



Analyzing Student Behavior: A Step-by-Step Guide

Behavioral problem-solving is detective work. Teachers must carefully collect evidence of student problem behaviors, look for links connecting those behaviors to other events unfolding in the complex classroom environment, apply analytic tools to rule out or confirm explanations for the challenging behaviors, and interpret the evidence collected to identify research-based strategies that will help to improve those behaviors.

This guide provides an overview of the essential steps in behavior analysis--moving from the first broad definition of the problem behavior through a progression of inquiries that define the behavior in specific terms, examine contributing factors that support it, identify likely reason(s) the student engages in the behavior, and reframe the original problem as a pro-social or pro-academic 'replacement behavior'. While teachers can use this guide directly, its primary purpose is to train behavioral consultants who wish to help teachers to engage in 'functional behavioral thinking' (Hershfeldt et al., 2010) and develop more effective classroom intervention plans.

The remainder of this guide presents the stages of behavior analysis, a specialized form of problem-solving.

Step 1: Define the Behavior. The first step in analyzing a behavior is to simply put it into words. The teacher defines the problem behavior in observable, measurable terms (Batsche et al., 2008; Upah, 2008), writing a clear description of the problem behavior. The instructor also avoids vague problem identification statements such as "The student is disruptive."

Also, as much as possible, the description depicts the observed behavior in an objective manner--and does not attempt to interpret that behavior. For example, the statement "John does not respect authority" presents the student's purpose as seeking to resist those in authority. When first defining the behavior, however, it is too early to select a hypothesis about *why* that behavior occurs. So the teacher simply states what is observed: "John makes belligerent statements when directed by an adult to put away his cell phone."

A good method for judging whether the problem has been adequately defined is to apply the "stranger test" (Upah, 2008): Can a stranger read the problem definition statement, then observe the student, and be able to judge reliably when the behavior occurs and when it does not? A useful self-prompt to come up with a more detailed description of the problem is to ask, "What does <problem behavior> look like in the classroom?"

Step 2: Expand the Behavior Definition to a 3-Part Statement. A well-written problem definition includes 3 parts:

- Conditions. The condition(s) under which the problem is likely to occur
- Problem Description. A specific description of the problem behavior
- Contextual information. Information about the frequency, intensity, duration, or other dimension(s) of the behavior that provide a context for estimating the degree to which the behavior presents a problem in the setting(s) in which it occurs.

Problem Behaviors: Sample Definitions		
<i>Conditions. The condition(s) under which the problem is likely</i>	<i>Problem Description. A specific description of the</i>	<i>Contextual Information. Information about the frequency,</i>



<i>to occur</i>	<i>problem behavior</i>	<i>intensity, duration, or other dimension(s) of the behavior</i>
During 20-minute independent seatwork literacy tasks,...	...John talks with peers about non-instructional topics...	...an average of three times.
In school settings such as the playground or gymnasium, when unsupervised by adults,...	...Angela is reported by peers to use physically threatening language...	...at least once per week.
When given a verbal teacher request...	...Jay fails to comply with that request within 3 minutes...	... an average of 50% of the time.

Step 3: Develop Examples and Non-Examples. Writing both examples and non-examples of the problem behavior helps to resolve uncertainty about when the student's conduct should be classified as a problem behavior. Examples should include the most frequent or typical instances of the student problem behavior. Non-examples should include any behaviors that are acceptable conduct but might possibly be confused with the problem behavior.

Problem Behaviors: Examples and Non-Examples		
Problem Behavior	Examples	Non-Examples
During 20-minute independent seatwork literacy tasks, John talks with peers about non-instructional topics	<ul style="list-style-type: none"> • John chats with another student that he encounters at the pencil sharpener. • John whispers to a neighboring student about a comic book in his desk. 	<ul style="list-style-type: none"> • At the direction of the teacher, John pairs up with another student to complete an assignment.. • John verbally interacts with students in an appropriate manner while handing out work materials as requested by the teacher.
When given a verbal teacher request, Jay fails to comply with that request.	<ul style="list-style-type: none"> • Jay does not comply when directed by the teacher to open his math book and begin work. • Jay is verbally defiant and uncooperative when requested by an adult to stop running in the hall. 	<ul style="list-style-type: none"> • Jay does not comply with a teacher request because he does not hear that request. • Jay asks the teacher to explain directions that he does not understand.

Step 4: Antecedents: Identify Triggers to the Behavior. Antecedents are events or conditions that can influence or even trigger the occurrence of problem behaviors (Kern, Choutka, & Sokol, 2002). When the instructor is



able to identify and eliminate triggers of negative conduct, such actions tend to work quickly and--by preventing class disruptions--can result in more time available for instruction (Kern & Clemens, 2007). So in analyzing student behaviors, the teacher will want to consider what--if any--antecedent factors may contribute to the behavior problem.

