A STUDY OF BEHAVIOR MODIFICATION: SPELLING AS A CASE STUDY

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This paper investigates the effects of different behavior modification techniques on the spelling performance of fourth grade students. The hypotheses of the study are: (1) students receiving immediate positive reinforcement or token reinforcement will have higher spelling test averages than students receiving delayed or no reinforcement; (2) there will be no difference in spelling test averages between students receiving no reinforcement. The spelling tests constituted twenty-five words each, which were determined by a spelling program published by McGraw-Hill Publishing Company. The sample consisted of four classes (or a total of eighty-five children) in the fourth grade at Farmingville School in Ridgefield, Connecticut. The four classes were assigned at random to three experimental groups and one control group. Of the three experimental groups, one received immediate positive reinforcement, one received token reinforcement, and one received delayed reinforcement. The control group received no positive reinforcement. During the six weeks preceding the experiment, the children's weekly spelling test scores were recorded and subsequently averaged to determine whether the groups were equivalent. When an analysis of variance test was conducted on the groups' spelling averages, an $F = .0474$ was obtained. The groups, therefore, did not

significantly differ. Independence of the groups was assumed.

At the conclusion of the six-week experimental period, the children's test scores were again averaged. An analysis of variance test was conducted on the groups' spelling averages, resulting in an $F = 2.8726$ which is statistically significant at the .05 level. Therefore, the immediate and delayed reinforcement groups were significantly different.

A Scheffé multiple comparisons test was then conducted on the groups' spelling averages to determine whether any of the other groups were statistically different. The results indicated that they were not. Therefore, the following null hypotheses were accepted: there was no difference in the spelling test averages between students receiving immediate positive reinforcement and those receiving no reinforcement; there was no difference in the spelling test averages between students receiving token reinforcement and those receiving delayed or no reinforcement; there was no difference in the spelling test averages between students receiving delayed reinforcement and those receiving no reinforcement. Hence, the alternate hypotheses were rejected.

Although the desired statistical results were not obtained, the trend of the scores for the immediate and token reinforcement groups was toward that goal. For instance, the token reinforcement's class average was at least three points higher than that of the control and delayed reinforcement groups, while the immediate reinforcement's class average was

six points higher. The token and immediate reinforcement groups also showed a gradual rise in the number of perfect test scores as the study progressed, whereas the other two groups did not. The author therefore felt that if the study had continued for a longer period of time, the alternate hypotheses would have reached the level of acceptance.