

Using Countoons to Teach Self-Monitoring Skills

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Matt is an active young man in a learning disabilities resource room in a suburban intermediate (fifth and sixth grades) school. He tends to be off task and often refuses to do his work. Frustrated by several failed attempts at behavioral contracts, his teacher, Mrs. Ranalli, makes a "Countoon" for Matt one morning. She pulls out a file folder and draws stick figures showing Matt doing the unacceptable behavior (refusing to do his work) as well as the expected behavior (staying on task).

Together, Matt and Mrs. Ranalli come up with a reward for reaching a certain goal for each behavior each day. Each time Matt refused to do an assignment on request, he is directed by the teacher to circle a straight face on the Countoon. When the teacher notices him being on task, completing an assignment, or when he starts work right away, she directs him to circle a smiley face. The first day the established targets were too high for Matt and he was unsuccessful in meeting the criteria for his reward. The next day Mrs. Ranalli adjusted the criteria slightly to ensure success and then gradually raised it day by day.

Each time Matt circled a smiley face, the teacher also praised him. After a few days, a simple nod or gesture was all that was needed to prompt Matt to record his behavior on the Countoon. Matt's behavior improved so much in 2 weeks, the Countoon was no longer used. When a different student began exhibiting the same behaviors in class several weeks later, Matt suggested to the teacher that she use a Countoon with him, too!

As this vignette shows, young children in special education classrooms can learn to count and record their own behaviors and seem to enjoy doing so. One of the major goals of education is to teach students to manage their own behavior—especially behavior that could interfere with learning. This goal is as important for children in special education settings as it is for those in general education. Counting and recording your own behavior can act as an intervention to change your behavior in a desired direction (see box, "What Does the Literature Say?").

When you teach children to do the counting and recording themselves in your classroom, you are teaching valu-

able skills in self-control, as well as freeing up the time devoted to managing the child's behavior for instruction. To count and record their own behaviors children must have some form of recording sheet to help them. This article offers guidelines for developing and using Countoons (originally developed by Kunzelmann, Cohen, Hulten, Martin, & Mingo, 1970) as recording strategies with young children in special education and inclusion classrooms to help them monitor and change their own behaviors.

What Are the Advantages of Teaching Self-Management Strategies to Students?

We have found many advantages of teaching self-management strategies to

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students. According to Schloss and Smith (1998), self-management

- Is practical.
- Is a powerful tool for changing behavior.
- Promotes generalization (transfer of behavior to other situations).
- Frees the teacher to teach other students and focus on content.
- Increases student independence and makes them responsible for their own behavior.
- Is inexpensive and relatively little trouble to teach and implement.
- Is easily adapted to individual students and settings.
- Can be used for a variety of behaviors.
- Can be used by students with different ability levels successfully.

What Are the Advantages of Teaching Self-Monitoring?

Moxley (1998) identified several advantages of self-monitoring skills, as follows:

- Self-monitoring provides a clear picture of improved behavior—social or academic—to students. This is motivating and gratifying to both students and teachers.
- It provides more immediate feedback to students on their behavior than if the teacher were the recorder.
- Students usually like to engage in self-monitoring; and when they are involved in selecting the behavior(s) to be monitored, students consider them important to change.
- Self-monitoring facilitates communication with parents. When students collect data on their own behavior, they can explain their chart or counting device easily to their parents.
- Because self-monitoring provides a comparison between behavioral counts within one student and not between students, it facilitates more cooperative interactions than competitive ones.

Moxley also noted that teaching young students to self-monitor accomplishes other tasks simultaneously—all valued by teachers. These tasks include counting, classifying, interpreting, and reading.

What Does the Literature Say About Self-Monitoring?

Where Does Self-Monitoring Fit in the Bigger Picture of Self-Management? Self-management is any purposeful and systematic set of responses by an individual that change or maintain some aspect of that individual's behavioral repertoire. Many techniques have received attention in the self-management literature, but three main strategies have emerged and are well supported: self-monitoring, self-instruction, and self-reinforcement (Schloss & Smith, 1998). Self-monitoring is considered synonymous with self-recording and self-observation.

