

Consequence Maps

A Novel Behavior Management Tool for Educators

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Children and youth with emotional and behavioral disorders (EBD) as well as other learners with special needs are well recognized for their challenging behavior (Zirpoli, 2012). Behavioral excesses and deficits affect educational performance in fundamental ways, including social skill and social interaction problems, poor academic performance, and consequences associated with an unwillingness or inability to comply with rules of conduct (Kaufman & Landrum, 2009). The outcomes of these problems can potentially have a significant life-long negative impact on students and their families (Briggs-Gowan, Carter, Bosson-Heenan, Guyer, & Horwitz, 2006; Downing, 2007). When behavior management concerns are not effectively dealt with, they can lead to diminished school and life opportunities, school failure and dropping out of school, incarceration, unemployment and underemployment, and significant lifelong interpersonal problems (Chen & Weikart, 2008; Walker, Ramsey, & Gresham, 2004).

These significant issues and challenges necessitate that educators who work with learners diagnosed with EBD and other disabilities use appropriate and effective management and related support strategies (Kennedy & Jolivet, 2008; Lewis & Wehby, 2007; Montague, Enders, & Castro, 2005).

Educators recognize the need for effective management tools and continuously search for utilitarian and cost-effective management strategies and methods. Yet, in spite of the professed abundance of management resources available to educators, there is strong evidence that teachers' appetites for new and improved management strategies remain strong. In particular, teachers want information about methods that can help students become more capable of self-management and positive independent functioning. Teachers are also looking for ways to reduce classroom personnel from assuming complete or primary responsibility for implementing consequence-focused management programs. Although teacher-directed consequence-based methods have an appropriate place in education and can have a positive impact on student behavior, these methods also have limitations. Overreliance on teacher-directed and teacher-implemented consequence programs can lead to reduced student acceptance of responsibility for actions. Educators take too much responsibility for student conduct because of a dependence on methods that require teachers to vigilantly observe and apply contingent consequences in response to student behavior without the student's full participa-

tion in the process (Ramsey, Jolivet, Puckett Patterson, & Kennedy, 2010).

Increasingly, educators are recognizing the importance of management strategies that assist children and youth in understanding the consequences of actions as well as assist educators in teaching children and youth to independently make socially appropriate decisions (Carter, Lane, Pierson, & Stang, 2008; Falcomata et al., 2008; Wehmeyer, Agran, & Hughes, 2000). Management programs that incorporate elements of self-determination, cognitive awareness, self-responsibility, and self-management appear to have particular merit. Such strategies have the potential to (a) increase a student's ability to engage in independent goal-setting and goal attainment, (b) enhance self-directed problem solving, (c) facilitate independent and age-appropriate decision making, (d) increase self-regulation and student-directed learning, (e) develop self-advocacy and self-awareness skills, and (f) increase motivation for self-control (Lochman, Burch, Curry, & Lampron, 1984; Wehmeyer, Shogren, Zager, Smith, & Simpson, in press).

This article describes *consequence maps* (also known as *contingency maps*), a relatively new participatory strategy that incorporates many of the elements of self-directed behavior



Figure 1. How to Create and Use a Consequence Map

1. Choose a target behavior (e.g., aggression, noncompliance, swearing).
2. Conduct a behavioral observation and functional assessment to determine the function of behaviors (i.e., attention seeking or task avoidance).
3. *Recommended:* Collect baseline data on the target behavior.
4. Discuss the consequences of undesired behavior and the consequences of desired behavior with the student.
5. Using visuals (i.e., Picture Communication Symbols, Mayer-Johnson, 2000), create a consequence map with the trigger on the left-hand side of the page in the middle, desirable behavior and consequences on the top track, and undesirable behavior and consequences on the bottom track.
6. *Optional:* Highlight the top track (desirable behavior) in the student's favorite color and highlight the bottom track (undesirable behavior) in the student's least favorite color.
7. Post the consequence map in an appropriate place or keep it on a clipboard for mobility.
8. Review the consequence map with the student. Continue to review the consequence map prior to the trigger (transition, work time, recess, etc.).
9. *Recommended:* Collect data during implementation of the consequence map to note effectiveness.

management (Brown & Miranda, 2006). The method is illustrated using a sample case that describes how a consequence map intervention program was used successfully with a 6-year-old boy with significant behavioral problems, including noncompliance, aggression, and classroom disrobing.

