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LEARNED HELPLESSNESS IN LEARNING DISABLED CHILDREN: EFFECTS OF ATTRIBUTION RETRAINING AND REINFORCEMENT ON PERSONAL RESPONSIBILITY AND MATHEMATICAL REASONING TASKS

The University of Oklahoma PH.D. 1980

THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

LEARNED HELPLESSNESS IN LEARNING DISABLED CHILDREN: EFFECTS OF ATTRIBUTION RETRAINING AND REINFORCEMENT ON PERSONAL RESPONSIBILITY AND MATHEMATICAL REASONING TASKS

A DISSERTATION

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HERMAN BENJAMIN BROCK

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1980

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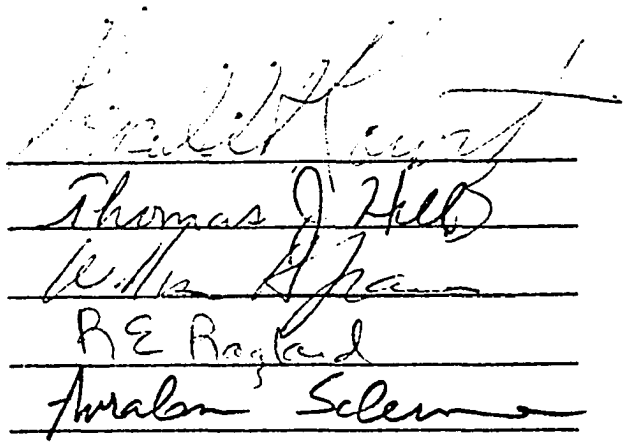

DISSERTATION COMMITTEE

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Learned Helplessness in Learning Disabled Children: Effects of Attribution Retraining and Reinforcement on Personal Responsibility and Mathematical Reasoning Tasks

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Abstract

This study investigated the effects of altering attribution for failure so that learned helpless students would learn to respond to tasks more effectively. Procedures involving reinforcement and attribution retraining were assessed in terms of their effectiveness in developing persistence on difficult tasks, internalization of personal responsibility, and improved academic achievement in mathematics. Twenty-eight elementary learning disabled children viewed as learned helpless were randomly assigned to one of four treatment conditions, by virtue of their score on the Intellectual Achievement Responsibility Scale. The students were administered pre-assessment and post-assessment trials of the Intellectual Achievement Responsibility Scale, Peabody Individual Achievement Test - Mathematics subtest, and the length of time expended on unsolvable block design tasks (first and last days of training). It was hypothesized that a procedure that taught the learned helpless learning disabled children to take responsibility for their behavior would cause them to invest more effort on tasks, thus leading to a change in performance. This should lead to increased persistence, or increased motivation toward a task. Subsequently, increased persistence should help to establish a dependent relationship between one's performance and reinforcement. Such a bond should lead to an increase in internalization of responsibility (internal locus of control). The results indicated that learned helpless learning disabled children who received attribution retraining became more persistent on unsolvable tasks than did those

students who received no attribution retraining. Furthermore, significant effects were observed for time on task, internalization of personal responsibility and performance on the mathematics subtests, over trials. The results indicated that learned helpless learning disabled children can be taught to become more persistent on tasks.

Learned Helplessness in Learning Disabled Children: Effects of Attribution Retraining and Reinforcement on Personal Responsibility and Mathematical Reasoning Tasks

Learned helplessness has been studied with college students (Hiroto & Seligman, 1975) as well as grade school children (Dweck & Repucci, 1973; Dweck, 1975). Only recently have researchers attempted to study the relationship between learned helplessness and learning with grade school children. McCrone (1979) has attempted to use the concept of learned helplessness to further explain learning lags of deaf children. Chapin and Dyck (1976) have conducted research with grade school children who experienced reading difficulties. Thomas (1979), in an effort to explore needed research for handicapped children, emphasized the likely role of learned helplessness with learning disabled children. He noted the similarities between learned helpless individuals and observations of learning disabled children, as reported by teachers of the handicapped. Learning disabled children are often viewed as helpless in the sense that many view themselves as having little or no control over the outcome of events in their environment. Educators indicate that considerable time and effort is expended toward encouraging them to attempt tasks, especially academic tasks (Haring, 1974).

Seligman's concept of learned helplessness provides a model for empirical inquiry with learning disabled children. Since learned helplessness involves individual perceptions, theories of learning and cognitive psychology must be explored to help further explain the causes of

such perceptions. Perception is determined by an individual's reaction to events, which is largely determined by one's attribution of the causes of the event. Attribution theory is based on the assumption that one event is consistently related to other events. When two events are consistently related over a period of time, there exists a basis for inferring a cause. Thus, attribution theory is seen as a productive approach to inferring a cause of the learned helpless individual's perception that often causes resignations in situations that are actually controllable or on problems that are solvable.

Learned helpless individuals fail to attempt or complete some tasks because of the perception of impending failure. The individual perceives that no response one makes will result in resolution of the task. This helplessness perception, by the individual, is thought to be caused by response - reinforcement independence (Klein & Seligman, 1976). Such perceptions may thwart the motivation or need to achieve of the individual. Clarizo and McCoy (1976) note that "one would expect that those with high achievement motivation would feel highly responsible for their successes and failures whereas those with low achievement motivation (or fear of failure) would be more defensive and attribute outcomes to sources outside themselves" (p. 71). Moss and Kagan (1961) report that achievement needs begin early in life and tend to persist into adulthood. It would seem that the response - reinforcement independence, experienced by learned helpless individuals, would cause them to misattribute the cause-effect relationship of the event. Thus, for typical learners,

McClelland (1953) notes that cues that have been associated with positive events on former tasks will result in partial re-arousal of that positive feeling. This phenomenon may not apply to learned helpless individuals, as they seem to exhibit a low need for achievement.

Many studies have reported that an individual's perceptions are determined by one's attribution of the causes of the event. Therefore, new procedures have been attempted whereby a new attribution is taught to the individual. Nisbett and Schacter (1966) and Valins and Nisbett (1971) have introduced procedures referred to as "attribution therapy." Clinicians such as Davison (1966) and Meichenbaum (1977) have used therapeutic techniques referred to as "cognitive restructuring" or by modifying what the individual says to oneself about response - reinforcement events, with favorable results. Dweck (1975) developed a technique to teach grade school children to alter the perception of the relationship between responses and subsequent reinforcement. The technique referred to as "attribution retraining" attempts to teach the child to establish a perceived dependent relationship between responses and failure. The dependent relationship should then serve as a cue for the individual to act, when confronted with impending failure. In attempting to explain the effect of change upon the individual, the components of ability and effort have to be explored. Weiner and Kukla (1970) report that the "intuitively reasonable dichotomy between ability (can) and motivation (try) has proven useful in the analysis of many aspects of behavior. Success at an achievement goal may be attributed to unusual effort and/or

special ability, while failure might indicate a lack of motivation and/or ability" (p. 2). Ability seems to be a stable property of the individual and is subject to little change. In contrast, effort is viewed as a variant property of the individual. Consequently, effort is subject to influence by cognitive and instrumental tasks.

Dweck (1975) utilized her "attribution retraining" technique to alter the effort attribution of the grade school children, thus helping to alleviate learned helplessness in these children. This procedure was effective in enhancing the persistence of children's performance on arithmetic tasks. The attribution retraining procedure involved both success and failure experiences in an irregular pattern. Since this procedure involved a reinforcement schedule accompanied by the attribution retraining procedure, the increased persistence may be due in part to the schedule of reinforcement as well as attribution retraining. Further empirical support is sought for the cause of such change in performance with learned helpless individuals, whether it is due to the attribution retraining procedure, the schedule of reinforcement, or other unidentified factors.

An individual may fail to complete a task due to the expectation that one's responses are independent of the outcome. Thus, for the learned helpless individual no responses one makes will result in resolution of the task (Seligman & Maier, 1967). One views failure as due to external factors beyond control. The individual's perception is thought to be caused by response - reinforcement independence (Klein & Seligman,

1976). Thus, this perception can possibly be altered through an attribution retraining process as demonstrated by Dweck (1975) and Chapin and Dyck (1976).

Learned helpless students tend to experience a decrement in performance when confronted with a demanding task. Learning disabled children exhibit similar characteristics in that they fail to attempt some tasks even though they appear capable of performing some of those tasks correctly. Functionally, it would seem that many learning disabled children experience the phenomenon identified by Seligman as learned helplessness.

The purpose of this study was to determine if learning disabled students' perception of a learned helplessness situation can be reattributed to causes that are under control of the individual, such as the amount of effort expended on a task. Thus, the re-attributed cause of behavior should lead to a change in achievement behavior (Weiner & Sierad, 1975). Attribution retraining and a reinforcement schedule were varied independently, as well as used in combination, in an effort to study the effects on learning disabled children who are viewed as learned helpless.

In addition, this study sought to determine if the establishment of a dependent relationship between the person's responses and reinforcement will lead to an improvement in performance on subsequent tasks such as personal responsibility and mathematical reasoning tasks.