What Is Self-Determination? Self-monitoring is considered part of an important educational outcome more recently titled self-determination. The following are six aspects of self-determination (Wehmeyer & Schalock, 2001):

- Choice-Making.
- Problem-Solving.
- Decision Making.
- Goal Setting and Attainment.
- Self-Management Skills.
- Self-Advocacy and Leadership Skills.

Self-management skills include self-monitoring, self-evaluation, self-instruction, and self-reinforcement. There is some evidence that, for persons with disabilities, relative self-determination is related to quality of life.

Has Self-Monitoring Been Used by Itself to Change Students' Behaviors? Abundant evidence exists that self-recording by itself can serve as an intervention and can result in positive changes in behavior (Moxley, 1998). This effect is attributed to the "reactivity" of self-recording. When people count and record their own behaviors, these behaviors tend to change in the desired direction. Even more interesting is the finding that improvement in behavior during self-recording is independent of the accuracy of the data collected (Nelson, 1977).

Students with disabilities have used self-monitoring to make positive changes in many academic and social behaviors, such as the following:

- Writing quantity and quality (Moxley, Lutz, Ahlborn, Boley, & Armstrong, 1995).
- Math fluency and engaged time (McDougall & Brady, 1998).
- On-task behavior during reading (Hutchinson, Murdock, Williamson, & Cronin, 2000).
- Aggressive behavior (Gumpel, & Shlomit, 2000).
- Academic skills, like spelling, math, comprehension, occupational skills (McDougall, 1998).
- Social behaviors, like attention-to-task, peer interactions, and cooperative behavior (McDougall, 1998).

How Do Countoons Function as Self-Monitoring Devices? Most studies on self-monitoring have described some sort of physical recording device students use for recording behavior. Many recording devices are simple statements about their behavior, such as "I am on task," that students then rank with a Likert Scale (McConnell, 1999). Young students, however, may not be able to read the statements. In such instances, the recording device could be pictorial and the rating scale might contain different versions of smiley faces for ratings (Schloss & Smith, 1998). Countoons are cartoon versions of recording devices that students use to count their behaviors even when they cannot read. They were invented and first used in the precision teaching programs developed by Kunzelmann et al. (1970). They appear as a strategy for promoting independence in Lovitt's text, *Tactics for Teaching* (1984).

What Are Countoons and How Do They Work?

Countoons are simple cartoon representations of a student's appropriate and inappropriate behavior, a contingency for meeting criteria, and counting frames for recording data. The original Countoon, invented and first used in the precision teaching programs developed by Kunzelmann et al. (1970), had five frames (see Figure 1). In this and other Countoon examples, we placed frame numbers (F1, F2, etc.) in red in the corners to assist the reader. In the original Countoon model, F1 and F3 depicted the child engaged in appropriate behavior. The second frame (F2) showed the child doing the inappropriate behavior, in this instance, wandering around instead of reading. F4 showed the count the student circled as he did the inappropriate behavior, and F5 presented the consequence he got if he kept his count under a predetermined maximum. No appropriate opposite or alternative behavior was counted.

Our Countoons are a variation on this and usually have six frames. The additional frame is for counting an appropriate behavior. The teacher helps the student develop more socially appropriate behaviors by selecting a behavior that is incompatible with the inappropriate behavior (differential reinforcement of incompatible behavior—DRI) or by choosing a prosocial alternative behavior and requiring the student to count this as well as the inappropriate behavior (differential reinforcement of alternative behavior—DRA). A behavior like shouting out can be easily counted using a Countoon. An acceptable alternative behavior to shouting out in the classroom is raising your hand. If the student counts both

behaviors, he or she might be more likely to replace shouting with hand-raising.

Some behaviors have natural opposites. Suppose a student runs in the hallway. The incompatible opposite is walking. The student could record both behaviors and would substitute walking for running if the contingency is strong enough. This is an example of DRI. To allow for counting both behaviors, when possible we introduced an extra counting frame. We placed the two counting frames over or underneath the frames showing the inappropriate and appropriate behaviors (see Figure 2).

