

# Reframing Behavior: Understanding and Responding to Behavioral Messages of Neurodivergent Students Meaningfully

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Teacher educators must ensure their preservice teachers learn ways to evaluate behavior and its causes to create supportive classroom environments and view each student through a lens of respect, inclusivity, and presumption of competence.

## ABSTRACT

Neurodivergent students experience the world differently from normative societal standards. Preservice teachers will have neurodivergent students in their classrooms and misinterpretations of behavior may occur. Including the neurodivergent individual's perspective and voice is imperative in creating inclusive, affirming learning environments. The Neurodivergent student Informed Behavior Support (NIBS) plan provides a systematic, collaborative approach that can help preservice teachers to (a) recognize if a behavior needs to be addressed, (b) identify strategies to support student success, and (c) empower students to be actively involved in the process. This article presents details on using the NIBS plan to bridge the gap between neurodivergent students and their teachers.

## KEYWORDS

**Behavior, Neurodivergent, Special Education, Teacher Education**

**D**r. Knowles, an assistant professor, is teaching an undergraduate course on classroom and behavior management at her university. Her students are in part-time teaching placements where they teach mathematics and reading lessons to elementary students. During class, Dr. Knowles asks her students about their placements. Thomas, who is assigned to a fifth-grade classroom at Red Apple Elementary School, has an Autistic student named Anthony in his class. Thomas shares that Anthony appears to wander around the classroom, especially during whole class instruction, and that this behavior seems uncontrolled. Thomas says he does not understand why Anthony engages in this behavior and is concerned that it disrupts the learning environment. When Dr. Knowles asks Thomas what strategies he has tried to support Anthony, he says his cooperating teacher requires Anthony to remain in his seat throughout whole group instruction or to "make up" the time during recess. However, Thomas is concerned this punitive discipline practice may not be appropriate and asks Dr. Knowles if she has any suggestions.

Each student and educator is unique and brings their own experiences and perspectives into the classroom. Because classrooms include people with different ways of experiencing the world, these groups are inherently neurodiverse. Neurodiverse classrooms include both neurodivergent and neurotypical individuals. The term *neurodivergent* is used to describe a person whose mind works differently from "dominant society standards of normal" (Walker, 2014) and includes those with disabilities such as learning disabilities, attention-deficit/hyperactivity disorder, speech and language disabilities, or autism. Approximately 15-20% of people are neurodivergent (Doyle, 2020). In contrast, the term *neurotypical* is used to describe an individual whose mind works within normative societal expectations (Walker, 2014). Not all students with disabilities are considered to be neurodivergent. For example, a Deaf-Blind student is disabled but not neurodivergent, unless they have a co-occurring neurodivergent disability.

Of the 7.5 million students with disabilities served in the United States public school system, the most commonly represented students are neurodivergent (National Center for Education Statistics [NCES], 2024). These individuals' diversity of thinking can lead to innovation and advantages for society; however, the strengths of neurodivergent people are often overlooked and underutilized (Austin & Pisano,

2017). Furthermore, attempting to make a neurodivergent student act neurotypical and reduce behaviors that are perceived as “atypical” can be detrimental (Miller et al., 2021). Because about two-thirds of students with disabilities spend 80% or more of their school day in the general education setting (NCES, 2024), the next generation of educators must be prepared with a holistic approach to understanding and engaging with neurodivergent students.

### **Behavior and Neurodivergent Students**

Cooper and colleagues (2020) define behavior as any interaction between a person and their environment, and state that any behavior can be operationalized and measured. What makes a behavior “challenging” is defined by that individual or those around them. The Division for Early Childhood of the Council for Exceptional Children (DEC, 2017) has provided guidance on challenging behavior, indicating that one’s culture, background, race/ethnicity, and bias determine what is considered challenging about a behavior. Development, temperament, environment, and disability can also impact the way a child’s behavior is perceived (DEC, 2017). Additionally, a misalignment in neurotypes between a teacher and a student (e.g., a neurotypical teacher and a neurodivergent student) can lead to misinterpretation of behavior in the classroom. Behaviors may also be misinterpreted due to the context of the environment the student is in, the development of the child, or their disability status (Kelly et al., 2024). Students who are traditionally marginalized and minoritized are subjected to higher rates of exclusionary discipline, often due to misunderstandings of behavior, bias, or limited relationships (Blacher & Eisenhower, 2023; Glock & Kleen, 2023; Love & Beneke, 2021; Zee et al., 2020).

