linkages with other human service agencies (e.g., juvenile justice and corrections, mental/public health, child and family services) are considered (Eber, 1996; Eber & Nelson, 1997; Epstein et al., 1993; Walker et al., 1995; Walker et al., 1996).

Taken as a whole, a systems perspective to PBS provides a continuum of behavioral support (Figure 3) in which prevention is emphasized and intensity of problem behavior and context is considered. As a continuum, four change elements characterize PBS: (a) change of systems (policies, structures, routines), (b) change of environments, (c) change of student and adult (parent, teacher, staff) behavior, and (d) change in appreciation of appropriate behavior in all involved individuals (student, staff, family, etc.).

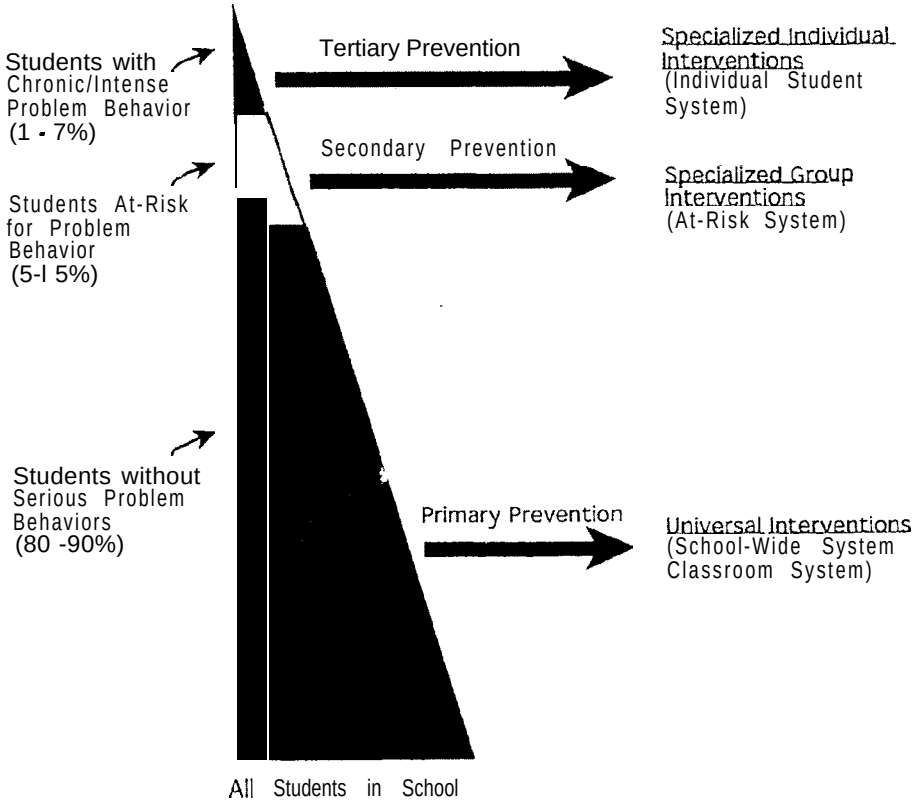

Figure 3 Continuum of Behavioral Support

Functional Behavior Assessment-based Behavior Support Planning

Among the most important changes in applied behavioral analysis in the past 20 years has been the development of FBA (special issue, Journal of Applied Behavior Analysis, 1994). The development of positive behavioral interventions and plans that are guided by FBA is the foundation on which the PBS approach is delivered. A central message from this advancement is that the design of successful behavior change interventions requires identification of the events that reliably predict and maintain problem behaviors (Carr, 1994; Horner, 1994; O'Neill et al., 1997; Repp, 1994; Sugai, Lewis-Palmer, & Hagan, 1998). Historically, problem behaviors have been viewed as residing within a child, and the diagnostic emphasis has been on the type of problem behavior or the link with disability type (i.e., within the individual). Although all types of information may be useful in the design of effective support, the current emphasis is on careful documentation of the predicting and maintaining events associated with problem behaviors.

Although useful in guiding decision making at all levels, the FBA approach is the cornerstone of systems that address the educational programming of students who display the most significant and challenging problem behavior. These students require behavior support plans that are specialized, individualized, and high intensity. Such plans must be based on information about the nature of the problem behavior and the environmental context in which the problem behavior is observed. The FBA approach provides a systematic and informed means by which targeted interventions can be developed and monitored.

