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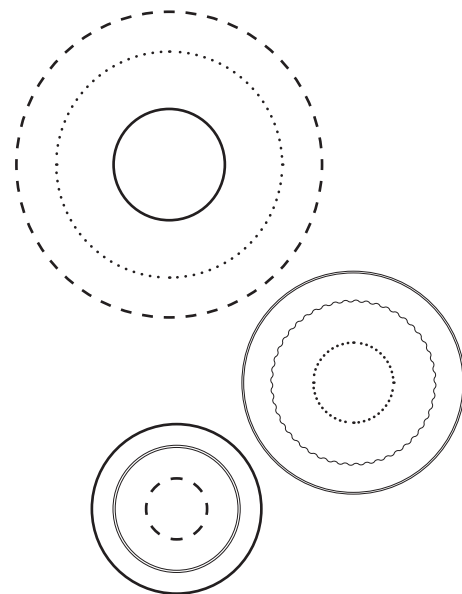
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# Introduction



## HOW WILL THIS MANUAL HELP YOU?

This manual will teach you what flexibility and executive functions are and how to improve them by teaching your students self-regulatory vocabulary, scripts, and routines. It will also show you how to create a flexible classroom, provide just-right cuing, motivate your students to change, and ensure that the skills you teach your students will generalize to other settings.

## Understand What Flexibility and Executive Functions Are, Why They Are Important, and How to Teach Them

The manual covers all of the elements of cognitive instruction that are important for students to learn. The first step in learning a new skill is to understand what it is and why it is helpful. In *Unstuck and On Target!*, students, teachers, and parents learn, teach, and consistently practice a new vocabulary and specific flexibility and planning routines and scripts, and they concretely explore the usefulness of flexibility, planning, and goal setting. (See Prerequisites for Successful Implementation of *Unstuck and On Target!* for the what, why, and how of being flexible.)

## Create a Flexible, Organized Classroom

Flexibility, like laughter, is contagious. Every educator has an opportunity and a responsibility to establish the culture for his or her classroom. Some classroom cultures are conducive to student success, and others can interfere with student success. This intervention is dedicated to helping the educator create a classroom culture that promotes success for all students, especially for children with autism spectrum disorders (ASD). Children with ASD are most likely to thrive and acquire flexibility in a flexible, organized classroom culture—one in which educators and students alike consistently demonstrate flexibility and in which flexibility is a core value. (See Prerequisites for Successful Implementation of *Unstuck and On Target!* for more on maintaining a flexible classroom.)

## Provide Just-Right Cuing

Almost 50 years ago, Teuber (1964) defined the problem of executive dysfunction as “the curious dissociation between knowing and doing.” This is especially characteristic of students with ASD, whose adaptive abilities—or what they actually do at home and at school—lag behind their

intelligence or what they know (Gilotty, Kenworthy, Black, Wagner, & Sirian, 2002; Kenworthy et al., 2005). Thus, it is not enough to teach the student with ASD what flexibility and goal-directed behavior are and how to be flexible and goal directed. It is also important to have the student practice flexibility and organization skills over and over again in the real world. Flexibility and other executive function skills are taught best through just-right cuing, which means that just enough support is provided for success and support is faded as soon as it is not needed. Extensive, repetitive practice is required to maintain and generalize success. In this way, teaching flexibility and other executive function skills is like coaching a child in athletic skills or teaching a child to play an instrument: The same skills are practiced repeatedly from one year to the next, and the child's ability to perform them in a game or in a concert slowly grows. (See Prerequisites for Successful Implementation of *Unstuck and On Target!* for tips on how to provide just-right cuing.)

## Motivate Your Students to Change

Successful interventions are founded on intrinsic motivation and positive reinforcement for success, and not on negative feedback for failures.

Incentives for change and motivational supports are what make learning new habits possible for anyone. Thus, it is essential that all flexibility and executive function interventions are created and supported by adults so that student success is achieved. (See Prerequisites for Successful Implementation of *Unstuck and On Target!* for guidelines on motivating students when change is difficult.)

## Help Your Students Generalize What You Teach to Other Settings

To ensure generalization of flexibility and executive function skills, we have designed this curriculum as a multimodal intervention that is embedded in the real-life contexts (home, school, community) in which children with ASD have difficulties because of inflexibility and disorganization. Its primary focus is to give you tools to teach and coach flexibility at school, but all topics are accompanied by Home Extension handouts. These handouts update parents on what you have been teaching and provide home exercises that reinforce this learning. In this way, both teachers and parents will act as coaches for the student, using a combination of teachable moments and direct coaching to reinforce flexibility and good executive functioning in new situations. In addition to engaging parents in the interventions, the information and parent-child activities in the Home Extension handouts help solidify students' learning and give them a sense of ownership of the concepts and strategies they have learned as they teach the concepts and strategies to their parents. *Unstuck and On Target!* also provides Classroom Extensions that encourage the use of specific vocabulary and flexibility and executive function scripts in all classes that a student attends.