When “challenging” behaviors occur, special education teachers, general education teachers, and behavior specialists often rely on behavior analytic principles and the completion of a functional behavioral assessment (FBA) to identify why that behavior is occurring (Cooper et al., 2020; O’Neill et al., 2014). The information gained from an FBA allows practitioners to develop a behavioral intervention plan (BIP) that contains function-based interventions and supports tailored for an individual student (Cooper et al., 2020; O’Neill et al., 2014). Function-based interventions are both antecedent-based (i.e., implemented before a behavior occurs as a proactive strategy) and consequence-based (i.e., implemented after a behavior occurs to reinforce it). BIPs also include replacement behaviors to teach in place of a target behavior (McGuire & Meadan, 2023).

Best practice and legal expectations indicate that families should be involved in their child’s educational programming, including the FBA/BIP process, yet they are often excluded (Slade et al., 2018). Although children themselves can also add to their educational progress in positive ways when they are included in the FBA/BIP process, they are often left out (Johnson & Carpenter, 2022; McKenna et al., 2016). There can be multiple barriers to success throughout this process, including limited resources, improper training, and ineffective implementation (Horner & Yell, 2017). Recommendations to improve the FBA/BIP process point strongly toward the need for additional training of school-based practitioners. Evidence indicates that when practitioners are provided with adequate training, they can implement function-based strategies that are both effective and inexpensive (Horner & Yell, 2017). Such training can be multifaceted and should begin in preservice preparation. There are several critical

components to this training. First, preservice teachers must fully understand the steps involved in conducting an FBA and developing a BIP. Second, preservice teachers should be taught to work with families and students in a way that allows their voices to be incorporated into the FBA/BIP process. Finally, preservice teachers should learn to develop BIPs that incorporate the diverse experiences of neurodivergent individuals.

To better prepare preservice teachers, we have developed a systematic plan grounded in behavior analytic principles (Cooper et al., 2020) for developing behavioral plans for neurodivergent students. The *Neurodivergent student Informed Behavior Support (NIBS)* plan incorporates the traditional steps of the FBA/BIP process but also includes additional steps that highlight the importance of recognizing the unique strengths and needs of neurodivergent learners through function-based supports and intervention. The steps outlined in this paper can be used by higher education faculty during teacher preparation courses such as introduction to special education, methods, or behavior management, as well as during field placements where preservice special education teachers have an opportunity to implement the strategies. Faculty can further model these practices in their college classrooms and create assignments for their students to reflect and apply strategies to various scenarios.

### **Neurodivergent Behavior in Neurodiverse Settings**

*Dr. Knowles has been learning about the neurodiversity paradigm and is exploring ways to make behavior planning more student informed. She recognizes that Thomas (and other students in her class) may be misunderstanding Anthony’s behavior. She decides to discuss neurodivergent experiences that may contribute to the behaviors her students*

