

Intervention Name: Taped Problems

Common Core State Standards Domain Areas: (check all that apply)

Counting and Cardinality (K)	Operations and Algebraic Thinking (K-5)	Numbers and Operations in Base Ten (K-5)	Numbers and Operations – Fractions (3-5)	Measurement and Data (K-5)	Geometry (K-HS)	Ratios and Proportional Relationships (6-7)	The Number System (6-8)	Expressions and Equations (6-8)	Statistics and Probability (6-HS)	Functions (8-HS)	Number and Quantity (HS)	Algebra (HS)	Modeling (HS)
	X	X					X				X		

Setting: (check all that apply)

Whole-class	Small-group	Individual
X	X	X

Focus Area: (check all that apply)

Acquisition	Fluency	Generalization
	X	

Function of Intervention:

Taped Problems is an approach to building fluency with basic facts. A student listens to a recorded (i.e., taped) math fact and tries to write the fact answer on a corresponding worksheet before hearing the answer on the recording. If the student answers incorrectly or does not produce an answer before hearing the answer, the student writes the correct answer on the worksheet (McCallum & Schmitt, 2011).

Brief Description:

Taped problems occurs in six steps:

1. The teacher creates a Taped Problems sheet for the student. Typically, a sheet contains 12-24 problems. Some variants of Taped Problems have the students work on the same worksheet several times, so multiple copies may be necessary.
2. The teacher creates a Taped Problems recording where the teacher reads the problem and then pauses before sharing the answer. The delay between the reading of a math fact and the answer may be varied anywhere from 0 to 5 seconds.
3. The student listens to a recording of a fact (e.g., “9 times 4 equals...”).
4. The student tries to “beat the tape” by writing the correct answer before hearing the answer (e.g., “36”).
5. If the student answers incorrectly, the student writes the correct answer on their sheet. If the Taped Problems strategy is conducted individually with the teacher, the teacher should respond to correct answers by confirming the answer (e.g., “Good. 9 times 4 equals 36”). If answered incorrectly, the teacher should correct the answer (e.g., “No. 9 times 4 equals 36”).
6. The student continues working until the recording ends. In some versions of Taped Problems, students listen to the same recording multiple times during the same session to establish fluency.

Procedures:

- **Duration:** Students work for a short amount of time (3 to 5 minutes). Time varies depending upon the number of repeat recordings teachers want to use. In one study, students needed four copies of the 12 problems because they listened to four separate recordings. The time-delay of each set of recordings was as follows (1) no delay, (2) 4-second delay, (3) 2-second delay, and (4) 2-second delay (McCallum, Skinner, Turner, & Saecker, 2006). In another study, students worked on sets of 24 problems with a 2-second delay between the problem and the answer (Poncy, Skinner, & McCallum, 2012).

- **Teacher training:** Teachers must be familiar with the Taped Problems method. Teachers must produce sheets for student use. Teachers must also produce recordings.
- **Instructional practices:** Teachers should introduce the Taped Problems method and monitor the student as he/she works. Students can use Taped Problems on their own once they are familiar with the method.
- **Monitoring system:** Teachers can use Taped Problems as a type of informal progress monitoring.

Critical Components (i.e., that must be implemented for intervention to be successful): Teachers must choose mathematics problems appropriate for the student, prepare students to use Taped Problems recordings and worksheets, and monitor student work. Taped Problems can be recorded on traditional tapes, CDs, or other technology devices, such as iPads or assistive technology.

Critical Assumptions (i.e., with respect to prerequisite skills): Students work on problems for building fact fluency (e.g., addition, subtraction, multiplication, or division).

Materials:

1. Taped Problems worksheet
2. Taped Problems recording
3. Pencil

References:

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- McCallum, E., & Schmitt, A. J. (2011). The taped problems intervention: Increasing the math fact fluency of a student with an intellectual disability. *International Journal of Special Education, 26*, 276-284.
- McCallum, E., Skinner, C. H., Turner, H., & Saecker, L. (2006). The taped-problems intervention: Increasing multiplication fact fluency using a low-tech, classwide, time-delay intervention. *School Psychology Review, 35*, 419-434.
- Miller, K. C., Skinner, C. H., Gibby, L., Galyon, C.E., & Meadows-Allen, S. (2011). Evaluating generalization of addition-fact fluency using the taped-problems procedure in a second-grade classroom. *Journal of Behavioral Education, 20*, 203-220. doi:10.1007/s10864-011-9126-9
- Poncy, B. C., Skinner, C. H., & McCallum, E. (2012). A comparison of class-wide taped problems and cover, copy, and compare for enhancing mathematics fluency. *Psychology in the Schools, 49*, 744-755. doi:10.1002/pits.21631