## HOW EDUCATORS, STUDENTS, AND PARENTS HELPED US WRITE THIS MANUAL

We were first inspired to develop this manual by the work of Mark Ylvisaker and Tim Feeney (Feeney, 2010; Ylvisaker, 2006; Ylvisaker & Feeney, 1998). Working with children with brain injuries, they created key self-regulatory scripts and routines that we have used and modified in the course of developing *Unstuck and On Target!* The Big Deal/Little Deal and Choice/No Choice scripts that we introduce in Topic 7 come directly from their work, as do the concepts underlying the Handling the Unexpected script. The Goal-Plan-Do-Check script described in Topic 6 is also inspired by them, as well as Polatajko and Mandich (2004), who incorporated

Goal-Plan-Do-Check in their occupational therapy intervention, “The Cognitive Orientation to Daily Occupational Therapy Performance.” In fact, prior to his untimely death, Mark Ylvisaker was a key early member of the *Unstuck and On Target!* team. His guidance and support for this project included many readings of early drafts and extremely helpful conversations regarding the use of self-regulatory scripts and the importance of building internal motivation in children through the use of heroes, as we describe in Topic 4.

Building on the work of Ylvisaker, Feeney, and others, we developed the manual and materials for *Unstuck and On Target!* through a community-based, participatory approach (Brooke et al., 1986; Israel, Schulz, Parker, & Becker, 1998), which involves engagement with community and policy partners, development of the intervention, a data collection and analysis plan in collaboration with key community stakeholders, assessment of how well the intervention could be used in actual settings, and the pledge that the formative and summative evaluation data will be shared with others who might benefit from the lessons learned (Centers for Disease Control and Prevention, 1999). We also used a bottom-up approach (Sullivan et al., 2005): Instead of developing the intervention in the lab, conducting a trial in a university, and then adapting it to actual settings, we started with the effective techniques that front-line educators were already using to build executive functioning.

Our research team included academic researchers (a clinical and developmental psychologist, and a neuropsychologist), a special educator, two school administrators, an occupational therapist, a parent, and two self-advocates. The development and feedback process then proceeded through a series of stages built on the participatory approach:

1. Classroom observations to identify which currently used strategies work and where students and teachers encounter the most difficulties
2. A needs assessment with experts and stakeholders (e.g., What do professionals, school staff, parents, and students say they need the most? Where are the gaps in skills that need to be addressed?)
3. Compilation of stakeholder-defined key elements of intervention (e.g., What do professionals, school staff, parents, and students say would be most helpful? How should the intervention be structured and delivered?)
4. Focus groups with school staff, parents, and children to evaluate and improve the proposed key elements
5. Translation of the key elements into a comprehensive manual by the research team, which was led by the special educator
6. Review and revision of the comprehensive manual by two young adults with autism
7. A feasibility and acceptability trial: The intervention was tried by two interventionists in three classrooms with 13 children
8. Feedback from the 13 student participants in the feasibility trial (i.e., they developed and delivered formal presentations of feedback to the research team regarding what they learned from the intervention, what they liked best, and what we needed to change)
9. Detailed feedback from interventionists on every lesson in the intervention manual, including revision suggestions
10. Intensive revision of the intervention and manual based on the above process, with new elements being re-reviewed by stakeholders

This participatory process defined the curriculum’s structure and the delivery and teaching methods and helped us streamline the lessons. The resulting intervention is feasible and acceptable to participants (93% enrollment rate; no children dropped out or refused, though three left the school for other reasons). The resulting manual describes a curriculum designed

for use in a weekly school-based group that teaches what flexibility is, why it is important to be flexible, how to be flexible, how to set and prioritize goals, and how to develop coping skills.

Students who completed the intervention reported positive effects in being better able to compromise, see the benefits of being flexible, and keep their focus on larger, important goals. Teachers who completed the intervention liked how easy the manual and intervention techniques were to use and enjoyed having a new vocabulary system to use every day.

Our approach to developing this intervention was an innovative combination of a participatory process and a theory-driven method based on previously developed executive function interventions and our knowledge of the complex executive function deficits and effective intervention techniques in ASD. Because executive function deficits are primarily expressed, and best assessed, in real-world settings, such as classroom, home, and social settings, it was essential that we develop, test, and modify interventions in a real-world setting and that the interventions be administrable by teachers and other school personnel. Thus, we developed our intervention with a participatory model. This proves the achievability of using an intensive participatory process (including adults, adolescents, and children with ASD) to develop interventions for students with ASD.