**TABLE 1:** Examples of Sensory Modulation Across Senses

SENSE	HYPERSENSITIVITY (SENSORY AVOIDING)	HYPOSENSITIVITY (SENSORY SEEKING)
Visual	<ul style="list-style-type: none"> <li>Dislikes bright light</li> <li>Notices particles in the air</li> </ul>	<ul style="list-style-type: none"> <li>Is attracted to light</li> <li>Has difficulty identifying what an object is without using other senses (e.g., touching it)</li> </ul>
Auditory	<ul style="list-style-type: none"> <li>Dislikes loud noises (e.g., fire alarm, thunder, car horn)</li> <li>Covers ears or tries to leave a noisy area</li> </ul>	<ul style="list-style-type: none"> <li>Likes to be in noisy places (e.g., crowds)</li> <li>Creates their own sounds (e.g., drums on the table, hums)</li> </ul>
Tactile	<ul style="list-style-type: none"> <li>Avoids wearing clothing with certain textures</li> <li>Avoids eating foods with certain textures</li> <li>Dislikes brushing teeth or hair</li> <li>Dislikes wearing shoes</li> <li>Is sensitive to temperatures</li> </ul>	<ul style="list-style-type: none"> <li>Likes being squeezed or hugged tightly</li> <li>Prefers tight clothing</li> <li>Is prone to injury due to not recognizing when injured</li> <li>Enjoys touching different textures</li> </ul>
Gustatory	<ul style="list-style-type: none"> <li>Prefers bland food</li> <li>Avoids spicy food</li> </ul>	<ul style="list-style-type: none"> <li>Mixes different types of food together to make new flavors</li> <li>Seeks spicy, sour, or sweet foods</li> </ul>
Olfactory	<ul style="list-style-type: none"> <li>Becomes nauseated by certain food smells</li> <li>Avoids or appears distressed by smells in the environment (e.g., soap, perfume, air freshener).</li> </ul>	<ul style="list-style-type: none"> <li>Seeks out objects or foods to smell</li> <li>Has a high tolerance for unpleasant odors</li> <li>Struggles to differentiate one smell from another</li> </ul>
Proprioception	<ul style="list-style-type: none"> <li>Wears loose clothing</li> <li>Appears tired</li> <li>Is sensitive to pain</li> </ul>	<ul style="list-style-type: none"> <li>Walks to tiptoes</li> <li>Runs</li> <li>Flaps hands</li> </ul>
Vestibular	<ul style="list-style-type: none"> <li>Stays in one position for a long period of time</li> <li>Sits on feet</li> <li>Avoids escalators or elevators</li> </ul>	<ul style="list-style-type: none"> <li>Rocks body</li> <li>Stims</li> <li>Jumps</li> <li>Spins without getting dizzy</li> </ul>
Interoception	<ul style="list-style-type: none"> <li>Is over aware of body sensations (e.g., heart beating) which can cause anxiety</li> <li>Overeats or overuses the bathroom to reduce the feeling of certain sensations</li> </ul>	<ul style="list-style-type: none"> <li>Does not readily recognize hunger, thirst, or need to use the bathroom, requiring reminders to perform actions to meet these needs</li> </ul>

*\*Note. These are only examples of how sensory modulation can appear in the classroom. Students may not engage in exactly these behaviors or only these behaviors when trying to meet a sensory need. These examples should serve as a starting point of how behaviors can be used to meet certain needs. Teachers should observe and recognize individual students' behaviors and consider their alignment with these examples. Importantly, hyper and hyposensitivity are not static, so a student may seek stimuli one day and try to avoid it another day.*

see in classrooms. Dr. Knowles tells Thomas, "I think to support Anthony, we should discuss neurodivergent behavior, how we interpret it, and what our goals are for addressing it."

Neurodivergent and neurotypical individuals often misinterpret each other's behavior. Milton (2012) posits that the breakdown of understanding between neurodivergent and neurotypical individuals is reciprocal. Neurodivergent and neurotypical individuals each tend to communicate more effectively with people with neurotypes similar to their own (Crompton et al., 2020). When neu-

rodivergent and neurotypical individuals try to communicate with each other, misunderstandings are likely to arise due to both individuals struggling to understand one another. This can be likened to playing video games. Games are configured to work on certain video game platforms. For instance, Xbox games work well on the Xbox platform and PlayStation games work well on a PlayStation console. However, if an Xbox game is put into a PlayStation console, it will not work. Importantly, this does not mean something is wrong with the PlayStation console because it cannot run the Xbox

game. Similarly, people with different neurotypes have different communication needs, norms, and styles that need to be honored. Personal interactions and interpretations of others' behaviors are informed by previous experiences and biases, both of which can contribute to misunderstandings.

