Developing a Function-based Intervention[1]

Module 11

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1 – Portions of this manuscript were adapted from "Functional Behavioral Assessment, Behavioral Intervention Plans, and Positive Intervention and Supports: An Essential Part of Effective Schoolwide Discipline in Virginia" (Virginnia Department of Education, 2009).

Ms. Jones is a second year, middle school teacher who is responsible for teaching multiple subjects to a diverse group of students, including several students who pose classroom management problems. For example, as Ms. Jones was about to ask the class questions about the lesson on plants and photosynthesis, one of her students, Ben, blurted out, "This is really stupid. Don't bother asking me any of your dumb questions." Unfortunately, this was not the first time Ben has disrupted instruction. Just two days ago, he ridiculed and cursed at several of his classmates ("you are so _____; what do you know about plants?") when they began to answer questions regarding the previous day's lesson. Not surprisingly, Ms. Jones is extremely frustrated and at a loss for dealing with Ben's disruptive behavior.

Description of Functional Behavioral Assessment

Teachers at all grade levels know that one or two students can monopolize a considerable amount of time and energy when they disrupt instruction. When these situations occur, teachers must look for ways to reduce or eliminate the behavior problem. Common intervention strategies include: reviewing classroom expectations with students, using physical proximity to students, promoting high levels of academic engagement, praising appropriate student behavior and giving regular feedback on performance, providing corrective instruction following misbehavior, and enforcing classroom rules (e.g., Kerr & Nelson, 2010). Unfortunately, for some students, these strategies are not enough to eliminate the inappropriate behavior and other more intensive interventions must be considered.

When to Consider a Functional Behavioral Assessment

Recent federal legislation includes provisions that address student behavior problems that interfere with classroom instruction. The Individuals with Disabilities Education Act (IDEA) requires schools to address 'impeding' behavior through the use of functional behavioral assessment, behavioral intervention planning, and positive academic and behavioral supports. The Act states what is required of teams that develop individualized education programs (IEPs) in addressing problem behaviors of children and youths.

- The IDEA (1997) stipulates that a team must explore the need for strategies and support systems to address any behavior that may impede the learning of the child with the disability or the learning of others, and;

- In response to certain disciplinary actions by school personnel, the IEP team must, within 10 days, meet to formulate a functional behavioral assessment plan to collect data for

developing a behavioral intervention plan; or, if a behavioral intervention plan already exists, the team must review and revise it (as necessary), to ensure that it addresses the behavior upon which disciplinary action is predicated.

- The IDEA (2004) requires that positive behavioral interventions must be included in a student's IEP if his or her behavior impedes his or her learning or the learning of others. When the behavior problem is a manifestation of a disability, the IEP team must conduct a functional behavioral assessment. If a plan has been developed, it should be reviewed and modified, as necessary, to address the behavior (VA Department of Education, 2009).

Research Supporting Functional Behavior Assessment

The use of functional behavioral assessment (FBA) as a means to address problem behavior of students with emotional disabilities has strong empirical support (Gable, Parks, & Scott, in press; Gage Lewis, & Adamson, 2010) and, because it focuses on skill building rather than on punishment, it is very appropriate for school settings (McIntosh, Brown, & Borgmeier, 2008). FBA is a way for school personnel to identify relationships between environmental events and the occurrence (versus non-occurrence) of a behavior (Dunlap et al., 1993). The purpose of FBA is to identify events that predict and maintain problem behavior (Steege & Watson, 2009). The usefulness of FBA is based on the knowledge that: (a) behavior serves a function for the student—there is something in it for the student, (b) behavior is related to the context in which it occurs—classroom, hallway, cafeteria, etc., and (c) knowing the function of the behavior enables school personnel to develop an intervention plan to address the problem behavior (e.g., Dunlap, Kern-Dunlap, Clarke, & Robbins, 1991; Gable et al., in press; Scott, Alter, & McQuillan, 2010).

In their review of the accumulated research, Ervin et al. (2001) found that the overwhelming majority of FBA-based interventions conducted in school settings produced positive changes in pupil behavior. More recently, Goh and Bambara (2010) found essentially the same thing, namely that FBA-based interventions are effective across students with and without disabilities and across grade levels. Based on their review, Goh and Bambara asserted that a FBA can play a crucial role in determining the effectiveness of an intervention.

With the introduction of FBA, there has been a fundamental shift in the way school personnel address behavior problems—from punitive consequences to instructional strategies. The logic behind functional assessment is that practically all student behavior is purposeful—it satisfies a need that is related to the context in which it occurs (e.g., in the classroom, cafeteria, hallway). Furthermore, students likely will stop behaving a certain way when a different response will more reliably, effectively, and efficiently satisfy the same need. For this reason, identifying the motivation for student misbehavior—what the student gets, avoids, or communicates through the behavior—is essential to finding ways to address behavior that disrupts the teaching and learning process (VA Department of Education, 2009).