In Figure 2, F1 and F4 show the student doing her math work. This is the appropriate behavior and is counted in the corresponding green count frame F5. The expected minimum number of math problems to be completed to earn the contingency is marked in F5. F2 shows the student chatting with a friend, and

Self-monitoring is a powerful tool for changing behavior.

this inappropriate behavior is counted in the corresponding count frame F3. The student must not chat more than six times to meet the contingency. F6 depicts the contingency, which is 5 minutes of her favorite computer game on Friday. The student earns the reward by meeting both aspects of the contingency. In other words, if she chats no more than six times *and* does at least 10 math problems during the designated time period, she will get the reward.

The consequence frame (F6) pictures a reward. We found that depicting rewards for reducing negative behaviors and increasing incompatible or alternative behaviors makes the task of using

Figure 2. Countoon for Completing Math Problems Versus Chatting With Peer

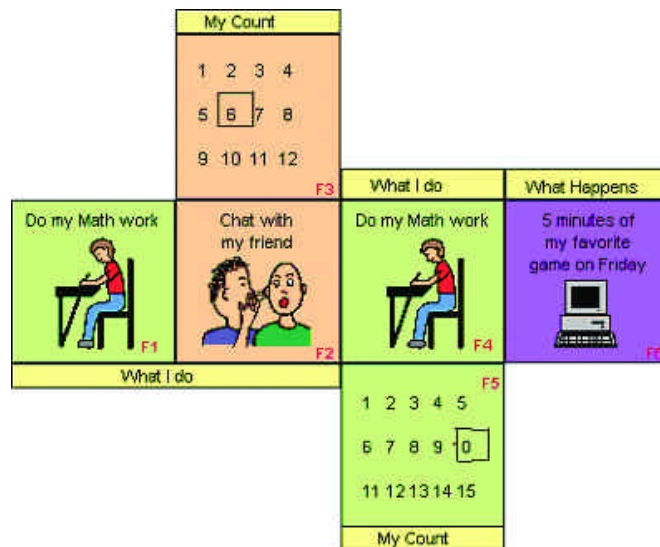


Figure 1. Original Model of Countoon for Wandering Around



the Countoon a positive one for children.

The teacher can draw Countoons by hand (see Figures 3 and 4) using simple stick figure representations of the child (and the teacher, if desired). The teacher could use a file folder and draw the Countoon directly onto the inside (as in Figure 3). Or the teacher could use a sheet of paper with predrawn boxes (as in Figure 4) and attach it to the inside of

a file folder for the child. Some teachers successfully use the computer software program Boardmaker (2001) to make Countoons (see Figures 2 and 4). Finally, to save time and paper, the teacher should make a sheet of counting frames that can be copied and cut up so new frames can be added to a Countoon for daily data collection. This saves making copies of the whole Countoon. Use the steps in Figure 5 to teach your student to self-record using a Countoon.

What Kinds of Behavior Can Be Recorded Using a Countoon?

Any behavior that can be defined so the student can count it and that can be pictured simply in a cartoon frame is appropriate for a Countoon. Sample behaviors to be reduced or eliminated include pouting versus accepting consequences by getting back to work, inappropriate laughter, inappropriate touching of peers versus using words to communicate, off-task behavior, and requesting help by approaching the teacher versus hand-raising. The behaviors do not have to have incompatible opposites or prosocial alternatives.

Teachers can also use Countoons to help students with their academic skills. For example, students could count and record the number of math problems completed, the number of spelling words practiced or spelled correctly, the number of academic centers completed, the number of problems attempted before requesting assistance, and vocabulary or sight words recognized within 2 seconds.

Many parents have found Countoons easy to use at home to record many behaviors. For example, parents could encourage their children to record refusals to do chores versus chores completed; minutes playing video games versus minutes spent in musical instrument practice; negative comments to

siblings versus supportive comments; and clothing items placed in the laundry basket versus items left on the bedroom/bathroom floor.

How Could I Tailor a Countoon to the Needs of a Child With Disabilities?