Antecedents can be divided into two groups: remote and immediate.

Remote Antecedents. Remote antecedents (sometimes called 'establishing operations') are those influencing events that precede the behavior but are removed substantially in time and/or location from the setting(s) where the problem behavior actually appears (Horner, Day, & Day, 1997). Schools address remote-antecedent factors through 'neutralizing routines' (Horner, Day, & Day, 1997; Sprague & Thomas, 1997). These are plans that attempt to get the student back to a normal level of functioning for that school day. Examples of remote antecedents and matching normalizing routines appear below.

Problem Behaviors: Remote Antecedents	
Examples	Neutralizing Routines
<ul style="list-style-type: none"> Angela appears unmotivated to do classwork on days when she fails to eat breakfast. 	Angela is allowed to visit the cafeteria to get a snack when she misses breakfast.
<ul style="list-style-type: none"> Whenever Brian spends the weekend with his father and away from his mother, he returns to school anxious about how his mother is doing and cannot concentrate on school work. 	In agreement with his mother and the school, Brian can choose to call her at the start of the academic day when needed to reassure himself that she is well.
<ul style="list-style-type: none"> Andre becomes non-compliant and belligerent in math class when he has stayed up too late the night before playing video games. 	Andre is allowed to take a short nap if needed. [The school also follows up with Andre's parents to work on a plan to improve his sleep habits.]

Immediate Antecedents. Those events or situations that precede problem behaviors, contribute to their appearance, and are in close proximity in time and location to them are immediate antecedents. Here are examples:

Problem Behaviors: Immediate Antecedents
Examples
<ul style="list-style-type: none"> When handed a challenging worksheet, Ricky tears up his paper.
<ul style="list-style-type: none"> When seated next to her best friend, Zoe engages in off-task conversations in large-group instruction.
<ul style="list-style-type: none"> When publicly reprimanded by her teacher, Emily stops participating in class.

Whether remote or immediate, antecedents that trigger or contribute to problem behaviors should be identified and steps included in the behavior intervention plan to prevent or neutralize them.



Step 5: Consequences: Identify Outcomes That Reinforce the Behavior. The consequences that result from a student's behavior have the potential to increase or decrease the probability that the behavior will be repeated (Upah, 2008). Consequences that *increase* the display of a behavior are known as reinforcers. Usually problem behaviors continue because they are being regularly reinforced in the classroom. However, it is impossible to know in advance what consequences will increase a particular student's behavior, because people's responses to potential reinforcers are idiosyncratic --that is, unique to each individual (Kazdin, 1989). Here are examples of consequences for problem behaviors that can serve as reinforcers and sustain or accelerate behaviors.

Problem Behaviors: Outcomes That May Provide (Positive or Negative) Reinforcement
<ul style="list-style-type: none"> • The student fails to complete the assigned work. • The teacher reprimands the student. • The teacher conferences with the student. • The student receives positive or negative peer attention. • The student is timed-out within or outside of the classroom. • The student is sent from the classroom to the office or to in-school suspension (disciplinary referral).

Step 6: Write a Behavior Hypothesis Statement. The next step in problem-solving is to develop a hypothesis--or best guess--about why the student is engaging in an undesirable behavior or not engaging in a desired behavior (Batsche et al., 2008; Upah, 2008). Teachers can gain information to develop a hypothesis through direct observation, student interview, review of student work products, and other sources. The behavior hypothesis statement is important because (a) it can be tested, and (b) it provides guidance on the type(s) of interventions that might benefit the student.

The table below lists the *most common* reasons why a problem behavior is occurring:

Problem Behaviors: Common Reasons	
Hypothesis	Considerations
<ul style="list-style-type: none"> • SKILL DEFICIT. The student lacks the skills necessary to display the desired behavior (Gable et al., 2009). 	If the student has never explicitly been taught the desired behaviors, there is a strong likelihood that behavior-skill deficit is a contributing factor.
<ul style="list-style-type: none"> • PERFORMANCE DEFICIT. The student possesses the skills necessary to display the desired behavior but lacks sufficient incentive to do so (Gable et al., 2009). 	Poor motivation is a real and frequent cause of behavior problems. However, schools should first carefully rule out other explanations (e.g., skill deficit; escape/avoidance) before selecting this explanation.
<ul style="list-style-type: none"> • PEER ATTENTION. The student is seeking the attention of other students 	The student may be motivated by general attention from the entire



