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The effects of instructions, rehearsal, modeling, and feedback on acquisition and generalization of staff use of discrete trial teaching and student correct responses

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Abstract

A limited number of studies have investigated the effects of behavioral skills training (BST) on staff acquisition and generalization of discrete trial teaching (DTT) and student behavior. BST was used to improve three staff's use of DTT interactions with four children with autism. A multiple baseline design across participants was used to assess the effects of the intervention on staff and student performance. All three staff acquired DTT skills with one child and one set of teaching programming. Staff also demonstrated improved accuracy in their use of DTT following training sessions and during follow-up sessions with students and programs that were not involved in staff training. Student performance on presented tasks also improved following staff improvement in implementation of DTT. Staff rated the training as very socially valid. This shows that BST may result in generalization of staff performance to novel students and novel teaching tasks. BST was highly effective, efficient, and acceptable.

Keywords: Discrete trial teaching; Staff training; Behavioral skills training

DTT is an effective method for teaching children with autism (Crockett, Fleming, Doepke, & Stevens, 2007; Green, 1996). It is used by many early intervention and special education programs and is often used to teach receptive language programs (Symes, Remington, Brown, & Hastings, 2006; Taylor & McDonough, 1996) as many children with autism spectrum disorders

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are non-verbal (Lotter, 1966). Koegel, Russo, and Rincover, 1977 taught staff to implement DTT correctly. Improvement in teacher use of DTT was also reflected in student learning. However, the methods used took 25 h of training per staff member.

In contrast, Sarokoff and Sturmey (2004) used a four-step staff training package consisting of instruction, feedback and rehearsal, and modeling to train teachers to correctly implement DTT. Three teachers and one 3-year-old child with autism participated. Each teacher taught the same child in the child's home. Prior to this study all three teachers received training in DTT by service providers other than the experimenter. The dependent measure was the percentage correct usage of 10 components during 10 consecutive discrete trials. During baseline each teacher received written instructions that described the 10 components of a discrete trial. The experimenter used BST to train teachers while the teachers taught the student a match-to-sample task. A teacher remained in training until she achieved a score of 90% or higher accuracy of presentation of DTT on three consecutive training sessions. Each teacher completed training in three sessions of approximately 20 min. During baseline, teachers performed fewer than 50% of the components of DTT accurately. After training, the mean proportion of correct teaching for each teacher was 97% or higher. BST quickly improved all three teachers implementation of DTT. Leblanc, Ricciardi, and Luiselli (2005) found similar results and Brienes and Sturmey (2007) replicated this study by demonstrating that this BST package was effective and efficient in teaching DTT to three staff and also demonstrated that this was effective in reducing stereotypy.

Stimulus generalization of staff use of DTT is important as staff often must teach new students and programs and must effectively teach students while they emit novel behavior not seen during training. In Koegel et al.'s (1977) study they found that BST resulted in generalization of staff correct use DTT to untrained tasks and students. Thus, there has been limited attention to stimulus generalization of staff use of DTT and no studies using abbreviated BST have investigated this question. Therefore, this study examined if skills staff learned during efficient BST would generalize to novel students and skill programs and whether corresponding changes in student correct responding occurred.

1. Method

1.1. Overview

Three staff each taught two students during baseline and follow-up. All three staff taught Student D and Staff 1, 2, and 3 each taught Students A, B, and C, respectively. This procedure was used in order to show experimental control of staff use of DTT by using a multiple baseline design across staff teaching Student D, and a multiple baseline design across staff and students to show experimental control over staff use of DTT and student correct responding (see below.) All three staff were trained when working with the training student – Student T – who did not participate in any other part of the study.

The 'Training Program' used to teach the training student only during staff training sessions was a match-to-sample task. The 'Generalization Program' was a 10-trial session comprised of five different receptive skill programs, none of which staff implemented during training. The term 'generalization student' refers to Student D who staff participants taught only using the Generalization Program. The term 'target student' refers to the Students A, B, and C whom staff participants taught using both the Generalization Program and the Student Target Program. The 'Student Target Program' was a 10-trial session of a single skill program during a session. The