Functional assessment is not new for it can be found in a variety of disciplines (e.g., vocational education, physical therapy, chemistry, physics). However, in education, in particular, special education, functional assessment had its beginning in the 1960's in applied behavior analysis (Bijou & Baer, 1961; 1978; Bijou, Peterson, & Ault, 1368: Bijou et al., 1969). Initially, research studies and applied applications of the functional assessment technology demonstrated the value of defining variables maintaining a problem behavior prior to constructing an intervention (Carr, 1977; Carr & Durand, 1985; Iwata, et al., 1982; Repp & Horner, 1999; Touchette, MacDonald, & Langer, 1985). Although most of this work has been conducted with individuals with severe developmental and intellectual disabilities (Blakeslee, Sugai, & Gruba, 1993; Lohrman-O'Rourke et al., 1999), a growing body of research and applications focuses on individuals with normal intellectual functioning (e.g., emotional and behavioral disorders, learning disabilities) (e.g., Broussard & Northrup, 1995; Dunlap, Kern-Dunlap, Clarke, and Robbins, 1991; Dunlap et al., 1993; Dunlap et al., 1996; Kern et al., 1994; Lewis & Sugai, 1993, 1996a, 1996b; Umbreit, 1995; Voimer & Northrup, 1996).

In this section, we provide an overview of FBA, including definition and outcomes, defining features, and major steps, especially in relation to behavior support development and planning.

Definition and Results

We define FBA as a systematic process of identifying problem behaviors and the events that (a) reliably predict occurrences and non-occurrence of those behaviors and (b) maintain the behaviors across time, The purpose of gathering this information is to improve the effectiveness, relevance, and efficiency of behavior support plans (Carr et al., 1997; Foster-Johnson & Dunlap, 1993; Horner, 1994; O'Neill et al., 1997; Sugai, Horner, & Sprague, 1999; Sugai, Lewis-Palmer, & Hagan, 1998; Tilly et al,, 1998). Specifically, if we can identify the conditions under which problem behavior is likely to occur (triggering antecedents and maintaining consequences), we can arrange

environments in ways that occurrences of problem behavior can be reduced and teach and encourage behaviors that can replace problem behavior.

A number of procedures exist for conducting a FBA (Center for Effective Collaboration and Practice, 1998). but we maintain that any professionally appropriate assessment, at minimum, should conclude with three main results. The first is hypothesis statements that include three key features: (a) operational definitions of the problem behavior(s), (b) descriptions of the antecedent events that reliably predict occurrence and nonoccurrence of the problem behavior, and (c) descriptions of the consequence events that maintain the problem behavior(s). The second is direct observation data supporting these hypotheses, The third FBA result is a behavior support plan. The importance of the link between hypotheses that are derived from FBAs and the development of comprehensive behavior support plans must be emphasized. Behavior support plans provide a summary of intervention manipulations in four areas: (a) setting event strategies, (b) antecedent strategies, (c) behavior teaching strategies, and (d) consequence strategies. In addition, a comprehensive behavior support plan provides implementation scripts that detail (a) who does what strategies when, where, how often, and why; (b) how emergency or crisis situations will be handled; and (c) how implementation and effectiveness will be monitored.

In sum, FBA is not a set of forms or static products. it is a process of understanding behavior in the context in which it is observed and of guiding the development of positive behavioral interventions that are relevant, effective, and efficient. FBA is a best and preferred practice for all challenging behavior, not just for behavioral events that result in suspensions or other disciplinary actions.

Steps of the Functional Behavioral Assessment and Behavior Support Planning Process

In this section, an overview of the six main steps involved in conducting an FBA and developing behavior support plans is provided (see Figure 4). Additional guidelines for implementing the process are available in O'Neill et al. (1997); Sugai, Lewis-Palmer, and Hagan (1998); and Tilly et al. (1998).

Step	Tools/Procedures	Outcome
1. Collect information regarding conditions under which problem behavior is & is lot observed & more appropriate behavior is required.	Archival review, analysis of routines, interviews, direct observation	Descriptions of possible setting events, triggering antecedents, problem behavior response classes, maintaining consequences
2. Develop testable (manipulable) hypotheses.	Team analysis of information from Step 1	Testable hypotheses
3. Collect direct observation information.	Direct observations	Verified summary statements
4. Design behavior support plans.	Team development	Specification of (a) desired and acceptable alternative behavior, (b) antecedent strategies and manipulations, (c) consequence strategies and manipulations, (d) strategies for teaching desired and acceptable alternative behavior, & (e) setting event/establishing operation strategies and manipulations
5. Develop implementation scripts.	Team development	Scripts that specify how, when, where, etc. behavior support plan to be implemented & by whom
6. Collect information on effectiveness & efficiency of behavior support plan & redesign based on evaluation information	Team development	Data on student progress & plan implementation, & redesign/updated plan