Method

Subjects

Students were selected from a school system located in a midwestern, suburban city with a population of 75,000. Students were enrolled in grades three through five, representing eleven schools. In addition, they received special instruction in a learning disability class for up to three hours daily. Only boys were selected, as the ratio in these learning disability classes was one girl to six boys. Students ranged in age from eight years to ten years.

The Intellectual Achievement Responsibility Scale (IAR) (Crandall et al., 1965) was used to select students to participate in the study. The IAR was administered initially to 56 boys. Students who acquired an internal responsibility score of 20 or less were considered to be learned helpless, indicating dependency on external factors.

Instruments

The learned helpless learning disabled students were compared on the IAR and the Peabody Individual Achievement Test (PIAT) - Mathematics subtest (Dunn & Markwardt, 1970).

The IAR is a measure of internal versus external reinforcement responsibility. The IAR assesses children's beliefs in reinforcement responsibility in achievement situations. The scale helps to determine whether a child believes one's successes and failures, in achievement oriented situations, are a result of one's own behavior or are due to the behavior of situations in the environment (tasks, teachers, other

persons).

The IAR consists of 34 forced-choice items. Crandall and associates (1965) state that, "each item stem describes either a positive or negative achievement experience which routinely occurs in children's daily lives. The stem is followed by one alternative stating that the event was caused by the child and another stating that the event occurred because of the behavior of someone else in the child's immediate environment" (p. 94). The IAR yields an I score, which represents the number of items for which the child attributes internal responsibility.

The PIAT - Mathematics subtest consists of 84 multiple-choice items, each with four options. The subtest purports to measure such skills as matching, discrimination, recognizing numerals, addition, subtraction, division, multiplication, in addition to advanced concepts in geometry and trigonometry at the upper end of the scale (Salvia & Ysseldyke, 1978). The standard rules for administration were followed with one exception. All items below the ceiling level, answered incorrectly, were considered failed for the purpose of this study.

Procedure

The twenty-eight learned helpless learning disabled children were randomly assigned to one of four groups (three experimental and one control). The groups were designated as: (1) reinforcement; (2) attribution retraining; (3) attribution with reinforcement; and (4) control.

The study was conducted over ten consecutive school days. The first day was designated as the pre-assessment phase. Experimental

training was conducted during the second through the eighth day. The post-assessment phase was conducted on the ninth day, followed by debriefing on the last day.

The experimental phase involved individual administration of ten block design tasks. Although the order of the tasks was randomly determined, the same ten designs were used during all seven training sessions.

The experimental task involved showing the student a card with a four block design. The participant was asked to duplicate the pattern from the card using the four blocks given to him. The experimental training block designs were constructed so that a minimum of two quarters of the pattern were composed of solid colors and the remaining quarter or quarters, when appropriate, were made up of two split color sides. After reviewing the pictorial design, the participant received four Wechsler Intelligence Scale for Children - Revised (Wechsler, 1974) blocks, when the task could be successfully completed. However, when tasks were presented that were unsolvable, the participant received four blocks, one of which was a replica of the Wechsler blocks. However, the remaining three were diagonally split (white/red) on all sides (this procedure is similar to one used by Dweck & Repucci, 1973).

The tasks involved reproducing ten block designs. The student was exposed to seven tasks that were solvable and three that were unsolvable, on each day. When the student, receiving the experimental treatment of attribution retraining, solved an individual design, he was told, "that was right, you tried very hard." When a solvable item was incorrectly

reproduced he was told, "you tried." When an unsolvable task was completed or terminated after 45 seconds, the student was told, "that was wrong, you should try harder."

Group two received the experimental treatment of reinforcement without attribution retraining. When a solvable task was completed the student was told, "that was right," and was given a check mark on a personal form for reinforcement. When an unsolvable item was completed or terminated after 45 seconds, the student was told, "you did not get it, no check mark."

Each participant of the third group received attribution retraining with reinforcement. Each received verbal feedback in addition to the reinforcement. When the student was successful on a task, he was told, "that was right, you tried very hard." In addition, the student was reinforced with a check mark on his sheet. The check marks were later added up and converted to a prize. When the student incorrectly attempted an item, he was told, "you tried," yet no reinforcement was given. When an unsolvable task was completed or terminated after 45 seconds, he was told, "that was wrong, you should try harder," and the reinforcement was withheld.

Each member of the control group participated in the study in all phases with verbal comments and reinforcing gestures withheld.

Design

The study was a repeated measures mixed model with two grouping factors and one trial factor. The first grouping factor consisted of the

treatment condition of reinforcement and the second of attribution retraining. The trial factor was the time of the measurements (pre-assessment and post-assessment). The repeated measures were made of the same variables for each student. The four conditions (reinforcement, attribution retraining, attribution retraining with reinforcement, control) were analyzed to determine their impact on the dependent measures (IAR, PIAT, and mean time expended on unsolvable block designs on the last training session). The 2 X 2 analysis of covariance, with repeated measures was performed to test the research questions.

Results

A 2 X 2 analysis of covariance was used to analyze the data from the three criterion measures (BMD P2V was the statistical program used for the analysis). The three dependent measures are: persistence on unsolvable block design tasks (measured in seconds), I scores on the IAR (pre-assessment and post-assessment), and scores on the PIAT - mathematics subtest (pre-assessment and post-assessment). The criterion for significance was the .05 level. The results are presented in terms of performance differences among groups (treatment groups) and within subject effects (pre-assessment and post-assessment) for each of the dependent measures.

Insert Tables 1 and 2 about here

Persistence

The analysis of covaraince was employed to test the research question for the first dependent measure, time invested on unsolvable tasks. The results of the analysis are presented in Table 3.

Insert Table 3 about here

A significant difference was obtained for the two groups who received attribution retraining ($F = 6.81$, df 1/21, $p < .01$). Inspection of the data, from Table 2, indicates that students who received attribution retraining with reinforcement (adjusted $\bar{X} = 39.45$) and those students who received only attribution retraining (adjusted $\bar{X} = 37.26$) persisted longer on unsolvable tasks than students who did not receive attribution retraining.

The main effect for trials was significant ($F = 4.90$, df 1/24, $p < .03$). Furthermore, the trials X attribution retraining groups interaction accounted for a significant portion of the variance ($F = 7.35$, df 1/24, $p < .01$). This indicates that students (receiving attribution retraining) persisted on unsolvable block design tasks longer on the final training day (training day seven) than on the first training day, moreso than the students receiving other treatment effects.

Insert Table 6 about here

Insert Figure 1 about here

No significance was noted for the main effect for reinforcement groups or the interaction between reinforcement groups and attribution retraining groups.

Personal Responsibility

The analysis of covariance was used to test the research question for the second dependent measure, I score on the IAR. The results of the analysis are presented in Table 4.

Insert Table 4 about here

A significant main effect for trials was obtained ($F = 10.65$, df 1/24, $p < .003$). This indicates that all groups' perception of internal responsibility increased on the post-assessment above that obtained on the pre-assessment.

No significance was noted for the main effects for treatment groups of reinforcement or attribution retraining, interaction of treatment groups, or interaction of trials and treatment groups.

Academic Achievement

The analysis of covariance was used to test the research question for the third dependent measure, score on the PIAT - Mathematics subtest. The results of the analysis are presented in Table 5.

Insert Table 5 about here

A significant main effect for trials was obtained ($F = 12.41$, df 1/24, $p < .001$). This indicates that students (except the Reinforcement group) increased their performance on the post-assessment of the mathematics subtest over their pre-assessment scores.

No significance was observed for the effects for treatment groups of reinforcement or attribution retraining, interaction of treatment groups or interaction of trials and treatment groups.

Discussion

One purpose of the study was to determine if elementary learning disabled students' perception of a learned helpless situation could be reattributed to causes under control of the individual, such as the amount of effort expended on a task. The results have indicated that persistence or time on task can be altered for learned helpless learning disabled children. It was demonstrated that the learning disabled children who were taught to perceove a dependent relationship between performance and subsequent reinforcement exhibited less resignation when faced with challenging tasks (unsolvable block design tasks). The students who received some form of attribution retraining seemed to perceive impending failure as a cue to work harder. In contrast, children who received reinforcement without attribution retraining and those children who participated in the control group showed a decrease in the amount of

time on tasks. This type of responding, by the learned helpless children is supportive of research findings in the area of achievement motivation. It is often observed that children low in achievement motivation show less approach toward achievement oriented tasks than do students who receive reinforcement from their efforts (Weiner, 1972). Chan (1978) emphasizes this point when noting that "high and low achievers differ in their persistence after failure,..." (p. 109). Chan (1978) writes that "those differences among children may account for some of the variations in the classroom performance,... and are considered 'high risk academically' " (p. 109).

Persistence on the unsolvable block design tasks, by the learned helpless learning disabled children, was jointly facilitated by time invested in training (trials) and attribution retraining. It would seem that the procedure of attribution retraining allowed the learned helpless learning disabled students a way to increase their expectancy of success, by being reminded that you can be successful if you continue to try. This supports the view expressed by Dweck (1975) and Chapin and Dyck (1976). It seems that persistent responding, even when difficult tasks are presented, may involve a reattribution of response - reinforcement relationship. This reattribution involves taking responsibility for outcomes of behavior (attribution retraining process).

