The Effects of Cognitive Level and Training Procedures on the Generalization of Self-Instructions

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Preoperational and concrete operational first- and second-graders performed on a training task (Matching Familiar Figures Test) and a generalization task (a perceptual perspective-taking test) prior to and after serving in one of four self-instruction groups varying in the delivery procedures of the instructions. The instruction groups were a no-training control group, a didactic instruction control group, a fading self-instructions group, and a directed discovery self-instructions group. Children in the didactic instructions group received the same instructional content as children in the fading and directed discovery self-instructions groups, but without an active rehearsal component. Children in the fading group received the traditional five-step overt-to-covert rehearsal of instructions; those in the directed discovery group were led to "discover" the instructions through a Socratic dialogue exchange with the experimenter. Children in the fading and directed discovery self-instructions groups significantly improved their performance on the training task relative to children in both control groups. Only the concrete operational children in the directed discovery self-instruction group demonstrated significant improvement on the generalization task.

The utility of training children to adopt cognitive strategies through self-instructional procedures has been demonstrated with a variety of child populations for the remediation of a wide range of behavioral problems (for reviews, see Craighead, Wilcoson-Craighead, & Meyers, 1978; Meichenbaum, 1979). However, a number of reviews (Craighead et al., 1978; Kendall & Finch, 1979; Meichenbaum, 1979; Meichenbaum & Asarnow, 1979).
1979) have raised serious questions regarding the efficacy of self-instructional training in facilitating generalization of treatment gains beyond the intervention setting. One explanation for these equivocal results is the reliance on task-specific strategy content trained via faded rehearsal as the standard self-instructional intervention.

Kendall and Wilcox (1980) compared the effects of training non-self-controlled children to use either a task-specific (concrete) or general (conceptual) self-instructional strategy. They reported that results, based on teachers' ratings, children's self-report, and psychometric indices of self-control, demonstrated support for the superiority of the general problem-solving strategy in facilitating gains in children's performance beyond the training situation.

In a related study, Schleser, Meyers, and Cohen (1981) compared the effects of training same-age (mean age = 7.8 years) preoperational and concrete operational children to use either a task-specific or a general problem-solving self-instructional strategy. The strategies were presented to children either didactically or via Meichenbaum's (1975) faded rehearsal procedure. The Matching Familiar Figures Test (MFFT; Kagan, Rossman, Day, Albert, & Phillips, 1964) and a perceptual perspective-taking task were used to assess the direct and generalized effects of training. Schleser et al. (1981) reported that children who received the task-specific strategy were the only group to demonstrate significant gains on the training task, while children who received the general strategy were the only group to demonstrate significant gains on the generalization task. This pattern of results was evident only for those children who actively rehearsed during training via Meichenbaum's (1975) fading procedure. The patterns of pretest to posttest performance across training conditions were similar for children of both developmental levels.

The results of these two studies demonstrate the importance of the content of self-instructional packages in facilitating the generalization of treatment gains to novel tasks or situations. As Meichenbaum and Asarnow (1979) and Brown (1978) hypothesized, generalization was enhanced by the use of more general conceptual problem-solving strategies.

Schleser et al. (1981) also found that the mode of training the children to use the strategy was a critical aspect of the interventions. This factor was independent of the particular content of the self-instructional package. Children in both the specific and general didactic conditions, who only heard the strategy, did not demonstrate significant gains on either task.

Meichenbaum and Asarnow (1979) suggested that faded rehearsal of experimenter prompts should enhance the likelihood of generalization because it requires the child to be actively involved, and thus facilitates retention of the strategy. However, the cognitive demands of faded rehearsal are relatively simple. It requires the child to engage in memorial processes to reproduce