We have found several ways to adapt Countoons to meet the needs and skills of specific students. First, the counting frames could include smiley faces and straight faces instead of numbers for counting if the child cannot use numbers (see Figure 3). The teacher would write the required number to meet the contingency in each counting frame, tell the student when to circle a smiley or

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straight face, and count with the child at the end of the day to see if he or she met the contingency. Or the counting frames could contain other symbols the child likes to associate with desired and inap-

Figure 3. Countoon for Hand-Raising Versus Yelling for Attention

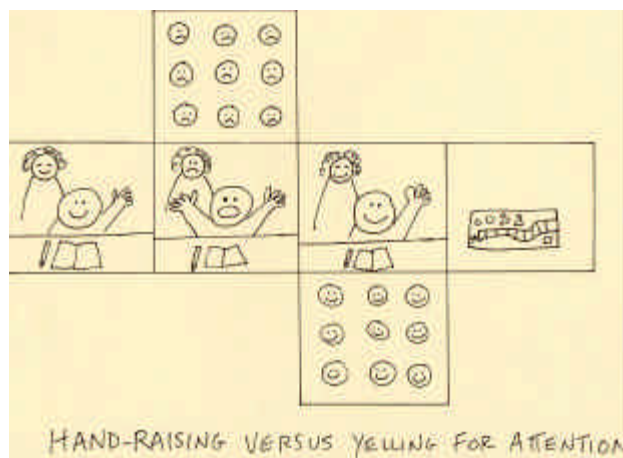
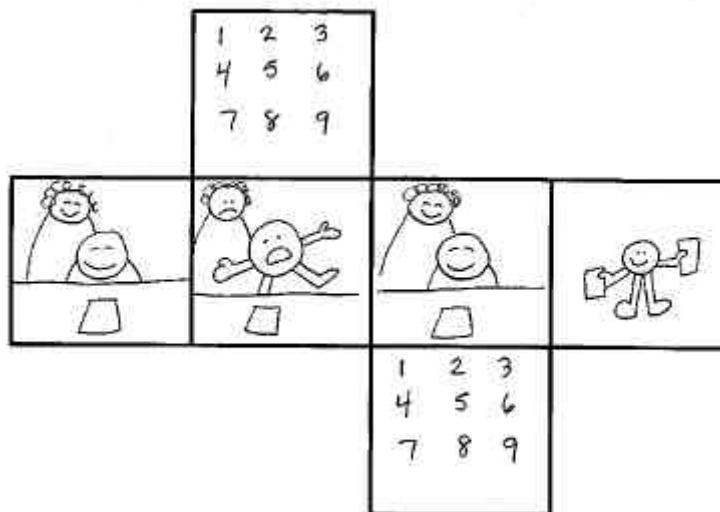


Figure 4. Countoon Using Predrawn Counting Boxes



Self-monitoring provides a clear picture of improved behavior—social or academic—to students.