## DOES *UNSTUCK AND ON TARGET!* WORK?

We also conducted a preliminary test of the intervention as it was being developed, comparing the change from pre- to postintervention. Data were collected from parent and teacher questionnaires and a new group measure assessing executive functioning, especially flexibility, in a socially demanding context (four children working together to complete tasks). In this very small sample of eight children, both parents and teachers reported improved flexibility in 78% of the children after the intervention was completed. The children also showed some change in executive functioning in their ability to shift from one task to another, make a plan, and stay organized (as rated by parents on a questionnaire). On the group-based assessment of executive function skills, the children were significantly more collaborative with each other after the intervention but also made fewer positive comments to each other as rated by a coder who did not know whether the assessments were taken pre- or post-intervention. On this same measure, the children trended toward needing to use fewer coping strategies after the intervention and demonstrating an overall improvement in flexibility when working with the other students.

These results suggest that the *Unstuck and On Target!* curriculum implemented in schools is feasible and acceptable to school staff and students with ASD. Furthermore, parents and teachers see promise in such a program, and a blind rater also detected differences in a very small sample of students. The next step in this intervention development process is currently underway to evaluate the effectiveness of this curriculum in inclusive schools, comparing change in larger numbers of students who do and do not receive the intervention.

## WHAT YOU NEED TO KNOW ABOUT EXECUTIVE FUNCTION AND FLEXIBILITY

### What Is Executive Function and How Is It Impaired in Autism Spectrum Disorder?

*Executive function* is an umbrella term that captures a set of brain functions that help students regulate their behavior (e.g., stay seated at a desk) and carry out goal-directed behavior (e.g.,



follow multiple-step directions to complete a task). Specific executive functions include the following (Rogers & Bennetto, 2000):

- Inhibition (or impulse control)
- Flexibility
- Working memory (holding information in mind, e.g., remembering an oral instruction while completing a task)
- Organization (keeping track of materials and seeing the big picture)
- Planning
- Self-monitoring

Clinicians, teachers, and family members agree that students with ASD have difficulties with various aspects of executive function in their daily lives. In fact, any aspect of executive function can be disrupted in students with ASD, but the two most common areas of impairment are organization and flexibility.

Students with ASD tend to be disorganized regarding school materials, homework, and personal articles and space at home; they also have trouble seeing the big picture in what they learn, read, and experience and organizing their thinking. The common expression “can’t see the forest for the trees” captures many of the executive organization/integration pitfalls students with ASD experience. The positive side of this weakness, however, is that students with ASD also tend to have excellent cognitive abilities in systematically analyzing and memorizing small chunks of explicit information. Their command of details is often excellent.

Inflexibility is the second major executive challenge in students with ASD. Changes in routine and violations of expectations are particularly challenging, and it is easy for students to get stuck on certain ideas or behaviors. Peter Berg, a middle school student with Asperger syndrome, noted, “Asperger’s is like a vise on your brain. And each unexpected event is like another turn on the vise...it just keeps building until you feel like you’re going to explode. Sometimes when you explode, it comes out the wrong way.”

Taken together, these executive function difficulties significantly and consistently interfere with participation in the social and academic domains of the school day. These observations are supported by scientific research that documents generally poor executive function and specific problems with flexibility and organization/planning in students with ASD (for reviews, see Hill, 2004; Kenworthy, Yerys, Anthony, & Wallace, 2008). Research also clearly links problems with flexibility and organization/planning in ASD to differences in brain structure and brain function (Herbert et al., 2002; Murphy et al., 2002). Brain biology drives executive function differences in ASD.

*Unstuck and On Target!* targets the problems with flexibility that most students with ASD experience, and it also contains specific supports for organization/planning (e.g., supports for the transportation of Home Extension handouts between school and home, the Target Island and Goal-Plan-Do-Check lessons that promote goal setting and planning). Furthermore, the curriculum builds on common strengths in students with ASD by teaching flexibility and executive skills through explicit, step-by-step routines and scripts. These strategies and concepts will help students not only learn how to be flexible and organized more quickly and easily but also apply them to other new learning in the classroom.

## What Is Flexibility?

Flexibility is what enables individuals to generate new ways to solve a problem, adapt to changes in routines, and adjust to the unexpected. Most people have some trouble being

flexible some of the time. Adjusting to changes in well-established routines, for example, can be difficult. Beginning a new job or having a first child frequently requires major changes in life routines, which cause stress. Similarly, there are ways that people think about things that are hard to change. It is possible for anyone to get stuck in a rut of doing things in a certain way or thinking in a certain way. Inflexibility, though, can also be adaptive. For example, most of us have a morning routine that we more or less follow when getting ready to leave the house. This prevents us from already being on our way before realizing we forgot to brush our teeth. When difficulties accepting change, making transitions, shifting thoughts, or moving on from an emotional state become so extreme that they interfere with everyday functioning, however, a person will benefit from learning to become more flexible.