This study also sought to bring about a change in the learned helpless learning disabled students' perception of personal responsibility. It was postulated that the establishment of a dependent relationship

between the person's responses and reinforcement would result in an increase in personal responsibility and to a change in achievement behavior (Weiner & Sierad, 1975).

The results of this study indicated a significant change in their internal responsibility (I score) over trials, although no group performed significantly better than the others. This suggests that this type of individual intervention program was successful with learned helpless learning disabled children. Because of the significant change in personal responsibility, not directly attributable to any one treatment procedure, it would seem that other variables would have influenced this change. While these results suggest the importance of future intervention with children so handicapped, it is not clear as to the best procedure to follow in working with them. Limitations of the present study such as the number of training days (seven days) could have contributed to this lack of significance of one intervention procedure over another in bringing about a change in personal responsibility. Since it is believed that the attribution of events takes place over an extended period of time and experience, possibly several years, then a longer training period would be necessary to make more noticeable changes. This is indicated by research conducted by Dweck (1975) who used a twenty-five day training period to bring about significant changes in behavior of learned helpless children from the regular classroom. Furthermore, it should be noted that the learning disabled children who participated in this study demonstrated a moderate degree of learned

helplessness, thus indicating some coping strategies in certain areas. Future researchers may wish to consider working with learned helpless learning disabled children who have fewer coping strategies, possibly those who require a full day special program rather than a few hours of supportive assistance. The study of children who would appear to be more learned helpless combined with a longer training period may result in a clear delineation of effective intervention strategies for such children.

The results of this study indicated a significant change in the learned helpless learning disabled childrens' scores on a mathematical test, observed over trials. However, no treatment group performed significantly better than the other groups. Since this change occurred over a relatively short period of time (two weeks), the change cannot be attributed to history effects. Since it is apparent that many of the children became more persistent, as indicated by their increased effort on demanding tasks, it would seem that persistence transferred across tasks. This increased effort may have allowed the learned helpless learning disabled children to increase their mathematical scores, without actually improving their mathematical skills. If this assumption is true it has tremendous impact on the understanding and the educational intervention strategies undertaken to assist learned helpless learning disabled children, in the elementary grades. It would indicate that some of the measured deficits (between one's ability level and achievement level) may be due to a personality variable, learned helplessness, and not

entirely an educational deficit due to language disorders, perceptual handicaps, etc. Furthermore, it suggests that persistence on a task and internalized responsibility can be altered through some intervention procedure involving some aspect of reinforcement and attribution retraining. Such a change, as demonstrated by this study, can result in behavior changes in terms of time devoted to difficult tasks, internalization of personal responsibility, and may generalize to an academic area, mathematics, for learned helpless learning disabled children.

Conclusions

This study was conducted to identify learned helpless learning disabled children and to attempt to alter their perception of response-reinforcement relationships. The learned helplessness model indicates that people begin to experience motivational problems, when they perceive a situation to be uncontrollable. This motivational deficit then begins to impede achievement and eventually the person's affect. In this study, the procedures of reinforcement and attribution retraining were employed in an effort to retrain learned helpless learning disabled children to perceive problems as solvable, rather than giving to resignations when the tasks become difficult. The results indicate that the children (receiving some form of attribution retraining) were able to remain on tasks for an increased length of time. Furthermore, this increased time on task or persistence tended to generalize to internalization of personal responsibility and to improved achievement.

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Table 1

Cell Means and Standard Deviations for each Treatment Condition

Condition		Time		IAR		PIAT	
		Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
Reinforcement	M	34.00	34.00	19.14	21.85	39.71	41.00
	SD	10.26	5.38	0.89	3.38	4.92	4.20
Attribution Retraining	M	27.85	33.14	19.00	22.28	35.71	39.28
	SD	7.35	10.79	1.41	4.68	7.01	6.01
Attribution Retraining with Reinforcement	M	36.71	42.71	18.71	21.14	38.85	41.00
	SD	9.87	3.86	1.38	1.95	5.01	5.74
Control	M	33.57	32.42	19.28	20.42	35.57	40.28
	SD	8.12	8.28	0.75	3.15	5.74	7.49

Table 2

Adjusted Cell Means for Dependent Variables

by Treatment Conditions

Condition	Time M	IAR M	PIAT M
Reinforcement	33.35	21.74	39.36
Attribution Retraining	37.26	22.66	41.28
Attribution Retraining with Reinforcement	39.45	20.93	40.36
Control	32.20	20.36	40.55

Table 3

Analysis of Covariance (Repeated Measures) for Mean Time on Task

Source	MS	df	F
Reinforcement (R)	18.11	1	1.51
Attribution Retraining (A)	81.98	1	6.81 *
RA	5.20	1	0.43
Error	12.03	21	
Trials (T)	90.01	1	4.90 *
TR	3.01	1	0.16
TA	135.16	1	7.35 *
TRA	0.16	1	0.01
Error	18.88	24	

* $p < .05$; covariate $r = .81$

Table 4

Analysis of Covariance (Repeated Measures) for IAR

Source	MS	df	F
Reinforcement (R)	1.55	1	0.28
Attribution	1.04	1	0.19
Retraining (A)			
RA	11.72	1	2.14
Error	5.46	21	
Trials (T)	80.16	1	10.65 *
TR	0.44	1	0.06
TA	3.01	1	0.40
TRA	5.16	1	0.69
Error	7.53	24	

* $p < .05$; covariate r = .14

Table 5

Analysis of Covariance (Repeated Measures) for PIAT

Source	MS	df	F
Reinforcement (R)	1.47	1	0.22
Attribution	2.55	1	0.39
Retraining (A)			
RA	0.23	1	0.04
Error	6.60	21	
Trials (T)	82.57	1	12.41 *
TR	7.14	1	1.07
TA	2.57	1	0.39
TRA	0.00	1	0.00
Error	6.67	24	

* $p < .05$; covariate r = .91

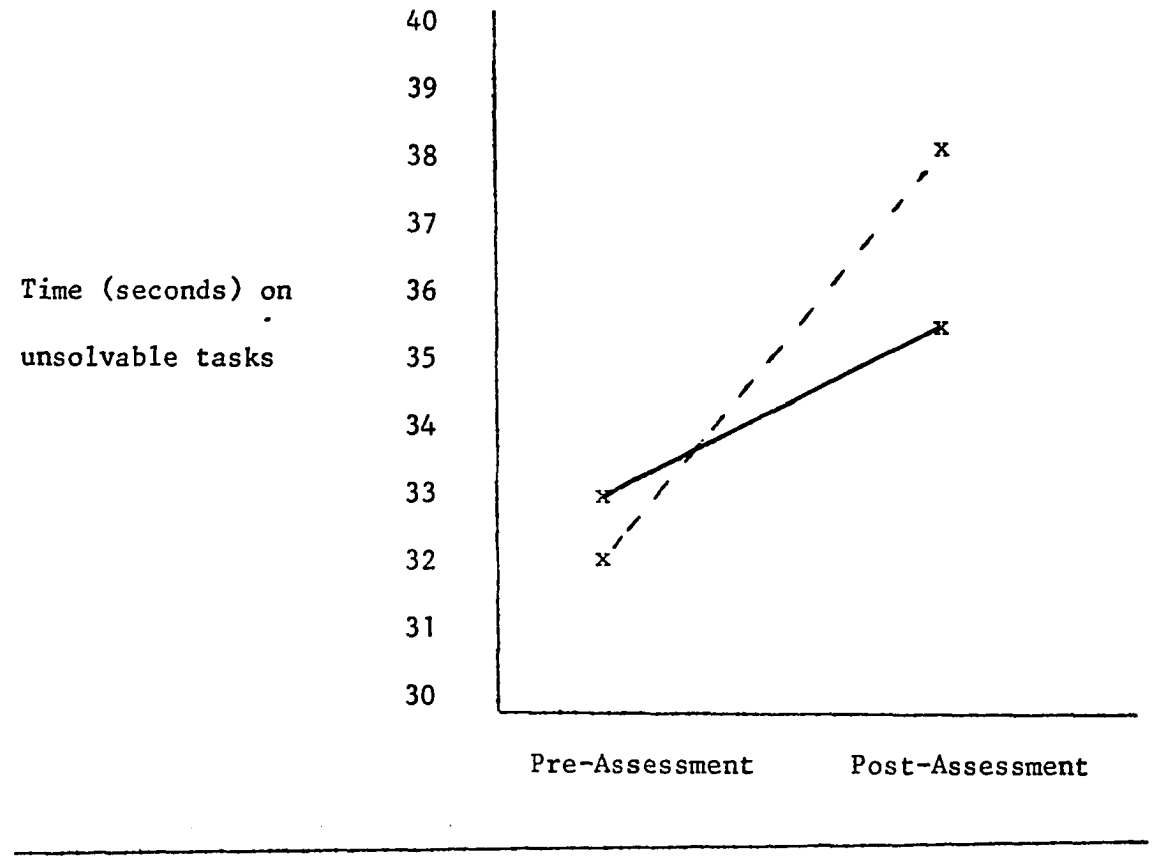
Table 6

Cell Means for Attribution Retraining and Trials for Mean Time on Task

Condition	Pre-Assessment	Post-Assessment
Trials	33.03	35.56
Attribution Retraining	32.28	38.35

Figure Caption

Figure 1. Adjusted posttest means of time expended on unsolvable tasks. Trials indicated with solid line; attribution retraining, broken line.