Description of Consequence Maps

Consequence maps are graphic representations of behaviors and their consequences. Teachers and other classroom personnel use consequence maps to visually identify and discuss two (or more) tracks with learners with management problems. One track depicts a present (and typically undesirable) behavioral response and an alternate (and more socially desirable) behavior, along with the consequences connected to each of the options. Teachers and other classroom personnel use the maps to discuss the target behavior and corresponding descriptions and consequences of desired and undesired behavior to (a) assist students with behavioral challenges in understanding and making decisions about their behavior, (b) become more involved in

the process of understanding the choices available to them, (c) understand the consequences associated with their actions, and (d) structure appropriate alternatives to unacceptable behavior. Consequence maps rely on a combination of the following:

- *Visual elements.* They illustrate problem behaviors, the context and circumstances that surround them, how students' actions lead to various outcomes, and steps associated with positive behavioral outcomes.
- *Student involvement.* Consequence maps are used to lead a discussion about particular behaviors and their possible outcomes, wherein students are active participants.
- *Adult-student problem solving.* Teachers and other adults jointly

use consequence maps to work through students' behaviors in a collaborative and shared fashion.

These important components of consequence maps help students organize their thinking and understanding, and engage in problem-solving discussions related to behavioral choices and behavioral outcomes (Dettmer, Simpson, Myles, & Ganz, 2000; Earles-Vollrath, Cook, & Ganz, 2006).

Visual supports, including consequence maps, can be useful in designing a behavioral intervention plan for children with disruptive behaviors (Brown & Miranda, 2006; Dettmer et al., 2000). Quill (1995) noted that visual supports are an effective tool for promoting organization, providing opportunities for communicating, and managing difficult behaviors. They can also help a student who may not understand the behavior-consequence relationship. Several visual support strategies, including picture schedules, social stories, and visual scripts have been reviewed and promoted in the field (Brown & Miranda, 2006).

Although untested and novel, consequence maps are based upon and supported by visual support methodology (Earles-Vollrath et al., 2006) and are extensions of other cognitive and conceptual support methods such as thinking maps and graphic organizers (Ballanca, 2007). This tool also clearly offers features consistent with methods in keeping with positive behavior supports (Zirpoli, 2012). Figure 1 includes the steps for teachers and