Although not an all-encompassing discussion of the neurodivergent characteristics that are often misunderstood, this section presents common ones that some may perceive to be "problematic" (Hartman et al., 2023; Phung et al., 2021). Preservice teachers must be able

**TABLE 2:** Common Neurodivergent Characteristics & Strategies for Support

<b>NEURODIVERGENT CHARACTERISTIC</b>	<b>COMMON SIGNS</b>	<b>ENVIRONMENTAL CHANGES AND PROACTIVE STRATEGIES</b>
Sensory Needs	<ul style="list-style-type: none"> <li>• Avoids or seeks sensory stimuli</li> <li>• Avoids or seeks food with potent or bland flavors</li> <li>• Prefers loose clothing</li> <li>• Walks on tiptoes</li> <li>• Moves frequently or infrequently</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce or add natural lighting</li> <li>• Avoid music</li> <li>• Allow movement (e.g., wobble seats)</li> <li>• Have snacks available</li> <li>• Provide a bathroom schedule</li> <li>• Offer noise-cancelling headphones</li> <li>• Remove strong odors</li> </ul>
Rejection Sensitivity Dysphoria (Dobson, 2022; Rooney, 2021)	<ul style="list-style-type: none"> <li>• Withdrawal</li> <li>• Negative self-talk</li> <li>• Rumination on past conversations or situations</li> <li>• Fear of failure</li> </ul>	<ul style="list-style-type: none"> <li>• Teaching strategies to move on to other options</li> <li>• Examine alternative reasons why a situation is happening</li> <li>• Share and model mistakes or “failure” and how to navigate</li> </ul>
BIMS (Burnout, Inertia, Meltdown, Shutdown; Buckle et al., 2021; Higgins et al., 2021; Phung et al., 2021; Raymaker et al., 2020)	<ul style="list-style-type: none"> <li>• Intense exhaustion</li> <li>• Appearance of masking</li> <li>• Loss of function</li> <li>• Chronic life stress</li> <li>• Lack of participation in desirable activities</li> <li>• Withdrawal</li> </ul>	<ul style="list-style-type: none"> <li>• Provide time for recovery</li> <li>• Address social issues and sensory needs within the environment</li> <li>• Introduce a peer co-working system</li> <li>• Provide distractions (e.g., visual activities)</li> <li>• Give space for students to participate in activities they enjoy</li> <li>• Provide positive interactions with peers or class pets</li> <li>• Teach strategies such as mindfulness</li> <li>• Provide scaffolding (e.g., valuing students’ goals)</li> <li>• Support collaborative regulation</li> </ul>

Note: Although each column lists common characteristics or supports, neurodivergent students are individuals with unique characteristics, strengths, and needs. Therefore, educational teams should work together to develop an individualized NIBS plan that is most effective for the student.

to recognize the characteristics of such behaviors and be prepared to respond. Teacher educators may also observe these characteristics in neurodivergent preservice teachers.

### **Behavior and Sensory Needs**

Everyone is familiar with the visual, auditory, tactile, taste, and smell senses; however, humans also have additional senses for proprioception (i.e., body’s position and orientation within space), vestibular (i.e., sense of balance, posture, and movement), and interoception (i.e., internal sensations such as hunger or thirst). Each person has a unique sensory profile which influences how they feel and respond to their environment (Hartman et al., 2023). The way in which an individual regulates their responses to sensory input (i.e., sensory modulation)

is also different from one person to the next (Brown et al., 2019). A person’s reactions to stimuli can be *hypersensitive* (i.e., over-response to a stimulus) or *hyposensitive* (i.e., under-response to a stimulus; Hartman et al., 2023). As a person engages in sensory modulation, they are “assessing sensory inputs for relevance, and justifying the nervous system’s response to those inputs” (May-Benson & Schaaf, 2015, p. 635). This modulation and response results in behaviors that may be interpreted as appropriate or inappropriate/challenging. Table 1 includes examples of behaviors that can be related to sensory modulation.