Time (seconds) on unsolvable tasks
40
39
38
37
36
35
34
33
32
31
30
Pre-Assessment
Post-Assessment

"APPENDIX A"

PROSPECTUS

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LEARNED HELPLESSNESS IN LEARNING DISABLED CHILDREN: EFFECTS OF ATTRIBUTION RETRAINING AND REINFORCEMENT ON PERSONAL RESPONSIBILITY AND MATHEMATICAL REASONING TASKS

INTRODUCTION

Learned helplessness has been studied with college students (Hiroto & Seligman, 1975) as well as grade school children (Dweck & Repucci, 1973; Dweck, 1975). Only recently have researchers attempted to study the relationship between learned helplessness and learning with grade school children. McCrone (1979) has attempted to use the concept of learned helplessness to further explain learning lags of deaf children. Chapin and Dyck (1976) have conducted research with grade school children with reading difficulties. Thomas (1979), in an effort to explore needed research for handicapped children, emphasized the likely role of learned helplessness with learning disabled children. He noted the similarities between learned helpless individuals and observations of learning disabled children are often viewed as helpless in the sense that many view themselves as having little or no control over

the outcome of events in their environment. Educators indicate that considerable time and effort is expended toward encouraging them to attempt tasks, especially academic tasks (Haring, 1974).

Seligman's concept of learned helplessness provides a model for empirical inquiry with learning disabled children. Since learned helplessness involves individual perceptions, theories of learning and cognitive psychology must be explored to help further explain the causes of such perceptions. Perception is determined by an individual's reaction to events, which is largely determined by one's attribution of the causes of the event. Attribution theory is based on the assumption that one event is consistently related to other events. When two events are consistently related over a period of time, there exists a basis for inferring a cause. Thus, attribution theory is seen as a productive approach to inferring a cause of the learned helpless individual's perception that often causes resignations in situations that are actually controllable or on problems that are solvable.

Learned helpless individuals fail to attempt or complete some tasks because of the perception of impending failure. The individual perceives that no response one makes will result in resolution of the task. This helplessness perception, by the individual, is thought to be caused by response - reinforcement independence (Klein & Seligman, 1976). Such perceptions may thwart the motivation or need to achieve of the individual. Clarizo & McCoy (1976) note that "one would expect that those with high achievement motivation would feel highly responsible for their successes and failures whereas those with low achievement motivation (or fear of failure) would be more defensive and attribute outcomes

to sources outside themselves" (p. 71). Moss and Kagan (1961) report that achievement needs begin early in life and tend to persist into adulthood. It would seem that the response - reinforcement independence, experienced by learned helpless individuals, would cause them to mis-attribute the cause effect relationship of the event. Thus, for typical learners, McClelland (1953) notes that cues that have been associated with positive events on former tasks will result in partial re-arousal of that positive feeling. This phenomenon may not apply to learned helpless individuals, as they seem to exhibit a low need for achievement.

Many studies have reported that an individual's perceptions are determined by one's attribution of the causes of the event. Therefore, new procedures have been attempted whereby a new attribution is taught to the individual. Nisbett and Schacter (1966) and Valine and Nisbett (1971) have introduced procedures referred to as "attribution therapy." Clinicians such as Davison (1966) and Meichenbaum (1977) have used therapeutic techniques referred to as "cognitive restructuring" or by modifying what the individual says to oneself about response - reinforcement events, with favorable results. Dweck (1975) developed a technique to teach grade school children to alter the perception of the relationship between responses and subsequent reinforcement. The technique referred to as "attribution retraining" attempts to teach the child to establish a perceived dependent relationship between responses and failure. The dependent relationship should then serve as a cue for the individual to act, when confronted with impending failure. In attempting to explain the effect of change upon the individual, the

components of ability and effort have to be explored. Weiner & Kukla (1970) report that the "intuitively reasonable dichotomy between ability (can) and motivation (try) has proven useful in the analysis of many aspects of behavior. Success at an achievement goal may be attributed to unusual effort and/or special ability, while failure might indicate a lack of motivation and/or ability" (p. 2). Ability seems to be a stable property of the individual and is subject to little change. In contrast, effort is viewed as a variant property of the individual. Consequently, effort is subject to influence by cognitive and instrumental tasks.

Dweck (1975) utilized her "attribution retraining" technique to alter the effort attribution of the grade school children, thus helping to alleviate learned helplessness in these children. This procedure was effective in enhancing the persistence of children's performance on arithmetic tasks. The attribution retraining procedure developed by Dweck (1975) involved both success and failure experiences in an irregular pattern. Since this procedure involved a reinforcement schedule accompanied by the attribution retraining procedure, the increased persistence may be due in part to the schedule of reinforcement as well as attribution retraining. Further empirical support is sought for the cause of such change in performance with learned helpless individuals, whether it is due to the attribution retraining procedure, the schedule of reinforcement, or other unidentified factors.

An individual may fail to complete a task due to the expectation that one's responses are independent of the outcome. Thus, for the learned helpless individual no response one makes will result in

resolution of the task (Seligman & Maier, 1967). One views failure as due to external factors beyond control. The individual's perception is thought to be caused by response - reinforcement independence (Klein & Seligman, 1976). Thus, this perception can possibly be altered through an attribution retraining process as demonstrated by Dweck (1975) and Chapin and Dyck (1976). Attribution retraining and a reinforcement schedule will be varied independently, as well as used in combination in an effort to study the effects on learning disabled children who are viewed as learned helpless.

Statement of the Problem

The purpose of this study is to determine if learning disabled students' perception of a learned helplessness situation can be re-attributed to causes that are under control of the individual, such as the amount of effort expended on a task. Thus, the re-attributed cause of behavior should lead to a change in achievement behavior (Weiner & Sierad, 1975).

In addition, this study seeks to determine if the establishment of a dependent relationship between the person's responses and reinforcement will lead to an increase in performance on subsequent tasks such as personal responsibility and mathematical reasoning tasks.

Hypotheses

The following hypotheses will be tested in the study.

I. As measured by the mean time expended on unsolvable tasks, there will be no significant:

   A. Difference among groups receiving reinforcement.

   B. Difference among groups receiving attribution retraining.

   C. Interaction among groups.

   D. Difference between trials.

   E. Interactions between treatment conditions and trials.

II. As measured by the Intellectual Achievement Responsibility scale, there will be no significant:

   A. Difference among groups receiving reinforcement.

   B. Difference among groups receiving attribution retraining.

   C. Interaction among groups.

   D. Difference between trials.

   E. Interactions between treatment conditions and trials.

III. As measured by the Peabody Intellectual Achievement Test - Mathematics subtest, there will be no significant:

   A. Difference among groups receiving reinforcement.

   B. Difference among groups receiving attribution retraining.

   C. Interactions among groups.

   D. Difference between trials.

   E. Interactions between treatment conditions and trials.

REVIEW OF LITERATURE

Learned Helplessness

Learned helplessness was advanced as a model to explain the process whereby non-contingent reinforcement results in a perception of independence between one's response behavior and subsequent performance (Maier, Seligman, & Solomon, 1969). The learned helplessness model was formulated based on experimental research with dogs (Overmier & Seligman, 1967; Seligman & Maier, 1967). Parallel findings have been reported with cats (Seward & Humphrey, 1967) and in rats (Maier, Albin, & Testa, 1973; Maier & Testa, 1975; Hannum, Rosellini, & Seligman, 1976).

The model of learned helplessness has since been applied to humans. The expectation of learned helplessness has been reported in adult humans (Thornton & Jacobs, 1971; Glass & Singer, 1972; Hiroto, 1974; Hiroto & Seligman, 1975; Roth & Kubal, 1975; Klein & Seligman, 1976; Gatchel & Proctor, 1976; among others), as well as with children (Dweck & Repucci, 1973; Dweck, 1975; Dweck & Bush, 1976; McCrone, 1979).

The learned helplessness model provides the most cogent and unified theoretical basis for integrating the information on learned helplessness from human and animal studies. The use of the word

learned helplessness implies that deficits may occur in motivation, cognition, or emotion (Abramson, Seligman, & Teasdale, 1978). A motivational deficit results in a decrease in voluntary responses by the experimental participant. This deficit is attributable to the expectation that outcomes are uncontrollable. This is generally followed by a cognitive deficit, since failure on a current task may impede future learning. The human experimental participant also tends to experience depressed affect, due to perceived independence between one's responses and reinforcement.