Guidelines for Conducting a Functional Behavioral Assessment

A FBA relies on various indirect (e.g., interviews, questionnaires) and direct (e.g., scatterplots, event recording, interval recording) data collection strategies to identify the function (or reason) behind inappropriate or unacceptable student behavior. The goal is to identify the

major factors associated with the behavior (e.g., those factors that most directly and predictably influence the occurrence versus the non-occurrence of the behavior (Gable et al., in press). The purpose for conducting a FBA is to identify and promote behavior that serves the same function as the inappropriate behavior but is more acceptable or appropriate. By carefully examining the problem behavior, the context in which it occurs, and identifying the reason(s) why a student misbehaves, school personnel are able to develop an intervention plan aligned with the function of the behavior and designed to reduce or eliminate behavior that impedes learning and, at the same time, promote a new, replacement behavior.

Functional behavioral assessment (FBA) is widely viewed as a team problem-solving process. Experience has shown that when a FBA is conducted by a team and, when the team develops an intervention plan, they are more likely to implement it with fidelity and continue to do so across time. It is especially useful to have one or more team members who have knowledge of applied behavior analysis (Gable et al., in press). What follows is a description of a 10-step FBA process developed by Gable and his colleagues (Gable, Quinn, Rutherford, & Howell, 1998).

1. Verify the Seriousness of the Problem Behavior

Many classroom problems can be eliminated by consistently applying strategies of proven effectiveness, including: clear rules and expectations, precorrection, behavior specific feedback to shape pupil responses, and self-management (e.g., Kerr & Nelson, 2010). However, when it is apparent that the problem behavior cannot be resolved through the use of evidence-based practices and, because of the seriousness of the problem, it warrants further attention, school personnel should consider initiating a FBA.

2. Define the Problem Behavior

Once it has been determined that the problem behavior merits further action, the teacher and the IEP team should precisely define the problem behavior. If the team relies on only a vague description of the behavior, such as "Ben has a poor attitude," it will be difficult to accurately measure the behavior, decide on an appropriate intervention, or evaluate its subsequence success. For that reason, the definition should be stated in measurable, observable, and objective terms. After some preliminary information has been collected, the team can refine the definition and include multiple examples of the behavior (e.g., when asked a question by the teacher, Ben disrupts instruction—refuses to respond to teacher requests, argues with the teacher, and swears at classmates).

3. Collect Information on the Reasons Behind the Problem Behavior

Next, team members observe the student and the context in which the problem behavior occurs to determine the exact nature of the problem. The team generally collects information on the times, conditions, and individuals present when problem behavior is most versus least likely to occur; the events or conditions that typically occur before and after the behavior; and other relevant information regarding the behavior. An examination of these data may suggest times and settings in which to conduct further observations to document those variables that are most predictive of appropriate versus inappropriate student behavior. It often is useful to observe situations in which the student performs successfully as well, to compare classroom conditions

that evoke appropriate versus inappropriate behavior. For example, Ben may perform well in history class, but routinely disrupts the biology class by making rude remarks to the teacher or teasing other students.

Teams are not always able to observe the events that precipitate or maintain student misbehavior (Nichols, 2000). Accordingly, teams may need to collect indirect as well as direct observation data to identify the likely reasons behind the misbehavior. Indirect methods include: a review of the student's cumulative records, such as health, medical, and educational records, structured interviews with teachers and other school personnel (e.g., bus driver, cafeteria workers). Conducting a structured interview with Ben may reveal that he would rather act-up than fail to respond correctly to teacher questions in front of his classmates.

In most FBAs, different school personnel collect multiple types of information, since a single source will not produce an accurate picture—especially if the problem behavior serves various functions under different circumstances. For problems that are neither too frequent nor too severe, it may be appropriate to rely on indirect means of data collection, a process that is strengthened when multiple team members collect data (Gable et al., in press). Some authorities recommend using indirect assessment as the basis for generating a hypothesis statement and then experimental manipulation to verify the accuracy of the hypothesis; others encourage consistent use of interviews and other forms of indirect measurement, along with direct observation (Gable et al., in press). Scott and Kamps (2007) suggest that there may be a "middle ground" when the student's behavior is neither too complicated nor too severe. The information collected on low intensity behavior that serves as the basis of the hypothesis statement might consist of brief observation, along with indirect measures, such as the Functional Assessment Checklist for Teachers and Staff (FACTS; March et al., 2000) student interviews (e.g., Kern, Dunlap, Clarke, & Childs, 1994; Reed, Thomas, Sprague, & Horner 1997) or teacher questionnaires (e.g., Problem Behavior Questionnaire; Lewis, Scott, & Sugai, 1994). The more agreement there is between indirect and direct measures, the more likely it is that the results are accurate (Gable et al., in press).