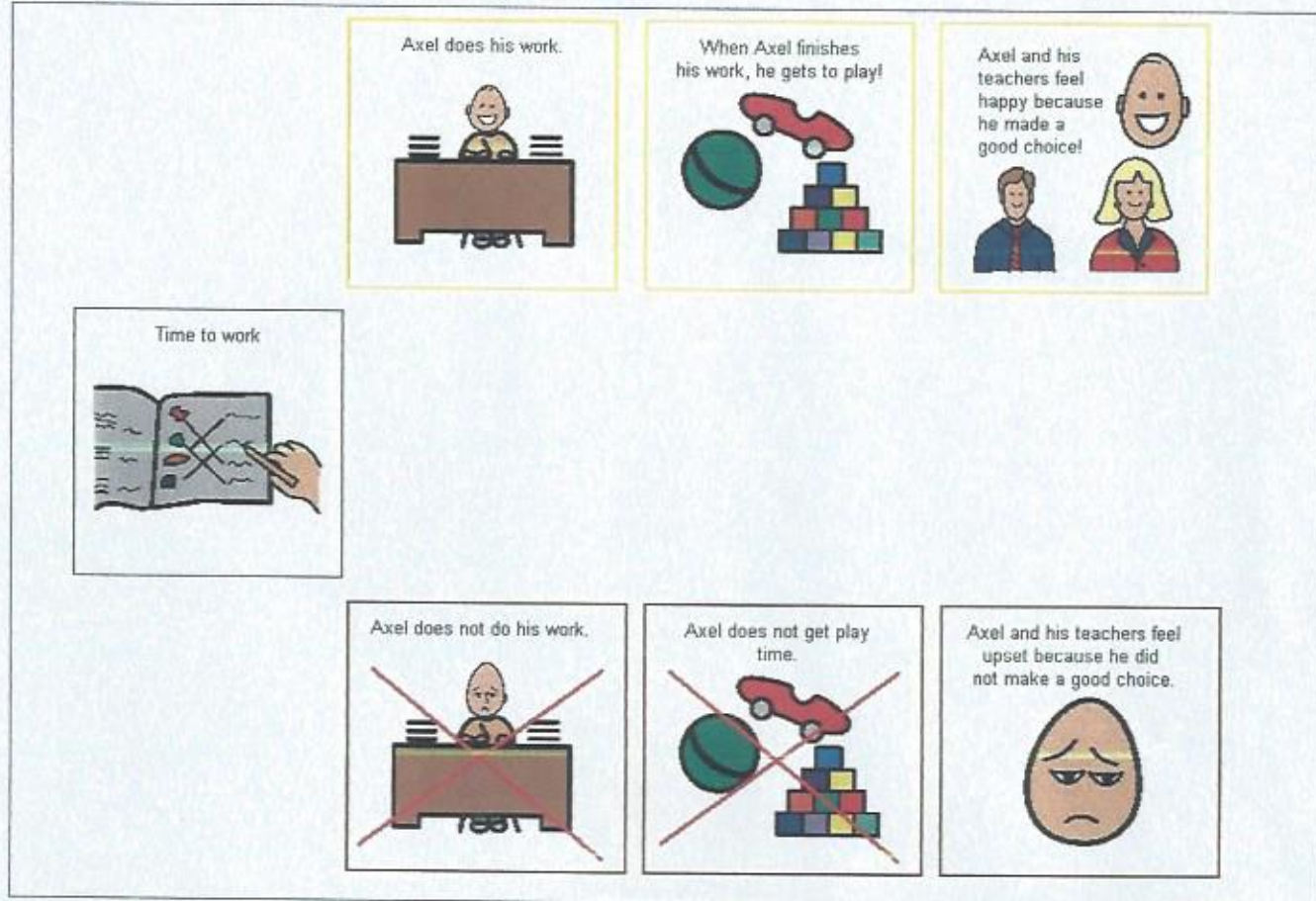
Teachers and other classroom personnel use consequence maps to visually identify and discuss two (or more) tracks with learners with management problems.

parents to create and use a consequence map.

An Illustration of a Consequence Map

Following is an example of a consequence map intervention program

Figure 2. Time to Work Consequence Map



used with a 6-year-old male student. The child, Axel, qualified for special education services with a primary disability of emotional disturbance and clinical diagnoses of attention deficit hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD). Axel was a student in a self-contained, special education classroom in an urban public school district. When Axel did not want to comply with a task demand or teacher request he removed his clothes, screamed swear words, made obscene gestures towards staff and students, and threw classroom materials. Axel had difficulty expressing frustration and other emotions appropriately. These extreme behaviors interfered with his ability to develop and maintain positive peer and adult relationships and take full advantage of educational opportunities available in his school.

Prior to initiating the management program, Axel struggled with listening and following multistep directions, had

difficulty expressing his wants and needs appropriately, and routinely did not use age and socially appropriate words. It was determined that Axel was likely to become noncompliant, remove his clothes, scream, and throw materials when asked to work on non-preferred tasks and academic activities he perceived to be difficult.