Abramson and his colleagues (1978) postulate that learned helplessness occurs when confronted with a perceived uncontrollable situation. The person attempts to explain this uncontrollable situation by attributing one's behavior to a cause. The attributional choice which the person ascribes to one's uncontrollable situation will have an impact on whether the learned helplessness will be a specific helplessness or a global helplessness. The attributed cause will also help to determine if the learned helplessness will be long-lived and recurrent, or whether it will be short-lived and nonrecurrent.

The model, learned helplessness, developed by Seligman and his colleagues (Seligman, Maier, & Solomon, 1971) has had a major impact on research in a theory building effort to identify the relationship between a past history of failure and subsequent performance. The learned helplessness model proposes that a past history of uncontrollable failure causes the learner to perceive an independent relationship between responses and subsequent performance. This perceived relationship, by the learner, results in lowered motivation, thus limiting

subsequent effort on tasks. Seligman (1975) further notes that such an expectancy leads to lowered performance, as well as a decrement in effort.

Infrahuman Research

The model of learned helplessness was formulated based on research findings with animal studies. Overmier and Seligman (1967) conducted three consecutive studies with adult mongrel dogs to investigate the effects of inescapable shock upon subsequent escape-avoidance behavior. Varying conditions of shock treatment were administered to determine their effects on subsequent behavior. The results of the experiments indicated that the dogs receiving inescapable shock treatment were significantly slower in their escape-avoidance responses than the group of dogs that received no inescapable shock. Furthermore, lowered response rate was observed even with increased level of shock during the escape-avoidance training. Lastly, the effects of inescapable shock tended to disappear after 48 hours. Overmier and Seligman (1967) concluded that such behavior was due to a source of interference that had been learned by the dog. They described this source of interference as "learned helplessness". Overmier and Seligman (1967) noted "learned helplessness might well result from receiving aversive stimuli in a situation in which all instrumental responses or attempts to respond occur in the presence of the aversive stimuli and are of no avail in eliminating or reducing the severity of the trauma" (p. 33).

Seligman and Maier (1967) investigated the relationship between escapable versus inescapable shock and its effect on escape-avoidance

responses of mongrel dogs. The results of their study indicated that dogs exposed to escapable shock situations, by learning to press a panel, responded normally in a subsequent escape-avoidance shuttle box task. However, the "yoked" group of dogs was exposed to the same shock treatment as the first group but, they were unable to terminate the shock by pressing the panels. The "yoked" group eventually ceased their panel pressing responses. Seligman and Maier (1967) attributed the interference in subsequent escape-avoidance responses to the degree of control of the dogs. The dogs who were able to terminate shock did not differ from the no-treatment group of dogs. However, the dogs who were unable to terminate shock showed marked interference with subsequent escape responses. Seligman and Maier (1967) wrote that, "hearing that shock termination is independent of responding seems related to the concept of learned 'helplessness' or 'hopelessness' advanced by Richter (1957), Mowrer (1960, p. 197), Cofer and Appley (1964, p. 452), and to the concept of external locus of reinforcement discussed by Lefcourt (1966)" (p. 4).

The learned helplessness model was further studied with rats as experimental subjects. Hannum, Rosellini, and Seligman (1976) investigated the effects of uncontrollable and escapable shock on weanling rats and their effect on subsequent behavior as adult rats. The results indicated that weanling rats exposed to inescapable shock were impaired on subsequent bar pressing responses. However, weanling rats who encountered escapable shock were immunized against inescapable shock received during adulthood. Hannum et al. (1976) concluded from their study with the rats, "it is possible that early experience with

escapable shock may produce a 'mastery' effect, opposite in sign from the helplessness effect of inescapable shock" (p. 453).

Human Research

The learned helplessness model has been subjected to experimental study with human subjects. Thornton and Jacobs (1971) attempted to replicate findings of previous research with animals, on human subjects. Eighty college students were randomly assigned to one of two "instructional stress-set groups." The students were then blocked on shock contingency groups, based on their obtained score on the Perceived Stress Index. The two instructional groups were composed of students who received a fixed level of shock and those receiving variable shock. The four shock contingency groups included: (a) avoidable shock while performing training tasks; (b) unavoidable shock while performing training tasks; (c) unavoidable shock without training tasks; and (d) no shock group who performed the training task. The training was followed by ten test trials, whereas all students could avoid shock. The results indicate that variable level of shock caused more stress in the subjects than did the fixed level of shock. Thornton and Jacobs (1971) conclude that the yoked group's failure to respond on the dependent measure supported the learned helplessness model in humans. The subjects in the yoked group, when questioned after the experiment, why did you not respond on the test trial, indicated that, "they felt they had no control over shock, so why try" (p. 371).

Glass and Singer (1972) administered a series of electric shocks to college students while they were working on puzzles. Both

groups were advised that success on a puzzle would prevent subsequent shock. One group of students was given unsolvable tasks, whereas the second group received solvable puzzles. All students received the same amount of shock treatment. The results indicated that those students who believed that they had control of the situation performed better on subsequent reading tasks than did those students who perceived independence between their behavior and subsequent performance.

Glass and his associates (Glass, Singer, Leonard, Krantz, Cohen & Cummings, 1973) investigated the effects of perceived control and a perceived lack of control on subsequent performance test requiring them to discriminate colors. The results indicate that those male college students (N=24), who perceived control of their destiny, performed better on the discrimination test than those students who failed to view themselves as in control of their destiny.

Hiroto (1974) conducted a study with ninety-six college students to investigate the relationship between learned helplessness and locus of control. A measure of attribution of reinforcement, internal or external, was administered to all students. The students were then randomly assigned to one of three experimental groups, matching for internal-external locus of control. The students were further randomly assigned to one of two instructionsl set groups.

Each student assigned to group one or two was told to expect to be subjected to, "some loud noise which had been judged to be somewhat unpleasant but not harmful or dangerous to you" (Hiroto, 1974, p. 188). The students in group one were unable to escape or terminate the described noise, whereas those in group two could escape the noise.

The third group was not exposed to the treatment. Students were then exposed to escape-avoidance trials, using a shuttle box approach. Students received an instructional set indicating that the solution to each problem was due to the student's control or chance.

The results indicate that those students exposed to uncontrollable situations in the first phase of the experiment were unable to control or terminate the noise in the second phase, when control was actually possible. The students remained rather passive and listened to the noise. Secondly, the students who attributed control to external situations were more helpless than those students who viewed control as being internal. Furthermore, the students exposed to the "chance" instructional set were more helpless than those exposed to the "skill" set.

Hiroto and Seligman (1975) conducted four independent, but simultaneous, experiments with ninety-six college students. They investigated the effects of uncontrollable events with varied tasks and motivational components. The students were assigned to one of the twelve groups involved in the four experiments. Students in the first experiment received an instrumental pretreatment (pressing a button) followed by a shuttle box test to determine helplessness. The second experiment consisted of a discrimination or cognitive task followed by the instrumental task. The third experimental study received an instrumental task followed by a cognitive task, whereas in the fourth study a cognitive pretreatment task was followed by a cognitive test for helplessness.

The students pretreated with the button pressing task received noise that was escapable, inescapable or no-treatment. Students who

received the cognitive pretreatment of discrimination received solvable, unsolvable tasks, or no treatment.

The students in the first experiment who received escapable pretreatment or no treatment were more successful on escape responses on the shuttle box than did the inescapable group.

The students who received unsolvable discrimination tasks as pretreatment performed more poorly on the shuttle box task than did those who received solvable or no treatment.

The students who received inescapable pretreatment on an instrumental task performed more poorly on the anagram task than did those students who received solvable tasks or no treatment.

The students did not differ significantly when pretreated with a discrimination task and subsequently measured on an anagram task, regardless of treatments.

The conclusions of the studies indicated that college students pretreated with inescapable noise performed more poorly on subsequent shuttle box tasks than did the escapable pretreatment group or the group receiving no treatment. Hiroto and Seligman (1975) conclude that such results support the learned helplessness model in humans as indicated by Hiroto (1974) and are consistent with the findings in infrahuman studies. Secondly, they demonstrated that students receiving pretreatment with unsolvable discrimination tasks were impaired on a subsequent cognitive task of solving anagrams, in relationship to the performance of the groups who received solvable tasks or no treatment. They conclude that unsolvable cognitive tasks can produce the effect of learned helplessness, as well as inescapable instrumental tasks. Lastly, the results

indicate that, "cross modal helplessness" was demonstrated. A group of students who received unsolvable cognitive tasks were impaired on subsequent instrumental escape tasks. Also, a group pretreated with inescapable noise was impaired on a subsequent cognitive task. Hiroto and Seligman (1975) conclude from their study that learned helplessness is, "general across motivations and tasks" (p. 327).

Gatchel and Proctor (1976) conducted a study with forty-eight college students to investigate the physiological correlates of helplessness in man. One group of students received a pretreatment of inescapable noise. A second group received escapable noise, and the third group acted as a control. The dependent measure was their performance on anagram tasks.

The results of the study indicated that students who received inescapable noise performed quite poorly on anagram tasks, in relationship to the escape group and the no treatment group. Gatchel and Proctor conclude that their results indicate that a general organismic debilitation existed which transfered to cognitive tasks.

