

Foundations of Autism Spectrum Disorders: An Online Course

Session 8

Promoting Positive Behavior and Reducing Interfering Behaviors

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Upon completion of Session 8, learners will:

1. describe two types of interfering behaviors common in learners with ASD.
2. identify the steps involved in conducting a functional behavior assessment.
3. explain the features of a comprehensive behavioral intervention plan.
4. describe how a positive behavioral approach can be used to encourage positive behavior and reduce interfering behaviors in learners with ASD.
5. identify preventative practices used in Tier 1 to support positive behavior.
6. describe the features of Tier 2 instruction.
7. discuss strategies used to provide intensive, individualized interventions to learners with ASD.
8. describe the specific interventions that are used to address persistent interfering behaviors in learners with ASD.

Behavioral Issues in Learners with ASD

“Interfering behavior” is a term used here to refer to behaviors that interfere with learning and optimal development. Learners with ASD may exhibit two broad types of interfering behavior that are the focus of the behavioral intervention strategies discussed in this section of the online course: repetitive behaviors and disruptive behaviors.

Repetitive and stereotypical behaviors and/or restricted interests are one of the “core” or defining features of autism, as described by the DSM IV TR (APA, 2000). There are many types of repetitive behaviors that can be displayed by learners with ASD including stereotyped movements (e.g., hand flapping, body rocking); idiosyncratic rituals, personal routines, or compulsions (e.g., arranging toys in a particular manner, having to close doors or turn off light switches); echolalia (repeating the same noise, word, or phrase); insistence on sameness (e.g., insisting on having the furniture arranged in a set way, traveling the same route); narrow, circumscribed, or unusual interests, preoccupations, or attachments (e.g., carrying a specific toy, always watching the same part of a video, preoccupation with weather, intense interest in all the details of Pokemon); and difficulties with change and transition, such as becoming upset when the typical schedule is altered for a field trip (APA, 2000; Lewis & Bodfish, 1998). In schools and other settings, different terms may be used to refer to this broad class of behaviors (e.g., stereotypies, self-stimulatory behaviors, mannerisms, obsessions). The common feature of these behaviors is that they are repeated in the same, often

idiosyncratic, manner over time by the learner. For this reason, we refer to them here as “repetitive behaviors.” Similar to the other core features of ASD (e.g., social, communication), the presence and intensity of restricted, repetitive, and stereotyped patterns of behavior, interests, and activities vary from person to person (Aspy & Grossman, 2007; Gabriels, Cuccaro, Hill, Ivers, & Goldson, 2005; South, Ozonoff, & McMahon, 2005).

Disruptive behaviors, on the other hand, include behaviors such as self-injury, aggression (e.g., hitting, kicking, scratching, biting), running from the classroom unattended, and tantrums (e.g., crying, screaming, yelling). These types of interfering behaviors are not a defining feature of ASD. Learners with other disabilities, including learners who are developing typically, may display disruptive behaviors at one time or another. However, research has shown that learners with ASD are more likely to exhibit disruptive behaviors that can interfere with learning and development (Bodfish, Symons, Parker, & Lewis, 2000; Gabriels et al., 2005). It is important to note that not all learners with ASD exhibit disruptive behaviors. In fact, the presence and/or absence of disruptive behaviors, as well as the specific type, pattern, and intensity of disruptive behavior will vary from child to child. In schools and other settings, different terms may be used to refer to this broad class of behaviors (e.g., problem behaviors, challenging behaviors, maladaptive behaviors), which can be confusing to practitioners who are trying to reduce the occurrence of these types of behaviors.

Throughout this section, the term “interfering behavior” is used to refer to both repetitive and disruptive behaviors. There are three reasons these terms have been grouped together under the more over-arching term “interfering behaviors.” First, both types are likely to *interfere* with team members’ attempts to promote learning and optimal development although only the existence of repetitive behaviors is required for a diagnosis of ASD. Because these behaviors are likely to interfere with learning, they also may hamper overall development. Second, for some learners with ASD, disruptive behaviors can be triggered or caused by inadvertently or intentionally interrupting, delaying, or preventing the child’s ability to engage in or complete a repetitive behavior. For example, learners who insist on always sitting in the same spot for morning “circle time” may get upset, tantrum, or even become aggressive with themselves or others when a peer tries to sit in their spot. Third, from a practical perspective, the types of interventions used to treat both types of interfering behaviors are similar. Therefore, team members can think about and address these types of behaviors using similar strategies.