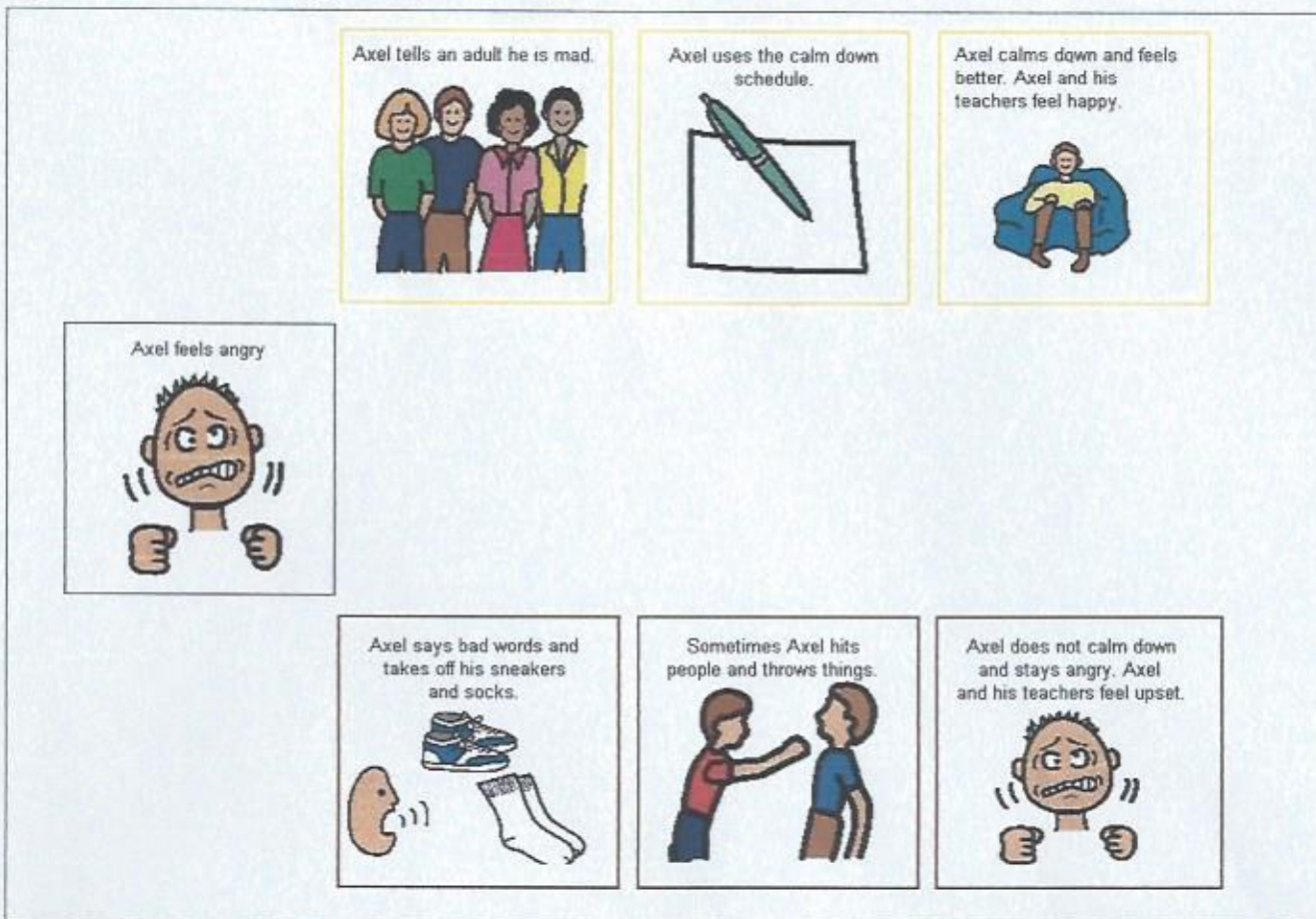
The Consequence Map Materials and Program for Axel