Gatchel and Proctor (1976) also note the importance of physiological differences observed in the inescapable group and the escape and no treatment groups. The inescapable group demonstrated "reduced phasic skin conductance levels, and a greater frequency of spontaneous skin conductance fluctuations during the later pretreatment trials" (p. 32). They indicate that such physiological responding is indicative of impaired arousal of the autonomic nervous system. This low arousal is indicative of a decrement in individual involvement in tasks and lowered motivation. Gatchel and Proctor (1976) conclude that students in their

study who received inescapable shock manifested both physiological and cognitive symptoms of learned helplessness.

Klein and Seligman (1976) sought to examine the effectiveness of a method to extinguish learned helplessness, after it has been induced in human subjects. The study was based on the assumption that learned helplessness is viewed as a perceived independent relationship between responses of the individual and subsequent reinforcement. Rotter et al. (1961) indicate that a perceived dependent relationship between responses and reinforcement should lead the person to increase one's expectancy for success on subsequent tasks. Consequently, a person who has become learned helpless in an experimental setting, may also learn to become helpful again.

The experiment involved clinically induced learned helpless students and those who were deemed learned helpless by their score on the Beck Depression Inventory (Beck, 1967). The students, initially identified as non depressed, were assigned to one of five treatment conditions. One group received escapable noise, but no solvable problems during the counterconditioning phase. The second, third, and fourth groups received inescapable noise, yet solvable problems varied from none to four to twelve, respectively. The fifth group received no treatment and no solvable problems during the therapy phase. The students, initially identified as depressed, were assigned to three groups. The three groups received "no noise" pretreatment yet received varying solvable problems during the therapy phase of zero, four, or twelve, respectively.

The nondepressed students who received inescapable noise and

depressed students who received no noise exhibited impaired functioning on subsequent shuttle box tasks. Secondly, the solvable discrimination therapy tasks resulted in a reversal of the learned helplessness feeling for nondepressed students who received inescapable noise prior to the therapy and for depressed students who received no treatment effect. Klein and Seligman (1976) conclude that such results support the assumption that a perceived dependent relationship between responses and reinforcement does lead to an expectancy for success on subsequent tasks.

Dweck and Repucci (1973) conducted a study with forty fifth grade children to investigate the effects of learned helplessness training upon subsequent school achievement. They also sought to examine the feasibility of bringing the learned helplessness under control of one stimulus.

The study involved twenty female and twenty male students who were selected at random from four suburban schools in the Northeast. Each student was administered the Intellectual Achievement Responsibility Scale (IAR) (Crandall et al., 1965). The scale assesses the child's perceived responsibility for internal or external control. Students were then exposed to the experimental task, that being the administration of a series of block designs. A solvable task was presented by one experimenter, whereas unsolvable tasks were presented by the second experimenter. The students were assigned to one of two groups designated as helpless or persistent. The helpless students were designated so on the basis of their performance on previous test problems. The students were then given solvable and unsolvable block design tasks. After exposure to unsolvable tasks from the failure experimenter, many

children failed to complete solvable tasks, even though they had done so earlier.

The results indicate that the learned helplessness model was appropriate for explaining the performance of the fifth grade children who failed to successfully complete solvable tasks after exposure to unsolvable tasks. Secondly, those students who took less personal responsibility for their behavior (external control) tended to be less persistent on tasks than those children who viewed responsibility as an internal attribute. Dweck and Repucci (1973) suggest that achievement related motives of the child be considered in light of the perceived personal responsibility. Such an assumption is supported by Weiner and Kukla (1970), who reported a positive relationship between an achievement motivation measure and reinforcement responsibility of elementary age male children. Rotter (1966) cites evidence to indicate that children with high achievement needs tend to attribute more responsibility to themself, than low achievement children. Butterfield (1964) cites research to support the importance of perceived responsibility upon performance tasks. He notes that children whose locus of control is external tend to experience more frustration and anxiety when confronted with a task.

Dweck and Repucci (1973) conclude that students were most impaired on performance tasks after receiving unsolvable tasks from one experimenter, than with the experimenter who administered only solvable tasks. Secondly, students who were most impaired tended to attribute responsibility to others, rather than to themselves. Lastly, those students, males in particular, who were persistent tended to view effort as

an important determinant. Whereas, the helpless students, who did attribute responsibility to themself, viewed ability as the important determinant.

Dweck (1975) conducted an experiment to determine the effects of altering the learned helpless child's independent perception of a response - reinforcement situation to a perceived dependent relationship, and subsequent effects on performance. She entitled this technique, which would alter the child's perception, attribution retraining.

Dweck (1975) identified twelve helpless children from a school population. These helpless children were "characterized by expectation of failure and deterioration of performance in the face of failure," by the child's teacher, principal, and school psychologist. Ten persistent children were chosen in the same manner, but with persistent attributes in the face of failure. The helpless students received one of two treatments. The success only treatment consisted of mathematics problems that students could solve. The second treatment group differed in that they received similar success oriented or solvable mathematical tasks for most of the trials. However, on the last two or three of the fifteen trials, they were exposed to unsolvable problems. When failure occured it was attributed to a lack of effort by the student. This treatment was referred to as attribution retraining. The treatment conditions were administered for twenty-five daily sessions.

The student's performance was measured on the Intellectual Achievement Responsibility Scale (Crandall et al., 1965), two subtests of the Test Anxiety Scale for Children (Sarason, Davidson, Lighthall, Waite, & Ruebush, 1960), a repetitive choice task, and an informal

effort versus ability failure attribution scale.

The results of the study indicate that helpless students exhibited more external responsibility and emphasized the role of effort less than comparative persistent children. Secondly, the students in the "success only" treatment group showed greater impairment in performance on subsequent tasks than did the students assigned to the "attribution retraining" treatment group. The "attribution retraining" group also showed a marked increase in the value of effort as a determinant in the response - reinforcement relationship. These results suggest that a technique such as attribution retraining serves as a cue for the student to increase his effort and become more persistent on subsequent tasks. Thus, according to Dweck (1975), "if a child believes failure to be a result of his lack of motivation, he is likely to escalate his effort in an attempt to obtain a goal" (p. 683). Dweck notes that the "cognitive personality variables, such as the manner in which a person perceives the relationship between his behavior and the occurrence of certain events, indeed appear to be important determinants of the way in which people react to events" (p. 684).

Motivation

Attribution Theory

Attribution theory, a recent development in psychology, attempts to explain why events occur. Attribution then is an inference about causes of behavior. In an effort to explain behavior, Heider (1958) suggests that the person depends on two determinants of behavior, "can" and "try". Can refers to the ability of the person to perform a task.

It also includes the property of intelligence. Try is dependent on the effort put forth by the person, denoting motivational intentions. In achievement situations the determinants of ability or effort are often referred to in an attempt to explain the behavior of the student. Thus, an attribution is made for the behavior. Success at school related tasks may bring about the attribution of high ability or much expended effort. In contrast, failure in achievement situations may be attributed to low ability or a lack of effort.

Weiner (1979) notes that, "a central assumption of attribution theory ... is that the search for understanding is the basic 'spring of action' " (p. 5). He notes that in school settings all concerned parties (parents, teachers, children) are continuously seeking understanding. They often ask the question, "Why did I succeed or fail?" Thus, the parties are attempting to attribute behavior to a cause. Weiner (1979) writes that attributional questions are more likely to surface when people have experienced failure or are facing novel situations.

Weiner (1979) expands the attributional choices available to the person, over the "can" and "try" determinants purported by Heider (1958). He suggests that a person may attribute success or failure to factors of ability, effort, difficulty of the task, or luck. He notes that these four factors are often used in school situations to explain achievement related behavior. Such factors as physiological processes, mood, influence of others, etc. also contribute to success or failure. However, of the factors, ability and effort seem to be the most salient determinants. Thus, performance often depends on "what we can do and

how hard we try to do it" (Weiner, 1979, p. 5).

Causality is an important factor in attribution theory. Rotter (1966) attempted to explain causality of behavior as being internal or external. Rotter (1954) described this dimension of causality as "internal - external locus of control." He maintained that a person's locus of control allowed him to form a belief or expectancy that his responses will result in certain performance. Internal locus of control denotes such attributional determinants as ability and effort. Luck and task difficulty are determinants that help to describe external locus of control.

Weiner and associates (1971) described a second dimension of causality, referred to as stability. They note that the ability factor remains rather stable for the person. In contrast, effort, which is also an internal trait tends to be unstable and is subject to considerable change.

Intentionality is postulated by Rosenbaum (1972) as a third dimension in the causality of behavior. He notes that effort is viewed as an intentional or controllable (Weiner, 1979) determinant of the individual. Ability, by contrast is viewed as unintentional or uncontrollable.

The cause of behavior is often attributed to the factor of locus of control, stability or instability, and controllability or a lack of control. In view of these factors, the determinants of ability or effort may be viewed as probable causes of behavior.