A final point is that *all forms of repetitive or disruptive behavior are not necessarily interfering behaviors*. In other words, not all types of repetitive or disruptive behaviors exhibited by learners with ASD necessarily warrant intervention. Some learners with ASD exhibit only mild, non-interfering repetitive behaviors. For example, a learner may hand-flap or stare at his hand discreetly which may not interfere with learning or development in any significant way. Alternatively, a learner may line up toys when she plays by herself, but not when she plays with others. For this reason, it is imperative that team members assess each learner’s behaviors individually and try to determine

whether or not a given behavior is causing a significant problem. If the behavior escalates or continues to be problematic, then intervention will be necessary. The types of intervention strategies outlined in the remainder of this section are likely to be helpful in reducing the interfering nature of the behavior in question. However, if a given behavior is not interfering with learning, development, and interactions with others, then team members do not have to devise an intervention for it.

Conducting Functional Behavior Assessments

When interfering behaviors arise, conducting a functional assessment is the most effective way to determine whether environmental factors are contributing to the occurrence of the behavior. In many cases, learners engage in interfering behavior either to avoid a task/activity or to obtain something (e.g., toy, food). A functional approach to behaviors is considered an essential component of effective educational programs that serve learners with ASD (NRC, 2001). By understanding the interfering behaviors within the context of ASD, as well as the factors in the environment that are affecting learners' behaviors, team members can address interfering behaviors more effectively. Functional behavioral assessment (FBA) is a systematic process of identifying the variables and environmental factors that reliably predict and maintain interfering behaviors (Aspy & Grossman, 2007; Fox, Dunlap, & Buschbacher, 2000; Horner, Carr, Strain, Todd, & Reed, 2002; Iovanne, Dunlap, Huber, & Kincaid, 2003; Iwata & Worsdell, 2005). That is, an assessment is conducted to determine what happens prior to and immediately following the behavior. The process includes the following steps:

1. identification of the interfering behavior;
2. development of hypotheses about the variables that trigger and maintain the interfering behavior (e.g., escape, stimulation);
3. confirmation of the hypothesis through testing and direct observation; and
4. creation of a comprehensive intervention plan that includes manipulation of the environment, teaching of replacement skills, and frequent progress monitoring (Horner et al., 2002).

The functional assessment is a critical component because it provides the basis for developing a comprehensive intervention plan that includes the skills to be addressed and the methods that will be used to decrease the behavior. The functional behavior assessment also identifies the types of strategies that should be used to address particular behaviors.

Developing Comprehensive Behavioral Interventions

After conducting a functional behavior assessment, comprehensive behavioral interventions are developed to support appropriate positive behavior of learners with ASD by modifying the environment and teaching alternative behaviors. Comprehensive behavioral interventions provide a process for developing interventions that (1) support the use of positive, appropriate behavior, (2) promote communication and social skills development, (3) reduce interfering behavior, and (4) provide family support. The goals

of comprehensive behavioral interventions are to initiate rapid, durable, and generalized changes in learner's interfering behaviors across settings and to improve learners' and families' quality of life. Comprehensive behavioral interventions include the following features:

- all interfering behaviors exhibited by learners are addressed,
- family goals and functioning are supported,
- functional assessment drives intervention,
- interventions are applied across the entire (or an extended part of) day,
- multiple intervention procedures are incorporated, and
- interventions fit the contexts in which they are implemented (Dunlap & Fox, 1996; Fox, Dunlap, & Buschbacher, 2000; Horner et al., 2002).