Two different consequence maps (see Figures 2 and 3) were created to address Axel's noncompliance and other undesired behaviors. Each consequence map consisted of seven 2.25×2.25-inch squares with Picture Communication Symbols (PCS; Mayer-Johnson, 2000) along with printed text. The square on the left-hand side represented the beginning point or possible trigger for the problems. In the Figure 2 case illustration, the visual icon and corresponding words represented Axel's teachers telling him that it was

"time to work." Three squares on the top of the map represented the positive behaviors and consequences; three squares on the bottom represented the negative behaviors and consequences. The positive track was outlined in yellow, Axel's favorite color; the negative track was outlined in brown, his least favorite color. The consequence maps, along with a data collection form were kept on a plastic clipboard. The clipboard was kept near Axel's desk in his classroom, and his paraprofessional brought it to art, music, physical education, lunch, and recess for use in these out-of-classroom settings.

Figure 3 shows Axel's consequence map for addressing how he could deal with feeling angry. The staff provided Axel a visual display of preferred and nonpreferred steps (similar to the consequence map in Figure 2) when it appeared Axel was becoming angry. Axel was directed to use a "calm down schedule" as a preferred way of responding to feelings of anger, as

Figure 3. Axel Feels Angry Consequence Map



shown in the middle box of the upper portion of the consequence map. The calm down schedule was used as a self-monitoring tool and as a visual display of specific steps that Axel could follow to calm himself, specifically when he was “feeling angry,” and consisted of a form that listed four target responses: “quiet voice,” “breathing soft,” “no hitting,” and “no throwing.” Next to each of the four target responses was a rectangular blank box that staff used to prompt Axel to follow each of the four steps associated with calming himself. Once he was calm, Axel put back on any clothing he had removed. The images used can be created with Google Images or can be actual pictures of the student taken with a digital camera.

The Consequence Map Procedures for Axel

The staff implemented Axel’s management program in his special education classroom. The staff members followed

these procedures in a one-on-one instructional work area in Axel’s special education classroom:

- Review the previously identified consequence maps every morning at 9:00 a.m., immediately before the first work session.
- Give Axel the clipboard containing the two consequence maps and calm down schedule and let him decide which consequence map he wanted to listen to first.
- Read the consequence map as Axel listens. The negative behaviors and consequences are read first, followed by the positive behaviors and consequences.
- Axel touches each box with his finger as the first and second consequence maps are read aloud.
- Axel talks about the positive and negative tracks of his maps and also reviews the blank calm down schedule and repeats, “I have calmed down when I am using a quiet

voice, breathing soft, when there is no hitting and no throwing.”

- Axel touches the corresponding boxes as the words are read on the calm down schedule.

The review of the consequence maps and calm down schedule took approximately 5 minutes. His first work session began immediately after the discussion of the consequence maps. Teachers who use a consequence map should ensure they gather data for as long as it takes for the student to comply, and then adjust the map as needed.

Make sure to consistently redirect the student to the concept map. For example, when Axel began to demonstrate noncompliance, aggression, anger, or disrobing, his teacher directed him to look at the appropriate consequence map or maps. Axel typically was asked to look at his consequence maps when he removed his shoes and socks, swore at an adult, threw objects

out of his individual work area, or hit an adult in response to a task demand. The staff member put the consequence maps on a table or on the ground in front of Axel, pointed to the consequence maps, provided positive praise statements for demonstrating appropriate calm down behaviors, and then prompted Axel to point to the corresponding boxes on the calm down schedule. If Axel continued to demonstrate inappropriate behavior (i.e., throwing, hitting, disrobing, swearing), the staff member removed attention, waited a minute, and then repeated the process, starting with pointing to the consequence maps. Upon completion of the calm down schedule, the staff member reviewed the consequence map and gave positive verbal praise for appropriate behaviors (e.g., "Axel, you did take off your shoes and shirt and use bad words, but then you calmed down, checked off the boxes on your calm down schedule and now your teachers and you feel happy."). The staff member then prompted Axel to return to the task that preceded the behavior problem.