Students with ASD have biologically based rigidity and inflexibility, which can manifest as difficulty with the following:

- Making transitions during the school day (e.g., from lunch back to classroom work)
- Tolerating changes in schedules or everyday routines
- Adjusting to changes in staff
- Generating new ways to approach a problem
- Accepting flexible interpretations of rules or events
- Managing an intense emotional feeling
- Responding to the needs or interests of friends
- Negotiating with others
- Accepting differing viewpoints

Students with ASD can be rigid in their approach to tasks, games, and new learning, and it is important to draw their attention to the fact that their peers might want to do something differently than they do. In addition, students with ASDs are highly likely to continue to use one approach to a situation or problem, regardless of the feedback they receive. For example, a student may tell a joke to a group of peers at school and receive no laughter in response. Even with this clear social feedback about the joke, the student tells the joke again to the same group of students later. Research shows that students with ASD are highly likely to display this kind of repetitive behavior, even when there are strong contextual indicators that the action is not the best course.

Driven both by biology and an individual's efforts to cope with the social world, inflexibility plays a major role in determining outcomes for students with ASD. Rigidity frequently leads to serious problems in the academic setting and affects students' options later in adulthood. Currently, only 27% of individuals with average intelligence and ASD in childhood are able to attain functional independence in the community (Farley et al., 2009). Interventions that target and teach flexibility may have a significant, positive impact on participation in school routines, academic performance, and social relationships. In addition, instruction in social communication is essential to help the person with ASD cope with and navigate the social demands presented by a complex and often unpredictable social world. Progress in each of these domains is essential to preparing a student with ASD to meet the expectations of the adult world.

It is also important to understand that inflexibility often serves a protective or even adaptive function for individuals with ASD. Individuals on the autism spectrum can be easily overwhelmed in social, group, and novel situations because social communication, as well as the integration and organization of complex information, is challenging for them. Once overwhelmed, children with ASD tend to experience more anxiety, become more impulsive, and behave inappropriately. The risks they run at such times are profound, given the social isolation, teasing, and bullying they experience at the hands of peers and even adults. An analogy offered by Ari Ne'eman, President of the Autism Self-Advocacy Network, is that

of a mine field. In a mine field, anyone would be very cautious and resistant to making any sudden, unplanned moves. “This is similar to what it is like in social situations for those of us with autism,” he notes (personal communication). Thus, inflexibility serves a role in limiting the amount of unexpected events to which the person with ASD must respond. It serves an adaptive purpose to reduce anxiety and increase one’s overall ability to control responses to others and the environment. For this reason, it is all the more imperative that instructors ensure the presence of the supports listed in Prerequisites for Successful Implementation of *Unstuck and On Target!* These supports will provide the students with a safe, therapeutic setting in which replacing existing patterns of inflexibility with flexible behaviors and responses can be accomplished with success and less anxiety.

“What purpose does inflexibility serve? For one thing, it is an effective anti-anxiety coping mechanism. It provides order in the context of a world that is confusing and illogical for us.”

—Ari Ne’eman, *President of the Autism Self-Advocacy Network*

The best possible outcome for individuals with ASD occurs when the proper match between their biologically inflexible brain and their environment (e.g., setting, task demands) is achieved. This can happen in three ways:

1. *The student with ASD flexibly adapts to the environment.* A significant part of improving the match between the inflexible brain and the environment is explicitly teaching the student with ASD how to become more flexible and how to readily recognize settings or demands for which he or she should rely on explicitly learned flexibility skills.
2. *The environment is adapted to accommodate the student with ASD.* In some cases the setting or task should be altered to demand less flexibility of the student with ASD. Just as we do not expect a student with dyslexia to read constantly, it is unreasonable and ineffective to expect a student who is constitutionally inflexible to constantly demonstrate unnatural flexibility skills. Because many children with high-functioning ASD are in inclusive environments that are designed for people who are naturally flexible, the match between their brain and the demands of the setting is frequently poor. These children need to develop the self-awareness and self-advocacy skills to determine when it is appropriate to be flexible and when they should ask for flexibility from the environment. Attaining these self-awareness and self-advocacy skills is a long-term process that begins in childhood and extends into adulthood, requiring parents, educators, and treatment teams to continuously calibrate to a student’s ongoing development. *Unstuck and On Target!* offers beginning steps to help you start this critical skill acquisition process with your students.
3. *Selected, unacceptable environments are avoided.* There are some situations or tasks that pose unacceptable levels of risk for the student with ASD. They may require such intolerable levels of effort that the student is then incapable of further work. They may overwhelm the student’s behavioral regulatory system and create high risk for inappropriate behaviors, or they may create high levels of anxiety. The student with ASD needs to learn how to recognize these situations and avoid them. For example, it is sometimes best for a student to eat lunch in a classroom rather than in a large, crowded cafeteria. Early in a student’s educational experience, an adult will need to identify these situations or tasks and create suitable alternatives. With time and development, the student will be better able to recognize these moments and develop appropriate alternatives.