Locus of Control

Crandall et al. (1965) have reported the usefulness of the locus of control in differentiating between children who perform successfully in school achievement tasks and those who fail to achieve. McGhee and Crandall (1968) describe individuals who perceive themselves as the cause of their behavior as "internals." "Externals" are described as those people who perceive reinforcement to be due to others or environmental factors. Externals tend to view control as a property of others.

McGhee and Crandall (1968) investigated the effects of locus of control on subsequent academic achievement. They administered the Intellectual Achievement Responsibility Scale (IAR) (Crandall et al., 1965) to 923 elementary, junior high and high school students to determine the direction of their locus of control. Report card grade averages and achievement test scores were used as dependent variables.

The results indicate that children who scored high on the internal locus of control performed well in academic achievement, both in terms of grade reports and achievement tests. Conversely, children who viewed their locus of control as external performed less well on the achievement tasks. Girls who viewed control as internal performed significantly better than external control girls. The boys who viewed failure as internal performed better than boys who viewed failure as due to external factors.

Lifshitz (1973) investigated the locus of control with children raised in a kibbutz, to determine if their perceived locus of control or mental health would differentiate between children who experienced adjustment problems from those who adjusted to group expectations.

Furthermore, he examined locus of control and its relationship to developmental characteristics such as sex and age of the children, and to specified educational programs in the kibbutz.

One hundred and eighty-three children, ranging from nine to fourteen years of age were studied. Sixty-three of the children were described as "problematic", since they had been referred to a child guidance clinic. Most of the problematic children were experiencing learning or social problems.

The Intellectual Achievement Responsibility Scale (Crandall et al., 1965) was administered to all children. This scale provided an internal versus external score for locus of control. Also, questionnaires were completed from all kibbutzim dealing with the child's mental health status.

Lifshitz (1973) hypothesized that younger children would exhibit a more external locus of control than the older children. Secondly, he noted that locus of control would tend to be more external for problematic children than for the children who adjusted to kibbutz expectancies.

The results indicate that increased age is a determinant of self responsibility or internalization of the locus of control, however, sex is not a significant factor. Children from the three kibbutz movements differed significantly in their locus of control scores. However, these differences tended to disappear with progression in age.

The problematic children's self reports were not significantly different from those of the children who adjusted to kibbutz expectations. In conclusion, Lifshitz (1973) noted that internalization of locus of control appeared to come with increasing age and when allowed

more freedom and responsibility to function in their environment.

The results reported by Lifshitz (1973) in reference to locus of control being internalized as the child progresses in age, supports findings by Crandall et al. (1965) who reported that locus of control begins to stabilize around the ages of eight to nine years. Furthermore, they noted that no important change occurred from the age of stabilization of locus of control for several successive years.

Messer (1972) investigated the effects of internal - external locus of control on academic performance of seventy-eight fourth grade boys and girls. Each child was given the Intellectual Achievement Responsibility Scale (Crandall et al., 1965) and the Matching Familiar Figures Test. The former instrument was used as a measure of locus of control, while the latter one was encorporated as a measure of the child's impulsivity versus reflectiveness. These measures were correlated with the student's level of intellectual functioning, achievement test scores from the Stanford Achievement Test, and grade point average from the student's previous school grade.

The results indicate that children who view themselves as having internal control of many events tend to perform better in intellectual and achievement tasks than do children who tend to view control as external. The writer notes that these findings, as well as those reported by Crandall et al. (1965), do not indicate that superior school achievement is the result of an internal locus of control. However, it is possible that the internalized locus of control contributes to higher school achievement. Advanced achievement then contributes to a stabilized view of self responsibility or internalization of locus of control.

Achievement Motivation

Achievement motivation is a variable in school achievement that is based in part on the learner's view of an approach - avoidance conflict situation (Atkinson, 1957). Weiner (1967) notes that students tend to approach school achievement tasks when their need to be successful is greater than their perceived need to escape failure. Conversely, when the student's perceived need to avoid failure is paramount to one's need to approach success, the likelihood of involvement in achievement oriented behaviors is impeded. Weiner (1967) notes that the, "motive to approach success is ... the need for achievement, while the motive to avoid failure represents a disposition to become anxious in achievement oriented situations" (p. 165).

Students low in achievement motivation show less approach toward achievement tasks than do students who receive reinforcement from their efforts. Consequently, those students who experience success in school tend to be reinforced, resulting in an even higher achievement motivation (Weiner, 1972).

In addition to the assumption that achievement motivation involves an approach - avoidance conflict, two other assumptions are made by Atkinson (1957) about the theory of achievement motivation. He notes that achievement motivation assumes a relationship between expectancy and incentive. Furthermore, he indicates that the student learns to attribute responsibility for the outcome of events.

Previous research in achievement motivation and school achievement indicates that students who demonstrate high achievement motivation tend to approach tasks that are realistic. Conversely, students with

low achievement motivation tend to approach tasks that are quite simple or too difficult. Weiner et al. (1971) attempt to explain this phenomenon by noting that children with low achievement motivation, who have inappropriately selected achievement tasks, can either experience success or have an immediate reason for their failure. This causes the child, with low achievement motivation, to experience failure and subsequently give up or fail to approach school achievement tasks. Chan (1978) emphasizes this point by noting that "high and low achievers differ in their persistence after failure, ability to select the appropriate educational tasks, and in the intensity and value placed on the reinforcers" (p. 109). Chan (1978) further writes that "those differences among children may account for some of the variations in classroom performance, ... and are considered 'high risk academically' " (p. 109).

Learning Disabled

The self worth theory of achievement behavior advanced by Covington and Beery (1976) suggests that children who try hard on tasks and fail tend to view themselves as having little ability. Conversely, when such children do not invest an appreciable amount of effort on a task and fail, they can attribute the lack of success to a lack of effort. Covington and Omelich (1979) note that the self worth theory hypothesizes that children who put forth much effort yet fail, tend to experience shame and dissatisfaction. Such children may form an expectancy that future efforts will be unsuccessful and shame provoking so they attempt to contribute less effort, so that their "self worth" can be salvaged.

This author suggests that many children who are currently experiencing learning disabilities, in an achievement oriented setting such as school, tend to expend less effort on some tasks. This approach toward academic work is consistent with what teachers often describe as motivational problems or a lack of interest (Haring, 1978). When in essence, according to the self worth theory (Covington & Beery, 1976) the children are attempting to retain some "self-worth". This explanation is comparable to one proposed by attribution theory. It may describe the behavior of learning disabled children as due to a perceived lack of ability, effort, or to uncontrollable external factors. These children may also be described as exhibiting an avoidance reaction toward achievement oriented tasks rather than actively pursuing an approach reaction to the tasks. Research indicated that such children tend to exhibit low achievement motivation (Weiner et al., 1971), when confronted with achievement tasks, choosing tasks that are too easy or too difficult. Either choice belies an explanation with which they can maintain their self worth.

Summary of Review of Literature

Learned helplessness was advanced as a model to explain the process whereby non-contingent reinforcement results in a perception of independence between one's response behavior and subsequent performance (Maier, Seligman, & Soloman, 1969). The learned helplessness model was formulated based on experimental research with dogs (Overmier & Seligman, 1967; Seligman & Maier, 1976). Parallel findings have been reported in other infrahuman studies with cats (Seward & Humphrey, 1967) and in rats

(Hannum, Rosellini, & Seligman, 1976).

The expectation of learned helplessness has been reported in adult humans (Thornton & Jacobs, 1971; Glass & Singer, 1972; Hiroto, 1974; Hiroto & Seligman, 1975; Roth & Kubal, 1975; Klein & Seligman, 1976; Gatchel & Proctor, 1976, among others). These authors demonstrated that when human subjects were subjected to inescapable or uncontrolled situations, their performance was impaired. The decrement in performance was observed in students with both instrumental or motor oriented and cognitive or mental involvement tasks. This decreased performance was attributed to the concept of learned helplessness. It implies that the subject perceives an independent relationship between his behavior and subsequent performance. This was articulated by the students in the Thornton and Jacobs study (1971). When the students in the inescapable group were asked why they did not respond on a test trial, the remark was, "they felt they had no control over shock, so why try" (p. 371).

Hiroto (1974) investigated the relationship between learned helplessness and locus of control. He reported that students who attributed control to external situations were more passive than students who viewed control as being internal.

Klein and Seligman (1976) concluded from their study with depressed and nondepressed college students that learned helplessness could be experimentally induced. Furthermore, they demonstrated that learned helplessness could be counter-conditioned or unlearned.

Dweck and Repucci (1973) and Dweck (1975) investigated the effects of learned helplessness on subsequent school achievement. They

noted that the learned helplessness perception could be altered through a process referred to as attribution retraining. The process involves components of cognitive restructuring.

Attribution theory is viewed as a means of explaining why events occur. Heider (1958) suggests that people depend on the determinants of "can" or ability and "try" or effort to explain behavior. Weiner (1979) expanded the attributional choices available to the person to include the factors of task difficulty and luck, in addition to ability and effort. However, of the factors, ability and effort seem to be the most salient determinants. Ability is referred to as a stable property of the person. Whereas, effort is viewed as variable, subject to considerable change.

