

Math Intervention Manual- Peer Assisted Drills

Description of Intervention:

Designed to increase student's level of performance on mathematics facts by utilizing peer assisted drills.

Target/Goal:

To increase mathematics facts response time.

Implementation:

1. Baseline Data: Two students with problems in math should be selected by the teacher to perform this intervention. During the peer drill, one student should present addition flashcards to the other and place the card in the "correct pile" if answered correctly. The session should last 3 minutes and results are based on the number of cards in the correct pile.
2. The intervention, baseline collection, and progress monitoring for this intervention is the same. The students collect data on number of three minute drills given to each other and number of cards in the known pile.

Implementer Qualifications:

Students implementing this peer drill procedure must be taught exactly how to implement it. This is accomplished by having the student practice the role of tutor while a teacher, teacher's aide or parent volunteer fills in as the tutee. The teacher will make intentional errors during this role play to ensure that the student tutors understand how to respond.

Progress Monitoring:

Addition (subtraction, multiplication, or division) facts 0-12 are written on a 3"x5" index card and the answer was printed on the back. The cards must be thick enough to ensure that the answer is not visible through the card. The tutor presents a flashcard and waits for a verbal response from the tutee. If the response is correct, the tutor says, "Correct" and places the card in the "correct pile". If the answer is incorrect, the tutor says, "Try

again” until the tutee provides the correct answer. A stopwatch is used by the experimenter to keep track of the 3-minute sessions, and upon stopping students are instructed to count the number of cards in the correct pile and report it to the experimenter.

Treatment Integrity:

Treatment integrity should be collected through self-report by the students or an independent adult observer. The students should answer the preceding questions:

1. Did I collect baseline data before starting the intervention?
2. Did I present the card to the student, assuring that he/she could not see the answer?
3. Did I present the cards as quickly as possible (with no dawdling or talking) for three minutes?
4. Did I put known math facts in the known pile?
5. Did I put unknown math facts in the unknown pile?

Possible Modifications:

This peer tutoring procedure can be effectively extended to many other areas of study. Pairing older students with younger ones would create multi-grade interaction.

Based on:

Cates, G.L. (2005). Effects of peer versus computer-assisted drill on mathematics response rates. *Psychology in the Schools*, 42, 637-646.

Supported by:

Christensen, C.A., & Gerber, M.M. (1990). Effectiveness of computerized drill and practice games in teaching basic math facts. *Exceptionality*, 1, 149-165.

Frager, S., & Stern, C. (1970). Learning by teaching. *The Reading Teacher*, 23, 403-417.

Maheady, L., Sacca, M.K., & Harper, G.F. (1988). Class-wide peer tutoring with mildly

handicapped high school students. *Exceptional Children*, 55, 52-59.