Figure 4 Overview of Functional Behavioral Assessment and Behavioral Support planning

Step One. Using archival review, analysis of routines, interviews, and/or direct observations, information is gathered regarding the conditions under which the (a) problem behavior is and is not observed and (b) more appropriate behavior is required. Attention is focused on four primary factors: (a) SETTING EVENTS/ESTABLISHING OPERATIONS that make the problem behavior worse (e.g., diet, medical conditions/illness, sleep, fatigue, social conflicts), (b) ANTECEDENT EVENTS that predictably precede and trigger or occasion problem behavior (e.g.. task demands, instruction, peer/adult requests), (c) PROBLEM BEHAVIORS that as a response class or set are maintained by a common function or outcome (e.g., attention, escape/avoidance). and (d) CONSEQUENCE EVENTS that predictably follow and maintain problem behavior (positive or negative reinforcement).

For example[2], when Linda's teacher requested assistance because of problem behaviors in his classroom, members of the school's behavior support team interviewed the teacher, reviewed Linda's behavioral incident records, examined her typical class and activity schedule, and consulted with other adults (e.g., parent, music teacher) who had firsthand knowledge about Linda's strengths and problem behaviors.

Step Two. The information collected in the first step is used to develop testable hypotheses which best describe the conditions under which the problem behavior is most likely to occur. A complete testable hypothesis indicates (a) problem behavior, (b) triggering antecedent events, (c) maintaining consequence events and (d) influential setting events/establishing operations (O'Neill et al., 1997).

For example, based on a review of interview and archival information, the behavior support team determined that when Linda's teacher asked her to redo spelling and grammar errors in her essay (antecedent), Linda verbally protested, failed tc follow directions, and used profane language (problem behavior). Her teacher typically removed the essay task and turned his attention to other students (maintaining consequence). Problem behaviors also were more likely to occur and be worse in intensity when she had failed to complete her work during the prior math class or had an argument with an adult (setting event).

Step Three. After testable hypotheses are developed, direct observation information is collected to verify the accuracy or predictability of these statements, Usually, multiple observations are conducted across multiple settings and situations to determine whether problem behavior patterns occur under hypothesized conditions and contexts. These observations involve the careful documentation of antecedent and consequence variables that are present or absent when problem behaviors are and are not observed.

In cases where hypotheses ore difficult to establish or where problem behavior is particularly resistant to intervention, functional "analysis" may be recommended. A functional analysis involves a systematic manipulation (i.e., removal and addition) of factors that are hypothesized as triggering or occasioning problem behavior. These manipulations are designed to trigger problem behavior under one set of conditions and not under others. However, in educational and clinical applications, we do not recommend functional analysis without the (a) direct involvement of an experienced behavior analyst, (b) consent and collaboration by families and caregivers, and (c) structures for maintaining appropriate accountability (e.g., data collection, monitoring of implementation fidelity).

In Linda's situation, the school counselor, Linda's classroom teacher, and the special education teacher conducted direct observations during music, math, and language arts periods. They noted those antecedent and consequence events that were associated with each problem behavior displayed by Linda. They also looked for times when or situations where the problem

[2] The details of this example have been simplified to illustrate the general features of each step.

behavior did not occur. For Linda, direct observation data confirmed the hypothesis statement generated in the previous step.

Step Four. Based on information from verified hypotheses, behavior support plans are developed that specify possible teaching strategies or manipulations for (a) desired and acceptable alternative behaviors, (b) antecedent events, (c) consequence events, and (d) setting events/establishing operations. This plan serves as the basis for defining the actual implementation of the behavioral intervention. Unlike more typical single dimension interventions that focus on reactive, consequence manipulations (e.g., timeout, behavioral contracts), behavior support plans that are based on FBAs consider intervention components that are (a) instructionally focused (i.e., teaching acceptable and desired replacement behaviors), (b) prevention focused (e.g., neutralizing or eliminating the conditions that trigger problem behaviors or make them worse or more likely), and (c) environmentally-based (e.g., rearrangement of the problem context).