(Packenham, Shute & Reid, 2004).	classroom or may only seek the attention of select peers.
<ul style="list-style-type: none"> ADULT ATTENTION. The student is seeking the attention of adults (Packenham, Shute & Reid, 2004). 	The student may be motivated by general attention from all adults or may only seek the attention of select educators.
<ul style="list-style-type: none"> ESCAPE/AVOIDANCE. The student is seeking to escape or avoid a task or situation (Witt, Daly & Noell, 2000). 	If the student demonstrates academic ability (e.g., via grades or observed work) close to or at grade level, behavior problems may be tied to motivation issues or attention-seeking. Students with delayed academic abilities are more likely to be driven by escape/avoidance.
<ul style="list-style-type: none"> EMOTIONAL BLOCKERS. The student possesses the skills to display the desired behavior "but is unable to deal with competing forces—anger, frustration, fatigue." (Gable et al., 2009; p. 197). 	Students fitting this profile typically have difficulty managing their emotions (e.g., anxiety, anger) across settings and situations. However, if evidence suggests that emotional outbursts are linked to <i>specific</i> settings, situations, or tasks, the student may instead be attempting to escape or avoid those particular situations--suggesting poor academic skills or interpersonal difficulties.

The structure of a behavior hypothesis statement is simple: the teacher writes a description of the problem behavior (developed in an earlier step) and selects a hypothesis that best explains the behavior based on available evidence (Batsche et al., 2008). The table below shows how these statements are formatted and offers several examples:

Behavior Hypothesis Statements: Examples		
Problem Behavior	<Because>	Hypothesis
During 20-minute independent seatwork literacy tasks, John talks with peers about non-instructional topics...	...because...	...he is avoiding academic work.
When given a verbal teacher request, Jay fails to comply with that request...	...because...	...he is reinforced by the negative adult attention that results from his noncompliance.

Step 7: Select a Replacement Behavior. When the problem behavior has been adequately described and its function identified, the teacher will want to choose an alternative behavior intended to *replace* it (Batsche et al., 2008; Scott & Kamps, 2007). Behavior plans tend to be more successful when educators and students look beyond negative behaviors to be eliminated ('STOP' behaviors) toward those pro-social and pro-academic behaviors that should replace them ('START' behaviors). That is, by selecting a positive behavioral goal that is an appropriate replacement for the student's original problem behavior, the teacher reframes the student concern in a manner that allows for more effective intervention planning.



Replacement behaviors fall into 2 categories: replacement based on function and replacement based on incompatibility.

Replacement by Function. In replacement by function, the replacement behavior is one that is positive and at the same time fulfills the *same* behavioral function now supporting the student's current negative behavior. For example, a student may be loudly confrontational toward a teacher because this behavior serves the function of allowing the student to escape an aversive academic task. A suitable replacement behavior in this instance is to train the student to request a brief work-break when needed. Thus, the replacement behavior allows the student to exercise the same function (escape from a frustrating task) in a manner that no longer disrupts instruction. When possible, replacement behaviors should be selected to match the function of the problem behavior.

Replacement by Incompatibility. In many situations, the teacher may not be able easily to choose replacement behaviors that preserve the same function as the problem behavior. For example, it may be difficult for the instructor with a student who clowns to attract peer attention to match that student to a positive replacement behavior that will supply the same jolt of attention. After all, classwork cannot always focus on high rates of social interaction. The solution here, then, is to choose a replacement behavior that is *incompatible* with the problem behavior. For the class clown, for example, the teacher may choose as a replacement behavior that the student will engage in "active, accurate responding" (Skinner, Pappas, & Davis, 2005). In this scenario, the instructor chooses a pro-academic replacement behavior that may not match the *function* of the clowning behavior but is *incompatible* with it.

Problem Behaviors & Corresponding Replacement Behaviors: Examples	
Replacement Behavior by Function	
Problem Behavior	Replacement Behavior
When given challenging independent reading assignments, Jay verbally refuses to begin the task.	When given challenging independent reading assignments, Jay will request a 5-minute break when needed. <i>[This replacement behavior gives the student an alternative means to fulfill the function of temporary escape from an aversive task.]</i>
Replacement Behavior by Incompatibility	
Problem Behavior	Replacement Behavior
During 20-minute independent seatwork literacy tasks, John talks with peers about non-instructional topics.	During 20-minute independent seatwork literacy tasks, John is engaged in active accurate academic responding. <i>[This replacement behavior does not support the attention-seeking function of the student's off-task behavior. Because academic engagement is incompatible with off-task socializing, however, it is a useful focus for the intervention plan.]</i>



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