The comprehensive intervention plan may include many strategies that team members can use to reduce interfering behaviors and promote appropriate behaviors. The intervention plan is developed collaboratively with families not only to facilitate strategy use across settings (e.g., school, home, community), but also to support family functioning. Comprehensive behavioral interventions should emphasize skill development and be implemented within naturalistic settings such as inclusive classrooms or in the community. By providing interventions in these contexts, learners with ASD have multiple opportunities to learn and practice skills and develop supportive relationships with typically developing peers. Research has shown that when social and communication skills are taught in isolated settings (e.g., one-on-one adult instruction), learners with ASD have difficulty generalizing the skills in different settings and with other learners and adults (Bellini, Peters, Benner, & Hopf, 2007). Therefore, a critical component of behavioral interventions is that they are implemented in inclusive, community-based settings to promote generalization of skills.

Encouraging Positive Behavior and Reducing Interfering Behaviors With a Tiered Intervention Approach

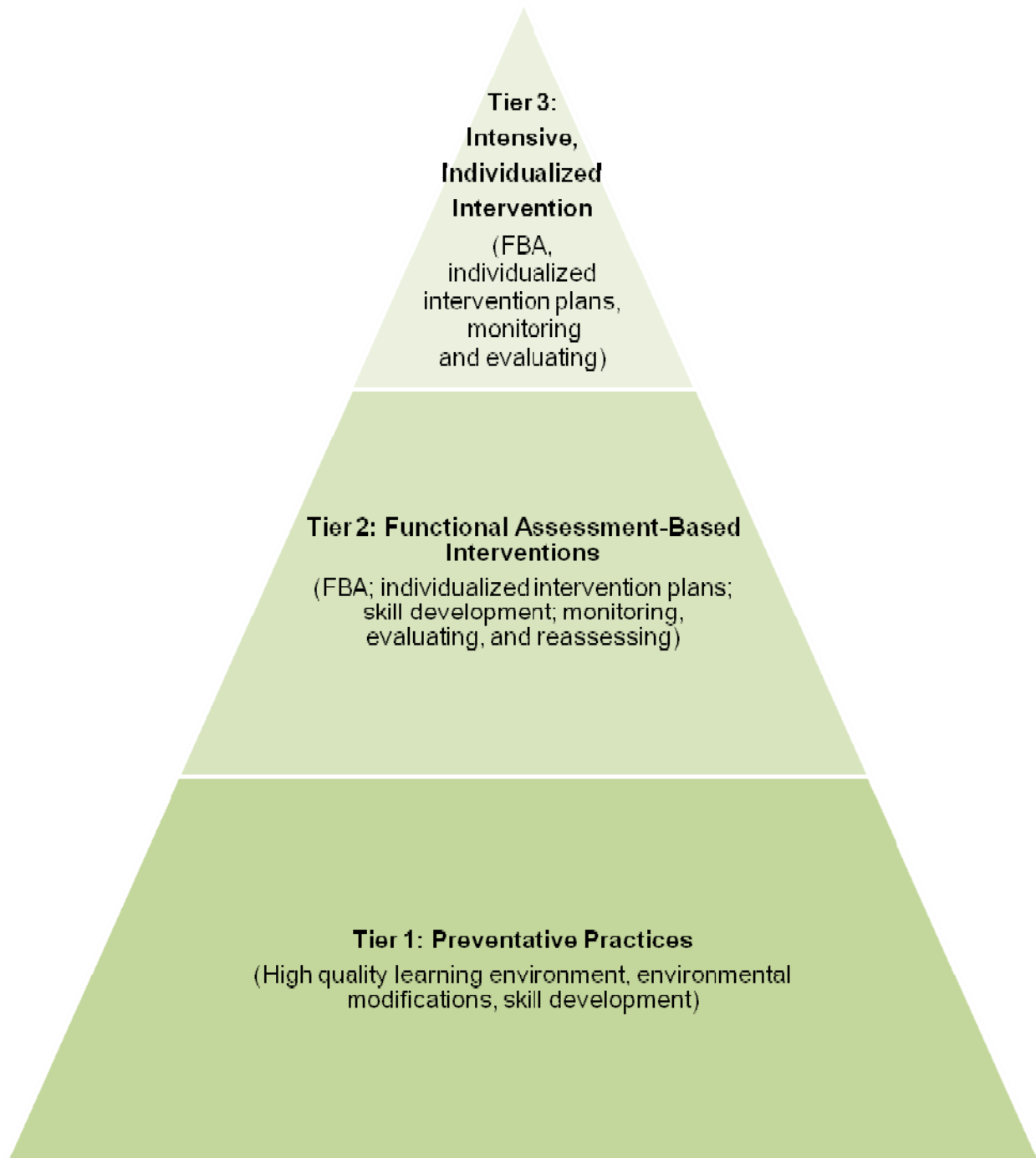
Recently, there has been an increased emphasis on positive behavioral interventions that modify environmental factors to prevent the occurrence of interfering behaviors as well as to teach alternative behaviors when interfering behaviors do occur. In fact, research suggests that for educational interventions to be successful for learners with ASD, positive and proactive behaviors must be considered and developed. Positive behavior support (PBS) is a common prevention and intervention approach that has been used with learners with interfering behaviors, including those with ASD (Dunlap & Fox, 1999). The primary goal of PBS is to improve the quality of life for learners with ASD by expanding their existing behaviors and adjusting the learning environment to prevent interfering behaviors from occurring. Research on PBS has demonstrated that it is effective in reducing interfering behaviors for learners with ASD (Buschbacher & Fox, 2003; Carr et al., 1999; Iovanne et al., 2003; NRC, 2001; Turnbull et al., 2002). For more information about PBS, please view the National Technical Assistance Center on Positive Behavioral Interventions and Supports (PBIS) website at <http://www.pbis.org>.