In summary, teaching a student with ASD to function flexibly in a variety of mainstream settings not only helps the student gain flexibility skills but also enables him or her to recognize when it is appropriate to ask for accommodations or avoid a situation or task.

## PREREQUISITES FOR SUCCESSFUL IMPLEMENTATION OF *UNSTUCK AND ON TARGET!*

This curriculum teaches students with autism to be more flexible and goal directed, but successful implementation requires a flexible and supportive school context. Next, we describe basic supports that should be in place within the school and classroom and teacher–student interactions.

### A Flexible and Supportive School Team and Environment

A supportive school environment includes the following:

*School staff and family members must learn to distinguish between willingness and biological differences as causes of behavior in students with ASD. Blaming or punishing a student for a behavior that is not within his or her volitional control will not successfully change the behavior or foster meaningful progress. It will create a toxic atmosphere that contaminates other teaching activities. Table 1 lists some commonly confused sources of behavior in students with ASD. Kuncze and Mesibov warned of the dangers of mutual misunderstanding that can occur when adults misinterpret the motivation for specific behaviors in students with autism:*

*A failure to understand how a child’s typical behaviors reflect this disability can result in misperceptions such as viewing the child as noncompliant, willfully stubborn, or unmotivated, rather than confused, involved in repetitive routines, or focusing on less relevant aspects of the situation. (1998, p. 231)*

Ari Ne’eman noted that this perspective-taking exercise is difficult: “This is an exercise that non-autistic professionals struggle with as much and perhaps far more than autistic students struggle with understanding the perspectives of their non-autistic peers” (personal communication). Empathy and understanding are essential, however, as interventions to change behavior can be effective only if the source of the behavior is understood.

*Biological and adaptive reasons for inflexibility in students with ASD must be recognized so that accommodations to increase predictability and structure can be made. The fit between the brain of a typical student with ASD and the typical school environment is poor in that school demands a child to learn new skills in large groups of peers through social communication on a daily basis. Although it is the mission of this curriculum to teach the student specific flexibility skills that will improve that fit, it is also important to make accommodations in the school routine that reduce the overall level of stress the student is experiencing. Maintain-*

**Table 1.** Willingness or different brain?

What looks like “won’t”	May actually be “can’t”
Opposition, stubbornness	Cognitive inflexibility, protective effort to avoid being overwhelmed
Lack of will (“He can do it if he wants to.”)	Difficulty in shifting
Self-centeredness	Impaired social cognition, theory of mind, or ability to take another’s perspective
Lack of effort (“She doesn’t try.”)	Poor initiation or impaired planning and generativity
Inability or refusal to put good ideas on paper	Poor fine motor skills, disorganization
Sloppy, erratic work	Poor self-monitoring, overload
Refusal to control outbursts	Overload, disinhibition
Preference for being alone	Impaired social problem-solving
Lack of sensitivity to others (“He doesn’t care what others think.”)	Impaired understanding and production of nonverbal social cues

ing predictable routines, posting schedules, previewing upcoming changes, offering choices whenever possible, and reducing the number of staff involved with a student are all common accommodations for students with ASD and can benefit all students.

*At least one safe person/social coach must be identified at school.* A safe person understands the student with ASD and is available to the student on an as-needed basis to review difficult interactions with others, explain confusing situations, and advocate for the student's needs. The safe person/social coach also seeks the student out regularly to monitor, teach, and actively coach social interaction skills. A safe person can be a speech-language therapist, special educator, or counselor who has training and experience in teaching social skills to children with ASD. This person can be any approved adult who the child identifies with and feels comfortable with. It will not be possible for a student with ASD to learn to become more flexible if he or she does not have such support. The social isolation, teasing, and bullying experienced by children with ASD without social support are traumatic events that increase anxiety, decrease flexibility, and impair learning.

*Explicit assurance must be made to students with ASD that certain routines will remain unchanged.* Self-soothing, repetitive routines (e.g., watching the same video every day after school, following favored eating rituals) that are not otherwise harmful to the student should be respected, as long as they do not interfere with essential social engagement or work completion. If students with ASD can maintain some of these routines, they are better able to handle change in other domains.

*A structured behavior management system based on positive behavior supports must be in place.* Different settings and different students require different types of specific positive behavior supports. This manual does not dictate which supports should be in place but assumes that the classroom environment is well managed and that students are well supported and set up for successful participation in the classroom setting.

*The school team must be able to work together and consistently use the same vocabulary and scripts that are taught in this curriculum and reinforce the same behaviors.* The intervention will only be successful if it permeates the student's environment.

## A Flexible and Supportive Classroom

Students are better able to develop flexibility in a flexible classroom culture. The following features describe a flexible, organized classroom.