### **Behavior and Emotional Regulation**

Rejection Sensitivity Dysphoria

(RSD) is one example of emotional dysregulation characterized as an intense emotional response to actual or perceived rejection that can lead to the experience of physical pain (Bedrossian, 2021; Dodson, 2022). The feelings associated with RSD may lead to behavioral responses that could be interpreted as challenging. Although this phenomenon is typically associated with ADHD, it is not exclusive to those with this diagnosis (Dahlstrom, 2024). Students may exhibit RSD by (a) becoming easily embarrassed, (b) having strong emotional reactions to perceived rejection, (c) setting high expectations that are challenging for them to meet, (d) experiencing anxiety in social settings, (e) having relationship difficulties leading, at times, to avoiding social situations, and (f) believing they are a failure when

they do not meet what they perceive as other's expectations (Bedrossian, 2021). Dodson (2022) describes RSD as being triggered by teasing, criticism, real or perceived rejection, or chronic negative self-talk and resulting in a variety of behavioral responses. Suggestions for mitigating these responses are available in Table 2.

### **Behavior and Self-Regulation**

Burnout, Inertia, Meltdowns, and Shutdowns (BIMS) are neurodivergent experiences associated with self-regulation difficulties (Phung et al., 2021). *Burnout* refers to an intense exhaustion associated with trying to mask (i.e., hiding personal traits when interacting with others; Pryke-Hobbes et al., 2023) to avoid stigma and discrimination (Phung et al., 2021; Raymaker et al., 2020). *Inertia* can lead to an individual not being able to participate in activities they want or need to do (Phung et al., 2021). This can be misunderstood as a person avoiding their work or being lazy when, in reality, they do not know where to start. *Meltdowns* are externalized expressions of anxiety and emotion in overwhelming situations, while *shutdowns* are internalized experiences of anxiety and emotion. Meltdowns and shutdowns are often equated with the fight, flight, or freeze response one may experience in response to a perceived threat. BIMS experiences have negative implications for students' learning. Historically, people have viewed these behaviors as a sign of laziness, resistance, or aggression; however, to support neurodivergent students' learning, it is necessary to view these behaviors "with curiosity, compassion and a spirit of collaboration" (Phung et al., 2021, p. 11). Teacher educators can ensure their preservice students understand what BIMS are so they are better able to support their students who experience them.

## **CREATING UPDATED BEHAVIOR PLANS LEVERAGING STUDENT VOICE: NIBS STEP-BY-STEP**

*After Dr. Knowles teaches the class about contributors to neurodivergent behavior, Thomas says, "It's really interesting that neurodivergent people have these experiences. I can see how that might impact their behavior in school." He pauses before asking, "But what do I do about it? It's great to understand why Anthony might be behaving that way but how do I fix it?"*

*Dr. Knowles responds, "That is a great question. We are not trying to fix Anthony. Our goal is not to make him act like he is neurotypical. However, if there is a chance a behavior might be distracting or harmful for him or his peers, it would be helpful to develop a neurodivergent student informed behavior support (NIBS) plan."*

*"What's that?" asks Thomas.*

*Dr. Knowles explains that NIBS plans are like an FBA/BIP in that they use behavior analytic principles to collect behavioral data and develop a behavior plan using function-based behavior strategies. However, NIBS plans go beyond a traditional FBA/BIP to include student voice and create a more inclusive environment.*

*Dr. Knowles displays a copy of a NIBS plan template. She invites Thomas to work through the plan with Anthony in mind as an example. Thomas acts as the general education teacher in the scenario, and another student who shares his school placement, Asha, acts as the special education teacher. Dr. Knowles supports the students through the NIBS process and invites the rest of the class to contribute to the discussion. She also encourages Thomas to have a conversation with his cooperating teacher to gain more information about Anthony and to seek permission to talk more with Anthony and Anthony's family as out-*

