



Increase Student Math Success with Customized Math Self-Correction Checklists

DESCRIPTION: The teacher analyzes a particular student's pattern of errors commonly made when solving a math algorithm (on either computation or word problems) and develops a brief error self-correction checklist unique to that student. The student then uses this checklist to self-monitor—and when necessary correct—his or her performance on math worksheets before turning them in.

MATERIALS:

- Customized student math error self-correction checklist (described below)
- Worksheets or assignments containing math problems matched to the error self-correction checklist

INTERVENTION STEPS: The intervention with customized math error self-correction checklists includes these steps (adapted from Dunlap & Dunlap, 1989; Uberti et al., 2004):

1. *Develop the Checklist.* The teacher draws on multiple sources of data available in the classroom to create a list of errors that the student commonly makes on a specific type of math computation or word problem. Good sources of information for analyzing a student's unique pattern of math-related errors include review of completed worksheets and other work products, interviewing the student, asking the student to solve a math problem using a 'think aloud' approach to walk through the steps of an algorithm, and observing the student completing math problems in a cooperative learning activity with other children.

Based on this error analysis, the teacher creates a short (4-to-5 item) student self-correction checklist that includes the most common errors made by that student. Items on the checklist are written in the first person and when possible are stated as 'replacement' or goal behaviors. This checklist might include steps in an algorithm that challenge the student (e.g., "I underlined all numbers at the top of the subtraction problem that were smaller than their matching numbers at the bottom of the problem") as well as goals tied to any other errors that impede math performance (e.g., "I wrote all numbers carefully so that I could read them easily and not mistake them for other numbers").

NOTE: To reduce copying costs, the teacher can laminate the self-correction checklist and provide the student with an erasable marker to allow for multiple re-use of the form.

2. *Introduce the Checklist.* The teacher shows the student the self-correction checklist customized for that student. The teacher states that the student is to use the checklist to check his or her work before turning it in so that the student can identify and correct the most common errors.
3. *Prompt the Student to Use the Checklist to Evaluate Each Problem.* The student is directed to briefly review all items on the checklist before starting any worksheet or assignment containing the math problems that it targets.

When working on the math worksheet or assignment, the student uses the checklist after *every* problem to check his or her work—marking each checklist item with a plus sign ('+') if correctly followed or a minus sign ('-') if not correctly followed. If any checklist item receives a minus rating, the student is directed to leave the original



solution to the problem untouched, to solve the problem again, and again to use the checklist to check the work. Upon finishing the assignment, the student turns it in, along with the completed self-correction checklists.

4. *Provide Performance Feedback, Praise, and Encouragement.* Soon after the student submits any math worksheets associated with the intervention, the teacher should provide him or her with timely feedback about errors, praise for correct responses, and encouragement to continue to apply best effort.
5. *[OPTIONAL] Provide Reinforcement for Checklist Use.* If the student appears to need additional incentives to increase motivation for the intervention, the teacher can assign the student points for intervention compliance: (1) the student earns one point on any assignment for each correct answer, and (2) the student earns an additional point for each problem on which the student committed none of the errors listed on the self-correction checklist. The student is allowed to collect points and to redeem them for privileges or other rewards in a manner to be determined by the teacher.
6. *Fade the Intervention.* The error self-correction checklist can be discontinued when the student is found reliably to perform on the targeted math skill(s) at a level that the teacher defines as successful (e.g., 90 percent success or greater).

Reference

Dunlap, L. K., & Dunlap, G. (1989). A self-monitoring package for teaching subtraction with regrouping to students with learning disabilities. *Journal of Applied Behavior Analysis, 22*(9), 309-314.

Uberti, H. Z., Mastropieri, M. A., & Scruggs, T. E. (2004). Check it off: Individualizing a math algorithm for students with disabilities via self-monitoring checklists. *Intervention in School and Clinic, 39*(5), 269-275.

SAMPLE: Math Self-Correction Checklist

Student Name: _____ Date: _____

Rater: Student _____ Classroom: _____

Directions: To the Student: **BEFORE YOU START:** Look at each of these goals for careful math work before beginning your assignment.
AFTER EACH PROBLEM: Stop and rate YES or NO whether you performed each goal correctly.

	Problem#1	Problem#2	Problem#3	Problem#4	Problem#5
<p><i>I underlined all numbers at the top of the subtraction problem that were smaller than their matching numbers at the bottom of the problem.</i></p> <p>Did the student succeed in this behavior goal? <input type="checkbox"/> YES <input type="checkbox"/> NO</p>	_ Y _ N	_ Y _ N	_ Y _ N	_ Y _ N	_ Y _ N
<p><i>I wrote all numbers carefully so that I could read them easily and not mistake them for other numbers.</i></p> <p>Did the student succeed in this behavior goal? <input type="checkbox"/> YES <input type="checkbox"/> NO</p>	_ Y _ N	_ Y _ N	_ Y _ N	_ Y _ N	_ Y _ N
<p><i>I lined up all numbers in the right place-value columns.</i></p> <p>Did the student succeed in this behavior goal? <input type="checkbox"/> YES <input type="checkbox"/> NO</p>	_ Y _ N	_ Y _ N	_ Y _ N	_ Y _ N	_ Y _ N
<p><i>I rechecked all of my answers.</i></p> <p>Did the student succeed in this behavior goal? <input type="checkbox"/> YES <input type="checkbox"/> NO</p>	_ Y _ N	_ Y _ N	_ Y _ N	_ Y _ N	_ Y _ N

Math Self-Correction Checklist

Student Name: _____ Date: _____

Rater: Student Classroom: _____

Directions: To the Student: **BEFORE YOU START:** Look at each of these goals for careful math work before beginning your assignment.
AFTER EACH PROBLEM: Stop and rate YES or NO whether you performed each goal correctly.

	Problem#1	Problem#2	Problem#3	Problem#4	Problem#5
Did the student succeed in this math goal? <input type="checkbox"/> YES <input type="checkbox"/> NO	__ Y __ N	__ Y __ N	__ Y __ N	__ Y __ N	__ Y __ N
Did the student succeed in this math goal? <input type="checkbox"/> YES <input type="checkbox"/> NO	__ Y __ N	__ Y __ N	__ Y __ N	__ Y __ N	__ Y __ N
Did the student succeed in this math goal? <input type="checkbox"/> YES <input type="checkbox"/> NO	__ Y __ N	__ Y __ N	__ Y __ N	__ Y __ N	__ Y __ N
Did the student succeed in this math goal? <input type="checkbox"/> YES <input type="checkbox"/> NO	__ Y __ N	__ Y __ N	__ Y __ N	__ Y __ N	__ Y __ N