- Educators and students *make smooth and calm transitions between tasks*, activities, and expectations. They respond flexibly when changes and unexpected events occur.
- There is an *absence of power struggles* between educators and students. For example, when a teacher makes a request and a student refuses to obey, the teacher refrains from making a second, more demanding request or imposing a consequence that the student refuses.
- Educators use a *high ratio of praise to corrections* (target 4:1) because they facilitate better performance through positive actions such as scaffolding, elaboration, and modeling *before* trying to stop inadequate performance with consequences and corrections.
- There is *extensive use of active priming*, or a heads-up that something is going to happen. During priming, it is important to reference the concepts and language presented during explicit instruction. Children with ASD experience a high level of stress in response to change in routine or environment, which often develops out of a feeling of losing control. We can all relate to feeling anxious when something important that we had anticipated does not go as planned. For example, imagine that you have planned a formal dinner

party, and 30 minutes before the guests arrive you find out that your dog has eaten the roast. By priming for a change or an opportunity to be flexible and referencing the techniques outlined in the explicit instruction, students can experience a sense of control over their environment.

- Educators communicate *clear, explicit, and specific expectations* for the work to be done, expected behavior, and how students should set and achieve goals.
- *The classroom is organized* so that all clutter and visual distractions are eliminated, and there are clear routines for turning in work, getting ready to go home, and making the transition between classes.

## A Flexible and Supportive Educator

To maintain a flexible classroom and help students develop flexibility, you must be flexible yourself. Following are some guidelines for being flexible.

*Exhibit a calm demeanor, an empathic understanding of the student's perspective, a positive outlook, and high expectations.* These personality traits are critical for any educator but especially so for those working with students with ASD.

*Problem-solve both internally and externally (with students) to detect when student performance breaks down, and discern and remedy the cause of the breakdown.* For example, say that a student refuses to write a paragraph on his or her summer vacation. The educator acknowledges the student's difficulty and works to discover why the student has refused the task. Careful consideration may reveal that the student has no idea where to start, does not have a pencil, or has difficulty with fine motor tasks. The educator remedies the situation by introducing a writing rubric, providing a pencil, or allowing the student to work on a computer. In this case, the educator has worked to understand the student's position rather than immediately assume the student's refusal is due to noncompliance.

*Know yourself.* To be a flexible educator, you must know yourself in the classroom. What upsets you? Are there certain students or behaviors that are triggers for you? Are you ever rigid in the classroom? When are you typically rigid? What do you do when you are rigid? Learning your own early signs for becoming rigid and applying strategies that work for you will increase your flexibility and efficacy.

*"Live aloud," or provide explicit instruction.* It is not intuitive to the student with ASD that being flexible will increase his or her chances of making a friend or gaining more independence at school and at home. Because students with ASD do not readily draw lessons from experience about how and why to be flexible, these key concepts are taught explicitly and continuously reinforced through the technique of *living aloud*, or making the implicit flexibility demands of situations explicit (Myles, Adreon, & Gitlitz, 2006). By highlighting situations requiring flexibility, highlighting the emotions involved, and explicitly identifying flexible responses, you can provide your students with a working framework for how to be in control of being flexible. For example, you might say, "I was hoping to use the overhead projector to show you this worksheet, but the bulb is burned out. I am going to be flexible and give you each your own worksheet instead."

*Treat students with respect and as active partners in their education.* You will be most effective as a teacher if you can build a collaborative relationship with your students. This is particularly true for students with autism who strongly appreciate a sense of control. Collaborative relationships do not require teachers to give in to students or give up their expectations. In fact, they often facilitate increased effort and output from students. Collaborative relationships do require a willingness to give choices within the framework of clear expectations

(e.g., allowing a student to choose the topic of an essay). They also require both parties to listen to what the other has to say. One student noted that he wished he could be provided with more opportunities to make a choice rather than have decisions made for him. He wished he could be offered these choices “just like regular people.” Another student said that he really wanted “teachers to listen to what kids say and not assume things about us, and also take our opinions into account” when appropriate.

*Empower your students.* As you identify those times of day when a student would benefit from an accommodation (e.g., taking a 5-minute reading break after lunch, using a computer instead of writing by hand) or those environments that are a poor fit for the student (e.g., a loud cafeteria), support the student in discovering for him- or herself what he or she needs. This is an essential first step to teaching effective self-advocacy skills. Here are some examples of what you might say:

- “I noticed that the cafeteria is very loud and you cover your ears when you are in there. That makes it hard for you to talk or eat your food. Can you help me think of a spot that would be less noisy where you could have lunch?”
- “You have told me that you are really tired when you come in the morning. After you went on the swings yesterday you had a lot more energy and you were able to start your work. What strategy should we use when you come in feeling tired in the morning?”