*lined in the plan. Supplemental Figure 1 includes the plan the class created.*

### **Phase 1: Initial Meeting**

Prior to addressing student behavior, teachers should hold an initial meeting with other educators and related support professionals that work with the student to discuss the nature of the target behavior and the context in which it occurs. To prepare for this step, preservice teachers must first learn to define a target behavior. This definition must be objective, measurable, and free from personal perceptions or bias. For example, Anthony's teacher may be inclined to state, "The student wanders around the classroom aimlessly to avoid doing their work." However, the teacher cannot know that the wandering is "aimless" or done with the intention of "avoiding work." Instead, the team should define an objective and measurable behavior, such as the one Anthony's team identified: "During content-area instruction, Anthony walks around the classroom for 10-minute intervals." The behavior is clearly identified as "walking around the room" and an estimated length of time for the behavior is provided (i.e., 10 minutes).

Next, contextual information about the target behavior must be discussed, including (a) time of day; (b) who is typically present; (c) what activities are occurring; (d) what the student has communicated about what they need, want, or feel; (e) what happened before school or earlier in the day; and (f) any other information the team may feel is relevant about the student. Preservice teachers need to understand how such information may inform their future data collection decisions. Supplemental Figure 1 provides examples of the contextual information the team identified for Anthony, such as the behavior occurring during whole-group, lecture-based instruction and when peers and the

general education teacher are present. Other relevant information includes the fact that no one has spoken to Anthony about his behavior yet and that he is meeting academic expectations. Because the behavior usually occurs during whole-group, lecture-based instruction, it would be beneficial for the team to collect data during those times.

Once the behavior has been defined and contextual information has been gathered, the team should determine roles for collecting additional data. Data collection should include a series of interviews, classroom observations, and a classroom inventory. During this stage, teachers should leverage each team members' expertise and experience. For example, if the special education teacher has more experience, knowledge, and availability to collect observational data in multiple classrooms, they may be the most appropriate team member for this role. However, if a preservice teacher has knowledge of data collection methods, they may take on that role with guidance. The general education teacher likely knows their own classroom better than other team members and therefore may guide the preservice teacher in conducting a classroom inventory. For Anthony's NIBS plan, Asha and Thomas split the data collection roles based on expertise. Asha plans to interview the student and collect qualitative and quantitative data. Thomas plans to interview the caregivers, current and previous teachers, and complete a classroom inventory.

## Phase 2: Data Collection

Once the logistics have been discussed and data collection roles are assigned, the team begins to collect the data. The first step in data collection should be to interview the student. When interviewing the student, the teacher should consider the student's mode of communication, including verbal communication in

English or other languages, multimodal communication, vocalizations, and/or gestures. The interviewer should ask the student about the behavior, why they use the behavior, and how the behavior is helpful for them. For students who use other modes of communication (e.g., speech-to-text, picture cards, communication device), it may be beneficial to have a speech-language pathologist conduct or help facilitate the interview.

After interviewing the student, the next step of the data collection process involves conducting caregiver interviews, which should include questions about whether the behavior occurs in the home environment and, if it does, the functionality of the behavior in that setting. The team can also request information about the supports and strategies the family have found to be effective at home. For example, a caregiver may use antecedent- or consequence-based supports in the home setting, such as providing the student with warnings of upcoming changes or providing behavior-specific praise after their child completes a desired task. Knowing about these strategies can be beneficial in the classroom as well. Teachers should remember that caregivers are experts on their children and learning from them can clarify the best ways to support the student in a neuro-affirming way. Because preservice teachers often lack opportunities to engage with families, teacher educators might consider allowing them to practice through role playing, responding to scenarios in small- or whole-group discussions in class, or utilizing mixed-reality simulation programs like Mursion, if available.