Positive behavioral interventions, such as PBS, are based upon the principles of applied behavior analysis (ABA). When ABA was first conceptualized in the late 1960s, its primary focus was on what happened after the behavior occurred to reinforce it, rather than on existing conditions in the environment that were eliciting the behavior. As ABA has evolved, researchers have concentrated more on identifying the specific conditions within individuals' environments that trigger the interfering behaviors (NRC, 2001).

Positive behavioral intervention models designed for learners with ASD identify specific strategies and environmental modifications that prevent the occurrence of most interfering behaviors based upon what is known about ASD (e.g., core characteristics) and how individuals with ASD learn and process information (Bushbacher & Fox, 2003; NRC; 2001; Wolery, 2000). For instance, many programs for learners with ASD now use visual supports to aide in transitions and provide simple instructions with visual cues throughout the day because learners with ASD often have receptive language difficulties.

In the following discussion, a tiered intervention model designed to increase positive behavior in learners with ASD as well as to decrease interfering behaviors through the use of prevention and intervention is presented. Although a tiered approach is designed to provide behavioral interventions that proceed from least to most intensive, it may be necessary to immediately provide intensive and individualized intervention for some learners, particularly when safety is a concern. With many positive behavioral intervention models, the tiered intervention approach includes prevention strategies, functional assessments, and comprehensive behavioral interventions designed to both decrease interfering behaviors and increase positive behaviors and functional skills (NRC, 2001). Figure 1 displays how increasingly intensive behavioral interventions can be provided to those learners who require additional support.

Figure 1. Tiered Behavioral Intervention Model



There are many environments in which learners with ASD receive instruction. Home based interventions would most often happen during the provision of early intervention services for the birth to three populations.

Learners between the age of three and twenty-one are most often served in center-based learning environments (school, preschool, workshop, etc.).

The following tiered intervention model focuses primarily on learners receiving instruction in a center based learning environment and focuses on interventions that are provided in environments that serve multiple learners. Where relevant, examples are included that might help the reader to apply these practices while serving learners with ASD in a home based environment.

In Tier 1, prevention strategies, such as environmental modifications and a high-quality learning environment are designed specifically to address the core characteristics of ASD. More focused intervention and support is provided in Tier 2 when some learners with ASD display interfering behaviors. Even with this additional tier of support, a few learners with ASD will require even more intensive and individualized intervention in Tier 3 to reduce the occurrence of interfering behaviors (Carr et al., 1999). Within each tier of intervention, there is a focus on team building and family involvement through the development of positive relationships. The well-being of individual family members is considered an influential factor in the development of learners with ASD. It is essential that team members collaborate with family members to develop comprehensive behavioral interventions that support family functioning and well-being and that are consistent across home, school, and community settings (Dunlap & Fox, 1996).