*Provide the right level of support through just-right cuing techniques.* Use guided practice with faded cuing to gradually build new skills, one step at a time. Guided practice begins with concrete tasks and ample teacher support (i.e., verbal prompting and redirection). Teachers should gradually fade support and guidance as soon as students can demonstrate the skill independently. In the case of this intervention, teachers must be prepared initially to prompt use of flexibility scripts and routines but reduce prompting over time, always providing just the level of support needed for success. The role of the adult is to scaffold behavior only as much as the student needs in order to be successful, not to serve as a crutch or to create a dependency. Use of the Socratic method of asking questions in place of providing answers (e.g., “What do you need to get started?”) to find out how much information the student can generate without staff input is helpful in this regard. Students should be guided, not told what to do. Because automatic processes are the most efficient, the goal of guided practice/faded cuing is for the student to become independent and automatic in using the new vocabulary and scripts. Automaticity takes time, however, and repeated practice is expected. Adopt the model of athletic coaching or music instruction, in which students perform the same drills and routines repeatedly before gaining mastery.

## OVERVIEW OF *UNSTUCK AND ON TARGET!* CURRICULUM

Once you have a flexible school team and classroom and are a flexible teacher, you are ready to develop flexibility and goal-directed behavior in your students using the *Unstuck and On Target!* curriculum, which has the following major components:

- *Teaches what flexibility is* through concrete, hands-on experiments with physical and cognitive flexibility. In addition, a specific vocabulary is taught to discuss flexibility with students (e.g., *flexibility, Plan A/Plan B, stuck*), which is then used consistently throughout the implementation of the intervention. See Topic 1: What Is Flexibility? and Topic 2: Flexibility Defined.
- *Explains why it is important to be flexible.* The curriculum provides explicit instruction to students on the concrete utility of being flexible (e.g., it gives them more choices, it helps

them become a better friend) in ways that are directly meaningful to students. See Topic 5: Why Be Flexible and Topic 9: Being Flexible Makes You a Good Friend.

- *Teaches students how to be flexible.* The curriculum teaches flexibility skills in a structured format that emphasizes routines and self-regulatory scripts that are continuously practiced and reinforced until they are automatic. See Topic 7: Scripts for How to Be Flexible.
- *Teaches what goals are and how to achieve them.* The curriculum contains lessons to help students focus on what their goals are and distinguish major or target goals (e.g., getting good grades, making a friend) from distracter or “whim” goals. It also introduces a universal self-regulatory script or routine for setting a goal and making and completing a plan to get it done. See Topic 6: Your Goals: Getting What You Want and Topic 8: Journey to Target Island.
- *Teaches students how to want to be flexible and goal directed.* Being flexible and goal directed is hard for students with autism, so some parts of the curriculum are geared to making flexibility and goal-directed behavior reinforcing. Positive reinforcement and humor are embedded throughout the curriculum as they both have magical powers for shaping the behavior of students with autism. We encourage you to freely improvise further positive reinforcements and inject humor wherever you can find it when teaching *Unstuck and On Target!* The curriculum also includes specific lessons that structure students in identifying their own heroes as a way to help organize their understanding of the value of flexibility and goal-directed behavior using the image of a person they admire. This increases intrinsic motivation to be more flexible and goal directed. The curriculum also teaches coping strategies for those times when being flexible is especially hard. See Topic 3: Coping Skills and Topic 4: Personal Heroes.

## GOAL OF THIS MANUAL

This manual describes *Unstuck and On Target!*: a plan of action for teaching students with ASD how to be more flexible and goal directed. The goal of this intervention is twofold:

1. To increase the cognitive flexibility and executive function abilities of students with ASD so that they can more easily shift from topic to topic, task to task, and person to person; consider new ideas, alternative beliefs, or another person’s point of view; and work independently on multistep tasks in the classroom and beyond
2. To provide the intervention in a way that works in the classroom and ultimately creates more time for the teacher

## WHO WILL BENEFIT FROM THIS INTERVENTION?

### Students

We designed *Unstuck and On Target!* for 8- to 11-year-old students with ASD who have intact language and cognitive skills (e.g., those with high-functioning ASD) and who have difficulties with flexibility, organization, and planning. Specifically, it is designed to serve school-age children with ASD who have the cognitive and verbal skills to benefit from higher order cognitive and social interventions (i.e., average IQ and at least a second-grade language and reading level) because it is a verbally driven intervention. It is possible to adapt this intervention to meet the needs of older students, and some suggestions are given for these adaptations in each topic.



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## Staff

This intervention has been specifically designed for use in the classroom by professionals from different disciplines, including teachers, psychologists, social workers, speech-language therapists, occupational therapists, and highly trained teaching assistants. Those implementing this curriculum should have basic skills in working with students with ASD and should read the entire manual before beginning the curriculum.