The next step in data collection is interviewing current and previous teachers, as well as related service providers. During this process, teachers are invited to discuss the student's behavior, the strategies and supports used in the past, what typically occurs

before the behavior, and what typically occurs after the behavior. This information can clarify what seems to trigger the behavior and what strategies are helpful. By interviewing previous teachers, preservice teachers can experience the collaborative process and gain additional information about their students. The team may also consider asking related service providers whether they see the behavior in their settings and seeking their ideas for additional supports and strategies. For example, if the student is engaging in a behavior because they are unable to communicate a specific need, a speech-language pathologist may be able to provide strategies to help teachers communicate more effectively with the student. Within a course, preservice teachers might be given opportunities to collaborate with a preservice speech language therapy program or to use case study scenarios to practice this step of the data collection process.

The next step in data collection is observing the student in the classroom. Based on information from Phase 1 and the various interviews, the team can decide which types of data need to be collected. Typical forms of data include general classroom observations with anecdotal notes, antecedent-behavior-consequence (ABC) data, and quantitative data. When conducting classroom observations with anecdotal notes, an observer records notes about the behaviors of other students and teachers in the room as well as environmental factors that may be contributing to the student's target behavior. When collecting ABC data, an observer notes what occurred prior to the behavior, the behavior itself, and what occurred after the behavior. To analyze ABC data, the observer reviews the antecedents to determine potential triggers and the consequences to determine what may be maintaining the behavior. For instance, if the observer notes that the antecedent to the behavior

was entering the cafeteria, there could be a strong odor in the cafeteria that triggers the behavior. When analyzing the consequences, the observer may find that the student is frequently allowed to eat in another classroom after engaging in the target behavior. Based on this pattern, it is likely that the function of the behavior is escape or avoidance. This information is helpful because the team now knows *why* the student is engaging in the target behavior and can modify the routine to allow them to avoid the aversive cafeteria environment.

Finally, quantitative data on the behavior's frequency, duration, or latency (i.e., how long it takes for the behavior to begin) may be collected. To collect frequency data, an observer selects the time of day when the behavior is most likely to occur and counts the number of times the behavior occurs during the observation period. Alternatively, an observer may collect duration data when a behavior occurs for an extended period of time with a distinct start and end time. The observer can use a stopwatch to measure and record the length of time the behavior lasts. Finally, latency data is similar to duration data, except that the timing begins when the antecedent occurs and ends when the behavior begins.

The last step in Phase 2 is to complete a classroom inventory. Traditionally, observers conduct classroom inventories of the physical layout of a classroom, though it is also helpful to consider the sensory input in the classroom. The team member might take into consideration the lighting, sounds, smells, and other sensory information as they conduct the inventory. For students who are hypo- or hypersensitive to sensory stimuli, it is helpful to note anything in the environment that could contribute to or limit the student's functioning in the classroom.

### Phase 3: Follow-up Meeting

Once the team has completed data

collection, they reconvene to review and identify relevant information that may explain the behavior. The team should consider sensory needs, BIMS, or RSD (see Phase 2). For example, Anthony's team identifies that his wandering behavior is likely due to sensory needs, but there could be other reasons for the behavior (see Tables 1 and 2). Including the preservice teacher in this meeting is a great way to ensure they are reviewing these processes and possibilities for their own practice as well.

After reviewing the data, the team should consider whether the behavior is worth changing by asking themselves two questions:

1. Is the behavior physically or emotionally harmful to the student or their peers?
2. Is the behavior interfering with the student's academic performance?

In reference to these questions, the team should consider how neurotypical norms may be inhibiting their neurodivergent students' education. If the behavior does not cause physical or emotional harm (e.g., hitting, name calling) to the student or their peers, and/or does not impact the student's academic performance, intervention would be inappropriate. Instead, the team should consider how to create an inclusive learning environment where different ways of learning and interacting are welcomed. If, however, the behavior is mentally or physically harmful to the student or their peers or interferes with the student's academic performance, the team should continue to develop a plan to support the student. Changing environmental factors, identifying proactive strategies to prevent the behavior from occurring, and addressing teacher behaviors and responses may better support the student (see Table 2 for a list of potential strategies).