Figure 5. Countoon Steps

1. Define the target behavior clearly. Determine whether or not data about the target behavior is most appropriately collected through counting. Decide whether to focus on reducing an inappropriate behavior or increasing a desired behavior. If you choose to increase a positive behavior you could use a Countoon just like the original model. If you choose to reduce an inappropriate behavior, decide whether to use differential reinforcement of incompatible behaviors (DRI) or differential reinforcement of alternative behaviors (DRA) and count both behaviors.
2. If the behavior has an incompatible opposite (DRI) or you select a prosocial alternative behavior (DRA), define the incompatible/alternative behavior so it can be counted also.
3. Collect baseline data on the inappropriate behavior without informing the student. A simple way to do this is to place a card on your desk and make a tally of the number of times the student engages in the inappropriate behavior. Or you could use a handheld counter (such as a golf counter) while you teach and record the total on a card. Choose the times of the day when the behavior is most likely to occur. Collect baseline data for at least 3 days so you can see a trend. This will help you set the criterion for the inappropriate behavior on the Countoon. Do the same for the appropriate behavior.
4. Select a Countoon based on (a) the student's ability to count using numbers or symbols and (b) the inclusion or exclusion of an incompatible/alternative behavior to be counted.
5. Determine acceptable beginning levels of the behavior(s) based on your baseline data. Start with low expectations and gradually increase them as the student demonstrates self-control. Mark these on the Countoon by circling the numbers in the counting frames. If the student does not emit the appropriate behavior at all during baseline, set the criterion for 1-5 instances, teach the behavior, and review the criterion each day. If the inappropriate behavior is constant or increasing during baseline, set the criterion a little below the lowest baseline number and review each day. Some students make huge changes in behavior quickly and others require very gradual changes in criteria to learn new behavior and eliminate inappropriate behavior.
6. Determine the reward for meeting both criteria on the Countoon. Parents can be involved in this aspect very successfully as they can provide unique rewards in the evenings and on weekends.
7. Gain commitment from the student to count the behavior(s). Discuss the reasons for (a) changing present behavior and (b) engaging him in the recording process.
8. Explain the Countoon pictures carefully and adjust the cartoon frames if necessary to ensure the student understands what each represents. Explain the contingency.
9. Practice instances of the behavior(s) and help the student decide how these instances should be recorded on the Countoon.
10. Establish a time period during which the Countoon will be used. If counting desired behavior only, select that period of time during which the student will be given the most frequent opportunities to demonstrate and record the behavior. If counting an inappropriate behavior or using DRI or DRA choose the period during which the student has emitted the highest frequency of the inappropriate behavior.
11. At the start of the first counting period, remind the student of the contingency and what the behaviors to be counted are.
12. Teach and count with the student until the student is self-recording with minimal prompting. When a behavior occurs, just say quietly, "That's a shout-out. Mark it in the red box," and continue teaching immediately. Give the prompt without emotion in a matter-of-fact voice. Do the same for desired behaviors but add praise.
13. At the end of each session, praise the student for self-recording. Then look at the Countoon and ask the student if the contingency was met.
14. Give the reward or give a token that can be exchanged for the actual reward at an appropriate time of the day.
15. Gradually reduce the strength of the prompt to the student so that a nod or gesture replaces the verbalization.
16. Revisit and revise the criteria for meeting the contingency daily for the first couple of days, and then at least once weekly in consultation with the student.
17. Communicate with the child's parents about the Countoon.
18. As soon as the student earns the reward with consistency, reduce the use of the Countoon to the most critical periods of the day, then to every other day until it is faded out completely. If the inappropriate behavior returns, ask the student if she would like to use the Countoon again. When fading the use of the Countoon, increase your positive feedback to the student for appropriate behavior when the Countoon is not in use. Then give positive feedback and praise occasionally to the student (intermittent reinforcement) to help him maintain his appropriate behavior across time.

appropriate behaviors—red and green stars, for example.

Second, a student who likes to be independent and who can do simple drawings could make his or her own Countoon pictures. This might increase the likelihood he would invest in using

it to count his behaviors. You could also vary the actual drawings used to include the teacher's reactions to further clarify for the student whether the behavior is desirable or inappropriate. For example, in the behavior frames of the Countoon, show the student doing the appropriate

and inappropriate behaviors as usual, but add the teacher smiling or frowning.

Third, some children do not make the connection between a cartoon figure and themselves doing the represented behavior. Children with autism or with autistic-like behaviors may not recog-

Self-monitoring, self-instruction, and self-reinforcement are important aspects of student self-management.

nize themselves in the cartoon image. In this instance, we found using photos of the child and the teacher smiling or frowning works better.

Could I Use Countoons With a Child Who Spends Time in Inclusion Classrooms?

Many general education teachers teach larger numbers of students at one time than do teachers of special education, self-contained classrooms. Thus, general education teachers have even more of a stake in reducing behavior management time and increasing academic learning time. Self-management strategies are appealing to general education teachers. In inclusion settings, teachers could introduce a Countoon in the time period when the special education teacher co-teaches. In this way, the general education teacher can observe how it works, discover the amount of prompting required to ensure the success of the Countoon, and decide if he or she can take it over when teaching alone.

Final Thoughts

A Countoon is designed to help students count and record their own behaviors to improve those behaviors. It is one strategy in the larger picture of self-management—a worthwhile and important goal of education. With relatively little effort, teachers can construct and use Countoons for children to help them count many kinds of behaviors. If counting and recording behavior helps change behavior in positive ways, teaching students to do so using Countoons is worth the effort.

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