Tier 1: Preventative Practices

The primary goal of Tier 1 is to prevent interfering behaviors from occurring. This is accomplished through the use of specific preventive practices that are designed to address the core characteristics of ASD. They include the following: (1) organizing a high-quality learning environment, (2) modifying the environment to support positive learner behavior, and (3) developing communication and social skills.

Organizing High-Quality Learning Environments

As discussed previously in the *Foundations for Intervention* section of the online course, high quality learning environments provide (1) a high level of learner engagement, (2) a positive classroom climate and interactions, (3) access to preferred activities and rewards, (4) a consistent and predictable system of scheduling (particularly visual schedules), (5) continual access to typically developing peers, and (6) immediate and effective systems of communication (Horner et al., 2002). The environment also must have clearly defined rules and expectations for learners as well as adults. For example, team members must be aware of their roles regarding implementation of activities, supervision of areas and activities, and application of specific intervention strategies and procedures to support learners with ASD, such as the use of visual supports and picture schedules. An additional characteristic of high-quality learning environments for learners with ASD is that there should be explicit procedures for teaching and practicing expected behaviors (e.g., what strategies to use, who is responsible, when learning

opportunities will occur). More information about organizing high quality learning environments can be found in Session 6, “Instructional Strategies and Learning Environments” of the online course.

Modifying the Environment to Support Positive Learner Behavior

Environmental modifications often are used in high quality learning environments to provide learners with ASD the structure, visual supports, and predictability they need to learn new skills and develop positive relationships with others (Henry & Myles, 2007; Horner et al., 2002). This can be accomplished through the use of organizational support (e.g., color-coded materials, photographs, objects), and by having materials located in the space in which they will be used. For example, in a home based setting, team members might discuss ways to incorporate visual supports across the home environment. Teams might design mini-schedules for common routines eg: bedtime, mealtime, dressing. Visuals might also aid learners requests for common foods, activities, or toys.

In an environment with multiple learners, team members also can redesign social groupings so that interfering behaviors are less likely to arise. For example, a team member might move a learner with ASD to a different seat during small group activities if he becomes agitated sitting next to a particular peer.

Developing Communication and Social Skills

Skill development is an important strategy to prevent interfering behaviors by teaching key communication and social skills to learners with ASD. The reason for this is that communication and social skills are two of the more pervasive areas of developmental delay in individuals with ASD. Furthermore, being able to communicate effectively is critical for all aspects of social and cognitive development. Finally, communication difficulties often are related to the occurrence of interfering behaviors in learners with ASD (Dunlap & Fox, 1996). For example, a young child with ASD may bite peers when they take his toy during play because he is not able to communicate effectively.

A variety of evidence-based instructional approaches have been developed to help learners with ASD increase communication and language skills in all three tiers of the intervention hierarchy. A discussion of these methods was covered in the *Session 7: Foundations of communication and Social Interventions*. They include discrete trial training, pivotal response training, functional communication training, and a variety of other methods that can be used to increase social and communication skills.

In Tier 1, skill development is part of the routine curriculum and should take place daily through a balance of team member-directed and learner-initiated activities. That is, team members plan for particular times when discrete trial teaching or pivotal response teaching are implemented; however, team members also set up the environment to ensure that opportunities for learning are embedded in daily routines and activities (e.g., placing preferred items out of reach). Throughout these planned and unplanned activities, a number of fundamental behavioral strategies are used to facilitate skill acquisition in learners with ASD e.g., prompting, chaining, graduated guidance, time

delay, increasing assistance, shaping, reinforcement). These instructional strategies are applied in all three tiers of the intervention hierarchy in conjunction with the instructional methods used to develop social and communication skills. These strategies were covered in *Session 6: Instructional Strategies and Learning Environments*.

Tier 2: Functional Assessment-Based Interventions

Tier 2, or secondary prevention, is designed to provide more targeted support for learners who continue to exhibit interfering behaviors despite the implementation of preventative strategies in Tier 1. Tier 2 focuses on two outcomes: (1) using a functional behavioral assessment and behavioral intervention plan to guide behavioral intervention, and (2) developing communication and social skills.