Evaluation of Axel's Consequence Map Intervention Program

Teachers and staff should always objectively evaluate the impact of the consequence map program and try to target one specific behavior. For Axel, data were only collected on disrobing behaviors because that was the most significant problem. The classroom staff who were working with Axel at the time of disrobing collected data on the behavior, including the number of articles of clothing removed and how long Axel was disrobed. The clipboard with the consequence maps and calm down schedule also contained daily data collection sheets. The staff member noted the time when disrobing began and the time when Axel was calm and put back on the disrobed items. The staff members also noted how many items of clothing Axel removed using a frequency count. These data were collected throughout the entire school day.

Results of Using the Consequence Map Program With Axel

The data collected from the continued use of the concept map and its revisions should indicate further changes that need to be made to the map. For Axel, the consequence maps were successful in improving his behavior. As reflected in Figures 4 and 5, Axel's problem behaviors were not completely eliminated. His noncompliance and anger were longstanding and significant problems that periodically resurfaced. At the same time, it was clear that the consequence maps resulted in a significant improvement in disrobing. Axel averaged about 8% of the day disrobed prior to implementation of the consequence map program. This average decreased to 4% during the first intervention phase. When the intervention was removed the average went up to 7%. When the intervention was reintroduced during the final phase, Axel averaged 3% of the day disrobed. The practical significance of these percentages is perhaps better understood and amplified when these data are translated into school day minutes; that is, during the baseline phases Axel was disrobed an average of 25 to 30 minutes each day. The duration, although still a problem, was reduced to between 11 to 14 minutes per day when Axel was managed using consequence maps. Similarly, implementing the consequence maps program resulted in a decrease in the number of items Axel removed. During initial baseline, Axel averaged five instances of disrobing a day. This frequency was

average of two. This demonstrates that the teacher should reinstate the map if a new behavior emerges or an old behavior returns.

Although the consequence map did not eliminate the problem behavior completely, consider the positive impact: Axel's problem behavior decreased after he was instructed to use consequence maps. When Axel disrobed during times the consequence map program was in use, he removed only his shoes and socks. That he did not remove any additional articles of clothing (e.g., shirt, belt, undershirt, pants) after the initial phases of the first intervention is noteworthy. His teachers were particularly pleased with this progress, noting that they found it far more acceptable for Axel to remove his socks and shoes at school rather than his previous more extreme propensity to remove additional items of clothing, including at times being totally naked in the classroom.

Axel appeared to enjoy reading the consequence maps each morning. Over the course of the program he began to "read" the maps himself, approximating the words in each box. In all regards Axel appeared to "buy in" to the intervention; and he appeared to be enthusiastic about choosing a behavioral path and taking more responsibility for his personal conduct. When talking with his teacher one morning about how he had 4 days in a row during which he kept all of his clothes on at school, Axel said, "I'm going to make it five!" The teachers and Axel all clapped, gave "high fives,"

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reduced to an average of two a day when consequence maps were used. When the intervention was removed, Axel's number of removed clothing items returned to an average of five. Reinstatement of the consequence map program reduced this number to an

and celebrated his success and apparent involvement in the consequence map intervention. Not surprisingly Axel's teachers and support staff appeared to be more comfortable working and being with him when he was more compliant and less aggressive.