For Linda, the behavior team, which included Linda's teacher and father, developed a behavior plan that had the following general elements: (a) teach Linda to ask for help and/or indicate that the task is too difficult, and teach her to self-record at the end of the period whether she "kept her cool" (behavior teaching), (b) review correction strategies, provide an answer key, and point out what is correct about her work before asking Linda to make corrections (antecedent manipulations); (c) provide verbal praise for asking for help or indicating that work is too hard, do first 2-3 corrections with Linda, check her self-recording, and give Linda a break from the task if she appropriately begins her work (consequence manipulations); and (d) if she has had a prior conflict with an adult, provide Linda with an opportunity to problem solve the prior conflict and present her with a neutral and simple task before requesting making corrections (setting event manipulation).

Step Five. Implementation scripts are developed lo specify how, when, and where the behavior support plan will be implemented and by whom, Contingency plans for responding to emergencies, training staff, and collecting data also are indicated. If necessary, resources and assistance from other support individuals or agencies (e.g., mental health, medical, vocational) are indicated.

For example, Linda's teacher agreed to implement the plan the next day and to keep track of Linda's language arts errors and corrections as a way of determining if the intervention was working. The counselor and special education teacher developed simple checklist scripts to guide Linda's teacher through the implementation of the behavior support plan. Linda's father agreed to provide positive acknowledgements at home if Linda met her goal for each day. If Linda's problem behavior escalated in intensity, the counselor would come immediately to assist the teacher.

Step Six. Information on the effectiveness and efficiency of the behavior support plan is collected regularly, and the plan is redesigned based on an evaluation of this information. A formative (direct, frequent, regular) approach is emphasized. In Linda's example, one or more members of the behavior support team met with Linda's teacher every other day during the two weeks of the implementation of the behavior support plan. This frequent support was provided to ensure that the plan was working, and to provide Linda's teacher with assistance in implementing the plan.

Conclusion

Schools can be great places for students, teachers, related services personnel. families, human service practitioners, and community members to work collaboratively to achieve meaningful results for all children and youth. However, limited resources; diverse students, families, and neighborhoods; increases in school violence: and increased social responsibilities have decreased the efficiency and effectiveness of many schools. Although the solution is multi-faceted, schools can make a significant contribution by "working smarter." This

approach requires the establishment of proactive school environments (i.e., "host environments") that have the capacities to identify, adopt, and sustain the use of effective policies, systems, and practices.

Positive behavioral support represents an important approach to identifying and organizing effective school practices, especially for students who present significant problem behavior. However, many systems-level challenges remain to be addressed. First, schools need guidelines for making the adoption and sustained use of PBS practices efficient and relevant. Attention must be focused on the policies, environments, structures, and practices of PBS. For example, addressing the needs of students who present significant problem behavior requires personnel with time, highly specialized skills, access to resources, and administrative supports.

Second, balancing efforts and attention between school-wide and individual student systems is a challenge for many schools. For example, a school-wide discipline system that operates efficiently and effectively *for* the majority of students in a school can ease the high costs associated with addressing the intense needs of the relative small proportion of students who present the most significant problem behavior (Sugai, Horner, Sprague, & Walker, in press). However, many schools lack the capacity to maintain the efficient and on-going operation of both school-wide and individual student systems. Increasingly, partnerships that include schools, community agencies, businesses, and family members offer new pathways for using PBS to change systems (Illback & Nelson, 1996; Sailor, 1996, in press).

Third, as the specialized nature of interventions increases with the increasing intensity of problem behavior, so does the complexity of the implementation. Schools need user-friendly ways to use PBS and FBA based behavior support planning. Consideration must be given to the unique features (e.g., cultural, geographical, demographic, physical) of a school and its students, families, teachers, and community members.

Finally, Carr et al. (in press) noted that lifestyle results were measured in less than 3% of PBS studies. Schools must develop mechanisms for determining if their efforts at the school-wide, classroom, nonclassroom, and individual student levels actually are associated with meaningful outcome improvements for students, their families, and the school. Attention to the reduction of problem behavior is understandable; however, the impact of PBS efforts on larger lifestyle results (e.g., peer relations, family functioning, com. nunity mobility) also must be considered.

The PBS approach offers students, teachers, and family and community members a process that begins to address these systems level challenges. The process is based on an established science of human behavior, pays attention to important lifestyle results, works from a systems perspective, and gives priority to research-validated practices. The goal of PBS is to use information from FBAs to guide the design of learning and teaching environments that support and encourage adaptive behavior and lessen the usefulness of problem behavior.

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