Using FBA and Behavioral Intervention Plans to Guide Intervention

Intervention focuses on the use of instructional approaches such as functional communication training and peer-mediated intervention to develop social and communication skills. The critical feature of this tier is that the practitioner uses the results of the learner's functional behavior assessment (FBA) to (a) determine the function (motivation) for the interfering behavior in question, and then (b) design and implement specific strategies designed to increase skills that will serve the same function and therefore are likely to replace the interfering behavior. For example, if a learner hits a team member in an attempt to avoid or escape an instructional demand, the team member could focus on teaching that learner a more appropriate way to terminate instruction (e.g., by raising her hand). Or, in a home based instructional setting, if a child who has trouble sitting for long periods of time (e.g., jumps up from the table and leaves before family mealtime is over) the team could decide to teach the child to communicate a request to leave the table. Intervention strategies typically are implemented when the interfering behavior occurs, during small group social skills activities, and by embedding intervention within ongoing routines and activities. Descriptions of the intervention strategies that can be used to address interfering behaviors in Tiers 2 and 3 are provided following the discussion of the tiers. It is anticipated that only a small number of learners will need additional intervention and support to decrease the occurrence of interfering behaviors.

Major features of Tier 2 intervention include the following:

- intervention is continuously available during team member-directed and learner-initiated activities.
- interventions are easy to implement and require little effort by team member.
- interventions are implemented by team members.
- interventions are designed to address the function of the behavior (e.g., escape, lack of communication skills).
- data are collected to monitor the occurrence of the interfering behavior. (Newcomer & Powers, 2005)

Developing Communication and Social Skills

In Tier 2, skill development is more intensive, occurs more frequently, and focuses on teaching alternative behaviors that serve the same function as the interfering behavior (e.g., saying “my turn” instead of biting). The same instructional approaches that were used in Tier 1 are used in Tier 2 (i.e., DTT, PRT); however, they are more intentional and frequent. For example, a team member might plan for daily small group instruction with typically developing peers that is focused on teaching the learner with ASD important social skills. Or in a home based setting, the team might plan opportunities for the team member and learner to practice community based skills like safe and appropriate grocery store behaviors. Team members also should provide opportunities for using replacement behaviors throughout the day. The goals of skill development instruction in are to (1) teach the target behavior (i.e., replacement behavior); (2) demonstrate how it is used through adult and peer modeling; (3) practice with adults and typically developing peers; and (4) generalize across activities, settings, and individuals. Implementation of specific activities and opportunities for learning should occur at least three times per day. Frequent progress monitoring also occurs (e.g., three times per week) to determine whether the interventions are effective in reducing the interfering behavior and to make decisions about when to switch tiers.

Tier 3: Intensive, Individualized Interventions

Tier 3 is focused on providing intensive, individualized instruction to a very small number of learners with ASD who continue to exhibit interfering and/or repetitive behaviors despite the use of the preventative strategies and interventions employed in Tiers 1 and 2. By the time team members reach this tier of support, the interfering behaviors have become quite problematic. Several activities are implemented in Tier 3 to team members address interfering behaviors. They include the following: (1) using Functional Behavior Assessment (FBA) to identify the goals of the intervention, (2) developing a behavioral intervention plan, and (3) implementing interventions and monitoring outcomes.

Using FBA to Identify Intervention Goals

A functional behavior assessment will continue to be an important activity in Tier 3, although a clear antecedent (i.e., what happens in the environment before the behavior occurs) may not always be apparent. Information from this assessment will provide critical information about when and where the behaviors are occurring as well as environmental variables that might elicit interfering behaviors. Relevant information is gathered through review of existing records, interviews of parents and professionals, and direct observation of the learner engaging in the interfering behavior. Through this process, team members identify the following:

1. what the learner is doing that is problematic (i.e., observable behavior),
2. how often the behavior occurs,
3. what happens before and after the behavior,
4. other variables that are affecting the learner's behavior, and
5. specific goals for intervention (National Technical Assistance Center on Positive Behavioral Interventions and Support, 2008).