4. Analyze Information Collected on the Problem Behavior

Once the IEP team is satisfied that enough information has been collected, the next step is to analyze the data. The team looks for a pattern of events that predict when and under what circumstances the behavior is most versus least likely to occur, what is maintaining the behavior, and what is the likely function of the behavior. For example, the team would collect different kinds of data on Ben and use that information to identify patterns or other indicators of the possible function of his behavior. Upon review, the team may conclude that Ben disrupts class by blurting out inappropriate statements or cursing at a classmate whenever the teacher calls on him to read material he feels is too difficult. In this example, his behavior typically leads to removal from the group and the lesson. In compiling information on student behavior, it is important to keep in mind that even an occasional event or unusual condition cannot be ruled out as a reason for the problem behavior (Virginia Department of Education, 2009).

Scott et al. (2010) advocate a straightforward approach to data analysis that consists of a simplified version of the pathway analysis chart developed by Sugai, Lewis-Palmer, and Hagan-Burke (1999) and consists of the following questions: when/where does the behavior occur—what's happening—with regard to the problem behavior and what is the purpose of the

behavior—why does the student do it? Another option is for the team to 'triangulate' their data, meaning that three different sources of information are collected and recorded on a three-column form to help identify any patterns that emerge across indirect (e.g., adult and student interviews, questionnaire data) and direct measures of behavior (e.g., antecedent-behavior-consequences [ABC] sheet, scatterplot, frequency count, interval recording; Virginia Department of Education, 1999).

5. Develop a Hypothesis About the Function of the Behavior

Next, the IEP team formulates a hypothesis (or motivation) statement regarding the likely function of the problem behavior. The statement relates to what the data suggest the student gains, avoids or gets out of, or may be communicating by engaging in a particular behavior. While there sometimes are multiple explanations, usually it is advantageous to concentrate on the primary function of the problem behavior (Alter, Conroy, Mancil, & Haydon, 2008), the explanation that accounts for the most change or variability in pupil behavior (Gable et al., in press). The hypothesis statement can then be written to predict the conditions under which the behavior is most likely to occur, the behavior itself, what the student accomplishes, and the possible reason(s) why the student engages in the behavior. For example, removal from instruction may have been exactly what Ben wanted to happen, namely to escape from what he perceived as an aversive situation. If that is the case, he is more likely to engage in the same disruptive behavior in the future.

6. Verify the Hypothesis About the Function of the Problem Behavior

Before proceeding with an intervention, it is useful to confirm the specific conditions under which the student misbehaves. To do so, the team conducts a functional analysis. A functional analysis consists of the systematic manipulation of events that precede the behavior and events that follow the behavior to measure their differing effects on the behavior. In that a functional analysis may not always be possible, a structural analysis may be sufficient. With a structural analysis, school personnel manipulate various antecedent events in an attempt to verify their assumptions regarding the likely function(s) of the behavior (Gage & Lewis, 2010). For instance, the team may hypothesize that during class discussions, Ben makes rude remarks to get the attention of his classmates. Thus, the teacher introduces a brief 'think-pair-share' activity for Ben to get the attention he seeks for appropriate rather than inappropriate behavior. If this strategy produces a positive change in Ben's behavior, then the team can assume its hypothesis was correct and a behavioral intervention plan can be fully implemented; however, if his behavior is unchanged, then a new hypothesis needs to be formulated and tested.

In some instances, it may not be necessary or appropriate to manipulate classroom conditions to observe their effects on student behavior. For instance, when a student engages in severe acting-out behavior, the team should hypothesize the likely motivation behind the behavior, immediately implement an intervention, and evaluate its impact against on-going data collection. Based on this analysis, the team should be ready to make any necessary adjustments in the original intervention plan (Virginia Department of Education, 2009).

7. Develop and Implement a Behavioral Intervention Plan

After collecting enough information to identify the function of the behavior, the IEP team must develop or revise an existing behavioral intervention plan. The plan should be written by school personnel who have direct knowledge of the student. It should include one or more strategies to eliminate the problem behavior and one or more strategies to promote a replacement behavior, and any supplementary aids or supports required to address the behavior. It also is important to consider any staff supports or skill training that is necessary to implement the proposed plan.

Many teams develop an intervention plan that includes one or more of the following strategies or procedures:

- Teach the student more acceptable behavior that serves the same function as the inappropriate behavior (e.g., ways to get peer attention through positive social initiations) or achieves the same outcome (e.g., allow the student to take a short break during a very lengthy assignment).
- Seek student input regarding an acceptable intervention, such as: rank ordering a list of three possible interventions.
- Modify the classroom setting events (e.g., physical arrangement of the classroom, general classroom management strategies, grouping arrangements) to decrease the probability of inappropriate behavior occurring and to increase the likelihood of replacement behavior occurring.
- Modify the antecedent events (e.g., introduce advanced organizers, or use scaffolded instruction).
- Modify the consequent event (e.g., descriptive praise, verbal and nonverbal feedback).
- Modify aspects of the curriculum and/or instruction (e.g., multilevel instruction, matching student abilities and interests).
- Introduce a reinforcement-based intervention (e.g., reinforcement of an alternative or incompatible behavior).