Once the team has options for a

plan, they can work with the student to identify which strategies would be best to implement in the classroom. The team should identify and present the student with three options for environmental changes and three options for proactive strategies, with the student choosing one to three of these for implementation.

If the student recommends additional strategies, the team should consider how they might be implemented in the classroom as well. It may also be appropriate to establish behavioral goals in collaboration with the student. For example, if the student is engaging in wandering behavior like Anthony and the behavior is impeding learning, it may be beneficial to establish a goal to reduce the amount of time spent wandering the classroom. In Anthony's case, the team determined that, despite his teacher's concerns, his wandering was not impacting him academically, nor was it causing physical or emotional harm to himself or his peers. Although intervention was deemed unnecessary, the team provided options for both environmental changes (i.e., use of a wiggly seat, choice of seating, shortened lecture) and proactive strategies for additional support in class (i.e., seating options, use of sensory items, sensory breaks during lectures). Anthony chose the use of a wiggly seat, seating options, and sensory breaks during lectures.

### Phase 4: Implement the Plan

The final phase of the NIBS plan is implementation. During this stage, the team collects progress monitoring data to determine the effectiveness of the intervention. The form of data collection should be determined based on the target behavior and in alignment with the data collection method from Phase 2. In Anthony's case, both frequency and duration data were collected, so Thomas continues to collect those forms of data during implementation. After a four-to-six-week period, the team, student, and



family will hold a conference to review data and discuss how the strategies are working. If significant adjustments are needed, the team can revisit Phase 3 to redevelop the plan. If only minor adjustments are needed, those adjustments can be made and trialed for another four to six weeks. If the strategies appear to be successful, those strategies can be made permanent for the student. When Anthony, his caregivers, and the school-based team meet to discuss his plan and data, Thomas discusses the decreasing trend in wandering behavior based on progress monitoring data. Anthony also indicates that he preferred the supports provided in the plan. Therefore, the team decides to make the new supports a permanent change in his educational programming.

*After completing the NIBS plan, Thomas shares that he has a better understanding as to why Anthony engages in wandering behavior. Although Anthony was wandering around the room while Thomas was teaching, he now realizes that Anthony was paying attention to instruction and the behavior was not interfering with his learning or the learning of his peers. Thomas feels this plan is something he would like to try with other students as he goes into his student teaching placement next semester. He and his classmates express more confidence in their ability to support neurodivergent students and better understand that is normal for people's behaviors, including their own, to differ.*

### Other Considerations

The NIBS plan aligns closely with the traditional FBA/BIP with the inclusion of families and neurodivergent students. As higher education faculty seek ways to incorporate the NIBS plan into existing FBA/BIP assignments, they might consider having their students work with peers to create both an FBA/BIP and a NIBS plan, choose one plan or the other to develop, or choose the plan they feel

will be most appropriate based on the needs of their student. Depending on when behavior is discussed within the teacher education program, preservice teachers' access to students to practice this plan will vary. In cases where preservice teachers do not have access to a classroom, they might instead practice components using case studies and/or videos available from YouTube or high-leveragepractices.org. Having preservice special education teachers partner with students enrolled in other professional preparation programs (e.g., general education, related service) can also help facilitate their practice.

### CONCLUSION

Neurodivergent individuals make up almost one-fifth of the population, and every classroom in the United States is likely to have at least one student who is considered neurodivergent. It is important that preservice teachers understand how to respond to the behavioral messages their students communicate. Providing a broader range of knowledge about the neurodivergent experience and how it can inform behavioral support can help prepare preservice teachers to work in neurodiverse environments. Teacher educators must ensure their preservice teachers learn ways to evaluate behavior and its causes so that they can create classroom environments and implement supports conducive to the neurotype of each student in the class. This requires that preservice teachers view each student through a lens of respect, inclusivity, and presumption of competence.

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