Developing a Behavioral Intervention Plan

An individualized intervention plan then is developed using the information gathered during the functional behavior assessment. This plan helps team members determine (1) specific environmental modifications needed to reduce the likelihood of the behavior, (2) replacement skills and other behaviors that need to be taught, and (3) specific consequences needed to promote positive behaviors and reduce the occurrence of interfering behaviors (National Technical Assistance Center on Positive Behavioral Interventions and Supports, 2008). The same strategies that were used to decrease interfering behaviors in Tier 2 are implemented with learners; however, they are applied with greater intensity and are more individualized. A discussion of the intervention strategies that can be used to address persistent interfering behaviors can be found following this section.

Implementing Intervention and Monitoring Outcomes

Team members work together to ensure that interventions are implemented with consistency and with the necessary intensity to achieve the identified goals. All team members who work with individual learners should be knowledgeable about the instructional strategies and methods that are being used, when they should be used, and who is responsible for collecting progress monitoring data (National Technical Assistance Center on Positive Behavioral Interventions and Support, 2008).

Specific Interventions for Addressing Persistent Interfering Behavior in Tiers 2 and 3

When an interfering behavior occurs in Tiers 2 and 3, specific intervention strategies will be used to reduce its occurrence. The selection of a particular intervention strategy will be determined by (1) the skills that learners with ASD need to develop and (2) the function of the behavior as identified through the FBA process. It is assumed that all learners with ASD will require social and communication skills instruction and environmental modifications to prevent interfering behaviors; therefore, a functional behavior assessment for each learner is not necessary in Tier 1. Instead, the focus of instruction is on building social and communication skills and arranging the environment to prevent interfering behaviors from occurring in the first place. In the following section, the various behavioral strategies that are used to address interfering behaviors in Tiers 2 and 3 are described according to the specific behaviors that are the focus of the intervention. For instance, reinforcement strategies often are used to reduce aggressive behaviors. The *Determining Strategies to Address Interfering Behaviors* handout displays the specific evidence-based procedures that can be used for particular behaviors and can be found in the Handout Section of the course.

Repetitive and Stereotypical Behaviors

Antecedent-Based Interventions. Antecedent based intervention strategies involve altering events prior to an interfering behavior in order to reduce the occurrence of the behavior. Common strategies include using preferences, organizing the social environment, varying the content of teaching lessons, and altering the physical settings and seating arrangements (Horner et al., 2002). Research has shown that these types of stimulus control procedures in which the environment is modified are effective in

reducing the occurrence of interfering behaviors such as aggression and non-compliance as well as repetitive and stereotypical behaviors (Gerdtz, 2000; Schilling & Schwartz, 2004; VanCamp, Vollmer, & Daniel, 2001).

One example of antecedent based intervention is antecedent exercise, a strategy in which learners with ASD engage in physical activity prior to a teaching activity. Moderate to intense levels of physical activity have been found to be effective in reducing stereotypical and repetitive behaviors in learners with ASD during teaching episodes or learning tasks immediately following the exercise (Elliott, Dobbin, Rose, & Soper, 1995; Kern, Koegel, Dyer, Blew, & Fenton, 1982; Watters & Watters, 1980).

Teaching functionally equivalent behaviors. Another way to decrease interfering behaviors in learners with ASD is to teach functionally equivalent behaviors or behaviors that serve the same function as the interfering behavior. To be successful, the functionally equivalent behavior must produce the desired effect and require little effort on the part of the learner (Bregman, Zager, & Gerdtz, 2005). Once the functionally equivalent behavior has been identified, a variety of evidence-based practices can be used to teach the new behavior, including differential reinforcement, functional communication training, and video modeling. Additional information regarding differential reinforcement, functional communication training, and video modeling can be found at the *Autism Internet Modules (AIM) Website*:
<http://www.autisminternetmodules.org/>

Response interruption/redirection. Sensory extinction is one type of interruption that includes eliminating the sensory feedback that is obtained from certain repetitive behaviors. For example, a learner with ASD may be reinforced by the sound that his head makes when he repeatedly bangs it on the table. A solution may be to pad the table to eliminate the sensory feedback (Bregman, et al., 2005).