For the majority of problem situations, there will be more than one solution that can result in a positive outcome. Regardless of the actual intervention, it is important to ensure that the student has frequent opportunities to engage in and be reinforced for demonstrating the replacement behavior. As a general rule, the student should have at least twice as many opportunities to be reinforced for engaging in the replacement behavior; otherwise, it is unlikely that there will be any change in behavior (Virginia Department of Education, 2009).

In analyzing behavior, it is important to recognize that students come from diverse backgrounds. Norms and expectations may vary from student to student as well as styles of interaction (Townsend, 2000). Thus, in developing behavioral intervention plans, IEP teams should take into account gender, ethnic, cultural, and linguistic differences among students.

The success of an intervention plan rests on the student's willingness and ability to engage in the appropriate behavior without continued external support. Accordingly, teams need to incorporate strategies designed to promote the maintenance and generalization of appropriate

student behavior. One strategy is to teach peers to prompt and to reinforce the positive behavior of classmates; another is to instruct the student to the use self-management, self-talk, and/or self-cueing to engage in the replacement behavior (Virginia Department of Education, 2009).

It is important for the team to make function-based decisions about the most appropriate intervention. The team may need to adjust the complexity of the intervention according to the seriousness of the problem and to 'bundle' multiple interventions (e.g., changes in instruction and reinforcement). Umbreit, Ferro, Liaupsin, and Lane (2007) have developed a practical guide to facilitate the decision-making process.

8. Evaluate the Fidelity of Implementation of the Plan

Fidelity of implementation refers to the extent to which an intervention is delivered in the way it was intended to be delivered (Lane, Bocian, MacMillan, & Gresham, 2006). It is especially important that the IEP team monitor both the accuracy and the consistency with which the intervention plan is implemented. Otherwise, it will be impossible for the team to distinguish between a flawed intervention and a potentially effective intervention that was poorly implemented (VA Department of Education, 2009). To monitor implementation, the team must put in writing the various components of the intervention plan, along with the individual's responsible for its implementation. Then, a checklist of steps or a script—a step-by-step description of the intervention and its application, can be developed for each person responsible for implementing the plan (Lane et al., 2006). The form should be completed every several days. Team members have found it is useful to record the operational definition of the target and the replacement behavior and spell out the intervention on the form.

9. Evaluate the Effectiveness of the Intervention Plan

A second evaluation procedure should be developed to evaluate changes in the behavior itself. Initial or baseline information can serve as a standard against which to judge subsequent changes in pupil behavior. Evaluating the effects of the intervention will yield data with which the team can decide about future modifications in the intervention plan. Ongoing collection and review of the data can help to determine the effects of the intervention across time. It is important to collect data on changes in both the inappropriate behavior and the replacement behavior so that the IEP team can more accurately evaluate the overall effectiveness of the intervention plan.

10. Modify the Intervention Plan

An intervention plan should be examined regularly and revised whenever the IEP team feels that an adjustment is necessary; reasons to modify the intervention plan include:

- The student no longer exhibits the problem behavior.
- The situation has changed and the plan no longer addresses the student's needs.
- The IEP team determines during a manifestation determination review that the behavior intervention strategies are inconsistent with the student's IEP or placement.
- The original plan is not producing positive changes in the student's behavior.

It is worth underscoring the fact that not all problem behavior warrants a formal FBA. There is growing appreciation for the role of "function-based thinking" (Hershfeldt, Rosenberg, & Bradshaw, 2010); whereby school personnel look beyond the behavior and ask the question—why is the student acting that way? This is not to minimalize the significance of the behavior; rather, it is recognition that all behavior serves a purpose and, by identifying the likely reason for the behavior, school personnel are in a better position to deal with mild to moderate problems. Drawing upon research-based components of FBA, teachers are able to respond immediately in ways that reduce the need for a more elaborate FBA (Hershfeldt et al., 2010). At the same time, school personnel can identify what resources currently are in place and where there might be gaps to be filled with evidence-based practices that can serve a proactive, preventative function.

Conclusion

If we, as professionals, are going to affect the lives of students in positive and significant ways, we need to better understand the relationship between environmental events and a student's behavior (Steege & Watson, 2009). By conducting a FBA, IEP teams can devise a function-based intervention plan and provide academic and behavioral supports that increase the likelihood that students will attain more positive outcomes (Gable et al., in press). With adequate in-service training and experience, and administrative and technical support, IEP teams can address a wide range of problem behaviors.

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