Figure 4. Percentage of the School Day Axel Was Disrobed

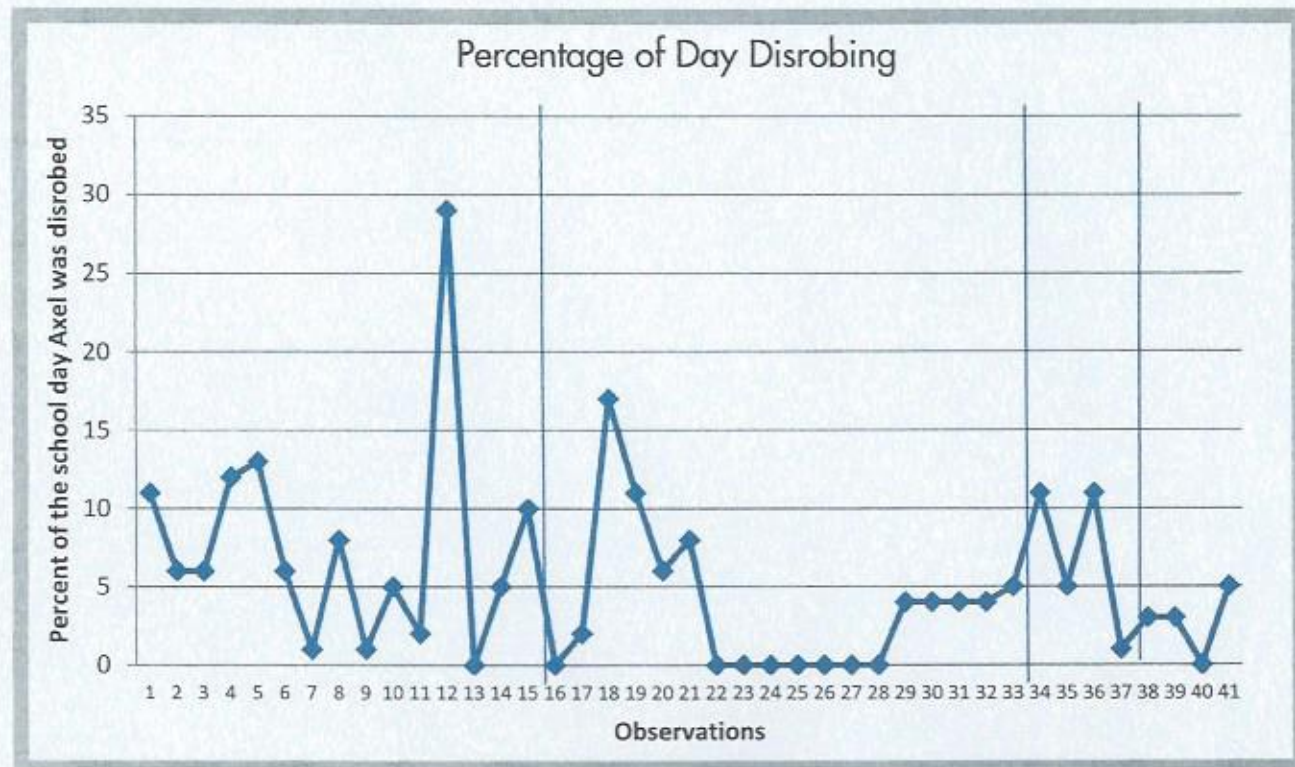
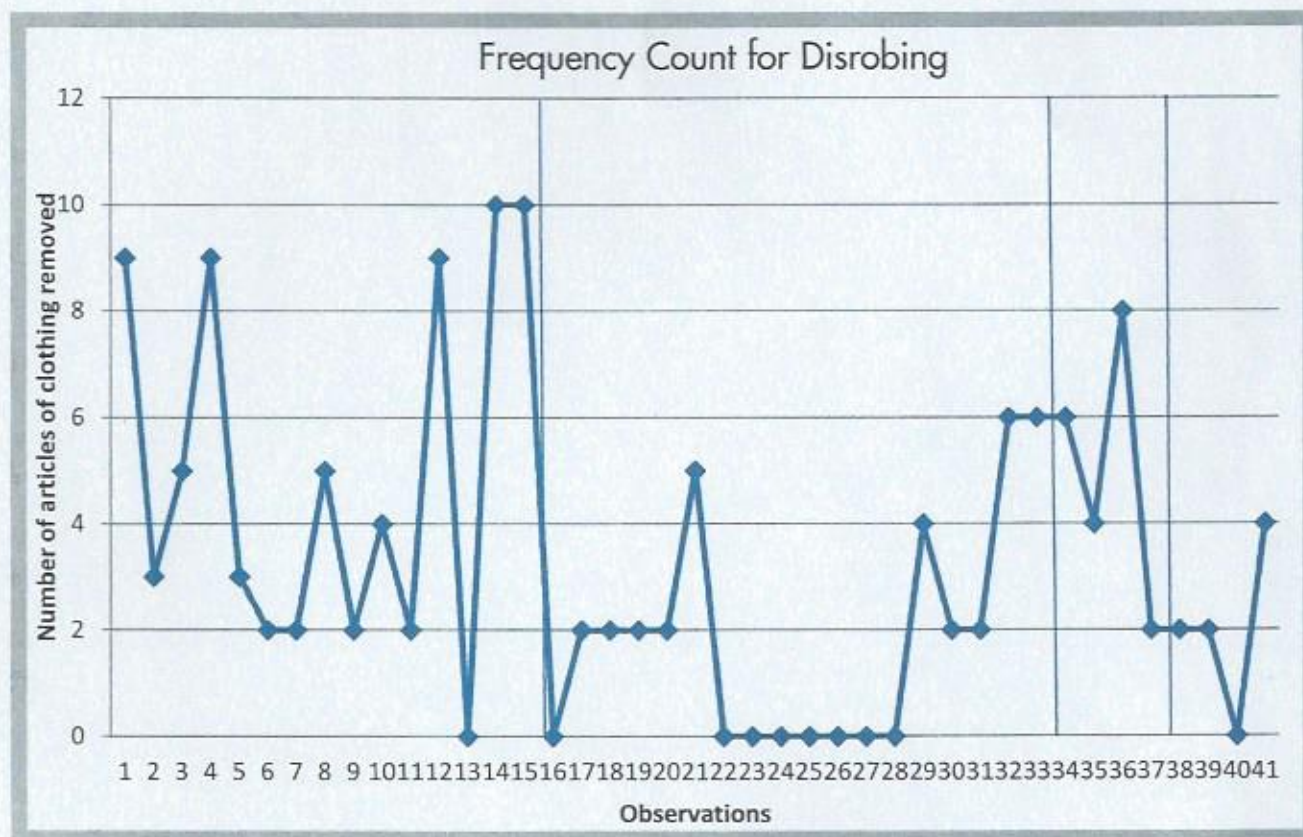


Figure 5. Frequency Count for Disrobing



School personnel, including general education teachers, commented that Axel's progress improved his potential to be a participant in general education activities.

Final Thoughts

Consequence maps have the potential to be a functional and utilitarian way for teachers and other school personnel to manage behavior, and may prove to be an effective intervention for students who benefit from visual supports, as suggested by this sample case. This intervention also offers a predictable structure: If the student demonstrates the undesirable behavior, they already know the consequence. The consequence maps can be implemented across different personnel because the consequences are clearly written and defined on the map.

Consequence maps require active student participation and pave the way for children and youth to be more involved in monitoring and managing their own behavior. Thus, they circumvent the issue of school personnel assuming complete responsibility for responding to problem behaviors. It is important to point out that consequence maps can easily be created at minimal cost and that this management method can be used to complement and support other positive behavior support programs and practices.

There is no question that research is needed to better understand consequence maps and their effectiveness. Our initial sense is that this method is best suited for children and youth with reasonably strong language skills and cognitive abilities that support problem solving and processing with an adult. We also view this method as both robust and flexible. It may prove to serve a broad spectrum of learners with a variety of characteristics. We anticipate many more positive results with increased understanding of consequence maps in managing behavior of students with behavioral problems.

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