Self-management. Self-management intervention strategies include procedures such as self-assessment, self-recording, and self-reinforcement (Mancina, Tankersley, Kamps, Kravits, & Parrett, 2000). These intervention strategies are implemented not only to improve on-task behavior of learners with ASD, but also to decrease interfering behaviors including repetitive and stereotypical behaviors. Learners are taught to identify target behaviors (e.g., vocalizations, hand flapping), assess the target behavior using a self-recording sheet (e.g., “Were you quiet or noisy?” “Did you flap your hands?”), and provide themselves with a variety of reinforcers (e.g., candy, stickers, cereal) when the desired behavior is accomplished. Self-management strategies have been found to be effective at decreasing repetitive and stereotypical behaviors displayed by learners with ASD (Koegel & Koegel, 1990; Mancina et al., 2000; Stahmer & Schreibman, 1992).

Other Interfering Behaviors: Aggression, Self-Injury, Disruption/Noncompliance
Some of the intervention strategies used to decrease repetitive and stereotypical behaviors also can be used to address a variety of other problematic behaviors

common in learners with ASD including aggression, self-injury, and disruption or non-compliance. Two of the most effective strategies for reducing these types of behaviors include (1) differential reinforcement and (2) evidence based practices that target teaching/strengthening alternate responses. Practices that involve teaching alternate responses have been described in the previous section. Complete definitions of both approaches can be found in the *Session 8: Glossary of Terms* handout, which is located in the Handout Section of the course. Additional information regarding antecedent based interventions, differential reinforcement, response interruption and redirection, and self management can be found at the *Autism Internet Modules (AIM) Website*: <http://www.autisminternetmodules.org/>

Obtaining a Medical Evaluation

In a small number of cases, the behavioral strategies used in Tiers 1, 2, 3 will not be successful in preventing or ameliorating interfering behaviors in learners with ASD. For this reason, a thorough medical evaluation by a clinician familiar with the learner with ASD can be very useful in determining whether a medical intervention might augment existing evidence-based intervention efforts for learners with ASD who continue to exhibit interfering behaviors. Research has clearly shown that in some cases interfering behaviors can be related to an underlying medical, neurological, or psychiatric condition (Bodfish & Lewis, 2002). For example, illnesses or painful conditions can be associated with interfering behaviors in some learners (Kennedy & O'Reilly, 2006). Also, interfering behaviors can be associated with a co-occurring neurological condition, such as Tourette Syndrome, or a co-occurring psychiatric condition, such as affective illness (Bodfish & Lewis). Findings from the research literature indicate that psychotropic medication treatment can effectively reduce the frequency and severity of interfering behaviors in some learners with ASD (Scahill & Martin, 2005). It is important to remember that medical intervention, just like any other intervention for learners with ASD should be evaluated individually, carefully, and over time to ensure that potential side effects are identified and that accurate decisions about effectiveness can be made. One useful way to evaluate the effectiveness of any medical intervention is to track behavior changes in pre- versus post-medication conditions using individualized behavioral outcome data. This practice also ensures that medical intervention is carefully integrated with on-going, behavioral and educational interventions in a data-driven manner. This is important because best practice guidelines for medications to treat interfering behaviors in ASD indicate that medications are best used to *augment* individualized behavioral interventions rather than in isolation (Scahill & Martin, 2005). To learn more about medications that are used to address interfering behaviors in learners with ASD, please review the *Psychopharmacology* section of *Session 5: Factors that Affect Learning and Development* in this online course

Conclusion

The goal of positive behavioral interventions for learners with ASD is to prevent and reduce the occurrence of interfering behaviors such as repetitive behaviors and disruptive behaviors through the use of specific instructional strategies and procedures.

To implement specific behavioral methods and strategies, a tiered approach is used that gradually increases the nature and intensity of support for learners with ASD as interfering behaviors become more problematic. With this approach, functional assessment is used to identify possible causes of interfering behaviors as well as the strategies that are implemented within the context of a comprehensive behavioral intervention plan. Through the use of preventative and specialized instructional strategies and approaches, the positive behaviors of learners with ASD are supported, and interfering behaviors are addressed more effectively.

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