## Parents and Adults in Nonschool Settings

Although this intervention has been designed for the classroom, it has been implemented successfully in other settings (e.g., a small-group therapeutic setting, a social learning camp). In such cases, interventionists report making some adjustments to ensure a fit between the intervention and the setting. As long as the core features of the lessons remain in place, such adjustments are recommended (please see the first page of each topic). In addition, parents have found that *Unstuck and On Target!* is a useful tool to incorporate at home.

## GUIDE TO THE LESSON PLANS



This manual includes several topics, each of which requires one to four or more lessons to fully teach the content. Table 2, the Curriculum Map, is designed to help the educator understand the scope and sequence of the curriculum.

## Topics

Each topic begins with an overview page that includes a summary of the topic, prerequisite skills, related skills, expected outcomes, special notes to the instructor, and background and rationale. The information on this page covers the material for all of the lessons included in that topic.

## Lessons

Most topics require multiple lessons. For ease of use, each lesson plan follows the same organization: a list of the materials required, a description of the activity, generalization activities, and suggestions for modifications. Most lessons also include handouts for the students; full-size color versions of these handouts can be printed from the accompanying CD-ROM. In addition, the CD-ROM also includes Home Extension handouts that can be distributed to parents for home generalization and Classroom Extensions that can be given to each student's classroom teachers.

Every lesson begins with a summary of the previous lesson, highlighting the vocabulary students have learned. It is critical that you completely understand the lessons before beginning them with the students. Read through the entire topic before beginning instruction 1) to gain a full understanding of the skills students will be acquiring and how the lessons fit together and 2) to prepare and gather materials. You know your students best, and an overall understanding of the lessons will allow you to pace lessons as you deem appropriate. Note that some lessons may require you to gather additional materials not typically found in a classroom or school. Those lessons are marked with  throughout the manual. For other lessons, you may need to spend a bit more time preparing (e.g., cutting), and those lessons are marked with .

**Table 2.** Curriculum map**Topic 1: What Is Flexibility?**

Lesson 1: Flexibility Investigation  
Lesson 2: Flexible Body

**Topic 2: Flexible Vocabulary**

Lesson 1: Flexibility  
Lesson 2: Getting Stuck  
Lesson 3: Plan A/Plan B  
Lesson 4: Compromise and Consolidation

**Topic 3: Coping Strategies**

Lesson 1: Recognizing Your Feelings  
Lesson 2: What Can You Do to Feel Better?

**Topic 4: Personal Heroes**

Lesson 1: What Makes a Hero Heroic?  
Lesson 2: Who Is Your Hero?  
Lesson 3: Hero Movie

**Topic 5: Why Be Flexible?**

Lesson 1: The Advantages of Flexibility  
Lesson 2: Being Flexible Can Make Good Things Happen

**Topic 6: Your Goals: Getting What You Want**

Lesson 1: Setting and Achieving Goals Using Goal-Plan-Do-Check (GPDC)  
Lesson 2: GPDC Application and Practice

**Topic 7: Scripts to Help You Be Flexible**

Lesson 1: Big Deal/Little Deal  
Lesson 2: Choice/No Choice  
Lesson 3: Handling the Unexpected

**Topic 8: Journey to Target Island**

Lesson 1: What Is a Target Goal?  
Lesson 2: Your Target Goals  
Lesson 3: Conflicting Goals

**Topic 9: Being Flexible Makes You a Good Friend**

Lesson 1: Flexibility Helps When Your Friend Makes a Mistake  
Lesson 2: All Friends Have Similarities and Differences  
Lesson 3: Flexibility Helps When You Disagree with Your Friend

**Topic 10: Flexible Futures**

Lesson 1: *Unstuck and On Target!* Review Game 1: Flexiac  
Lesson 2: *Unstuck and On Target!* Review Game 2: Four Corners  
Lesson 3: Flexible Futures

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## Home Extensions

Most topics include Home Extension handouts, which are formatted similarly. The goal of these handouts is to

- Provide additional practice opportunities
- Share language and concepts with families
- Promote generalization across settings by encouraging families to use similar language and practice concepts at home

Read through each Home Extension handout before presenting a lesson. The students will benefit from going over their Home Extension handout before they take it home. A Home Signoff is provided to alert students and parents to due dates for acknowledging receipt of the Home Extensions. Each student's *My Flexibility Notebook* should be sent home, as well (see Topic 1).

## Classroom Extensions

Many topics include Classroom Extension handouts. The goal of these handouts is to

- Inform educators who work with your students about key concepts and vocabulary being introduced in the curriculum
- Promote additional practice opportunities
- Encourage all educators who work with the students to reinforce certain flexible behaviors
- Promote generalization across settings by encouraging communication between teachers and social skills instructors
- Promote generalization by encouraging teachers to use similar language and practice concepts in the classroom setting

The pages that follow will lead you and your students on an exciting journey toward more fun, better goal-directed behavior and greater flexibility in the classroom.

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