Rotter et al. (1966) have further emphasized the importance of the person's locus of control when attributing causes to behavior. They note that people attribute causes to internal or external locus of control. Several authors (Crandall et al., 1965; McGhee & Crandall, 1968; Messer, 1972; Lifshitz, 1973) have reported the usefulness of the locus of control in differentiating between students who perform well in school oriented tasks and those who fail to achieve.

Atkinson (1957) and Weiner (1967, 1972) note the relationship between students who perform well in school oriented situations often exhibit high achievement motivation. Conversely, those children who are unsuccessful in school often manifest low achievement motivation. Chan (1978) notes that "high and low achievers differ in their persistence after failure, ability to select the appropriate educational tasks, and in intensity and value placed on the reinforcers" (p. 109). Chan

suggests that such differences in children's perception" ... may explain why many of them are considered 'high risk academically' " (p. 109).

Children in the schools who are experiencing academic and concomitant behavioral problems are often diagnosed as learning disabled. Characteristically, some tend to demonstrate low achievement motivation, view control as being external, attributing control to others rather than one's self (Thornton, 1979). Consequently, such children seem to perceive an independent relationship between their behavior and subsequent performance. These children may even be experiencing "learned helplessness". Research with adults (Klein & Seligman, 1976) and children (Dweck & Repucci, 1973; Dweck, 1975) has demonstrated that counter conditioning, or attribution retraining, is a technique that can enable such learned helpless students to once again perceive a dependent relationship between their behavior and subsequent performance.

METHODOLOGY

Subjects

A group of twenty-eight elementary male students diagnosed as learning disabled will be selected for this study. The students are enrolled in grades three through five in a school system in Oklahoma. Currently, the students attend one of four designated elementary schools, yet represent all eleven elementary schools in the system. The eleven elementary schools comprise a student population of approximately five thousand. The school system is located in a relatively middle class suburban university city of approximately seventy-five thousand people.

The students attend regular class, with their peers, for a portion of the day. In addition, they receive special instruction in the learning disability resource program, for up to three hours daily.

The students, in addition to being enrolled in a learning disability resource program, have to meet other requirements. The additional criteria are: (a) that they have been enrolled in the learning disability resource program for two consecutive academic years of less, before this study; (b) that they have a documented chronological age of eight to eleven years; (c) that they have no documented significant sensory deficit in visual or auditory acuity; (d) that they have no

abnormal neurological or brain dysfunction as documented by neurological evaluation (electroencephalography); and (e) that they have no documented secondary handicap (i. e., emotional disorder, orthopedic handicap) that would interfere with training or limit performance.

The Intellectual Achievement Responsibility Questionnaire (Crandall, Katkovsky & Crandall, 1965) will be administered to the learning disabled children who meet the above stated criterion. The scale will identify those children who are operationally defined as learned helpless. That is, those learning disabled children who demonstrate less internal responsibility for their behavior than would be expected for their respective grade levels. The learned helpless learning disabled children will attribute much of their behavior to external causes. Quantitatively, learned helplessness will be demonstrated by learning disabled children who acquired an internal responsibility score (I score) greater than one standard deviation below the mean I score, obtained by children of the respective grade levels (Crandall et al., 1965).

Procedure

The twenty-eight elementary age learned helpless learning disabled children will be randomly assigned to one of four groups (three experimental and one control). The groups will be designated as: (1) attribution retraining, attributing performance to the effort of the student (AR); (2) reinforcement without attribution retraining (R); (3) attribution retraining combined with reinforcement, attributing performance to the effort of the student (ARR); and (4) control (C). Each student participant will then be seen individually by one of the two

experimenters. The student participant will be escorted by the experimenter to the experimental room. Each room will be set up as closely as possible in the four different schools. Upon arrival in the room, the student participant will be seated on one side of the desk and will face the experimenter. Each student will be informed that he will be helping us to determine how children learn different school tasks.

The study will take place over ten consecutive school days. The first day will be designated as the pre-assessment phase. Experimental training will be conducted during the second through the eighth day. The post-assessment phase will be conducted on the ninth day. The tenth day will be reserved for debriefing the students.

Pre-Assessment Phase

The pre-assessment phase will involve individual administration of the Intellectual Achievement Responsibility Questionnaire (IAR) (Crandall et al., 1965) and the Peabody Individual Achievement Test - Mathematics subtest (PIAT) (Dunn & Markwardt, 1970).

The instructions for the IAR will be:
(Experimenter) "I am going to read some questions to you. After I complete a sentence, I will read two answers, you select the one 'that best describes what happens to you or how you feel' (Crandall et al., 1965, p. 98). There are no right or wrong answers, just select the one best for you".

The instructions for the PIAT - Mathematics subtest will be:
(Experimenter) "I am going to give you some tasks to solve. I would like for you to try as many of the tasks as you can. You will have

enough time to complete many of the tasks, but work quickly. Do the very best you can!" (See appendix B for further instructions).

Experimental Phase

The experimental training phase will involve individual administration of the ten block design tasks, after being shown how to complete the example item. The order of the tasks will be randomly determined. The same ten designs will be used during all seven training sessions. The order of the presentation to the student will vary according to the random presentation of the individual items.

Seven students will be randomly assigned to group one. Group one will be composed of students who receive the experimental treatment of attribution retraining, whereas performance will be attributed to the effort of the student participant (AR). When the student participant solves an individual design, the experimenter will say, "that was right, you tried very hard." When a solvable item is incorrectly reproduced, the experimenter will say, "you tried." When an unsolvable task is completed or terminated after forty-five seconds, the student participant will be told, "that was wrong, you should try harder." This procedure will be followed for the ten block design tasks administered each day, for the seven experimental training sessions. The seven daily schedules and order of presentation of the block design cards will be as follows:

Day 1:	(1-s)	(10-s)	(5-s)	(4-u)	(3-s)	(6-s)	(7-u)	(8-s)	(9-u)	(2-s)
Day 2:	(5-s)	(7-s)	(1-u)	(3-s)	(9-s)	(10-s)	(4-s)	(2-u)	(8-s)	(6-u)
Day 3:	(9-s)	(6-s)	(3-s)	(5-u)	(10-s)	(1-u)	(7-s)	(4-u)	(8-s)	(2-s)
Day 4:	(3-s)	(6-u)	(4-s)	(10-s)	(5-s)	(2-u)	(9-s)	(7-s)	(1-u)	(8-s)
Day 5:	(6-s)	(8-s)	(2-u)	(1-s)	(5-s)	(10-u)	(3-s)	(4-u)	(7-s)	(9-s)
Day 6:	(9-s)	(7-u)	(2-s)	(6-u)	(3-s)	(4-s)	(8-s)	(5-s)	(1-u)	(10-s)
Day 7:	(4-s)	(8-s)	(9-s)	(2-u)	(1-s)	(7-u)	(6-s)	(10-u)	(3-s)	(5-s)

The "s" and "u" denotes that the tasks are solvable (s) or unsolvable (u), respectively. The reinforcement schedule will differ in terms of solvable versus unsolvable experiences (see appendix B for further instructions).

Group two will consist of seven randomly assigned students. These students will receive the experimental training of reinforcement without attribution retraining (R). When a solvable task is completed, the experimenter will say, "that was right," and he will be given a check mark on a form for reinforcement. When a solvable task is incorrectly reproduced, the experimenter will say to the student, "you did not get it, no check mark." The experimenter will then proceed to the next item. When an unsolvable item is completed or terminated after forty-five seconds, the student participant will be told, "you did not get it, no check mark." This procedure will be followed for the ten block design tasks administered each day, for the seven experimental sessions. The ten daily schedules and order of presentation of the block design cards will be the same as presented to group one (see appendix B for further instructions).

Group three will consist of seven randomly assigned students. These students will receive the experimental treatment of attribution retraining combined with reinforcement (ARR). The attribution retraining will emphasize importance of effort of the student participant. When the student participant solves an individual design, the experimenter will say, "that was right, you tried very hard." In addition, the student will be reinforced with a check mark on his sheet when he is successful. The check mark can be converted for a prize at the end of the experiment.

When a solvable item is incorrectly reproduced the experimenter will say, "you tried," yet no check mark will be awarded. When an unsolvable task is completed or terminated after forty-five seconds, the student participant will be told, "that was wrong, you should try harder," and the check mark will be withheld. This procedure will be followed for the ten block design tasks each day, for the seven experimental training sessions. The seven daily schedules and order of presentation of the block design cards will be the same as presented in groups one and two (see appendix B for further instructions).

Group four will be designated as the control (C) and will consist of seven randomly assigned students. The control group will be exposed to the same ten block design tasks each day for the seven experimental training sessions as groups one, two, and three. However, verbal comments and reinforcing gestures will be withheld on all trials. They will be administered the pre-assessment and post-assessment instruments.

Post-Assessment Phase

The post-assessment phase will involve administration of the Intellectual Achievement Responsibility Questionnaire (Crandall et al., 1965) and the Peabody Individual Achievement Test - Mathematics subtest (Dunn & Markwardt, 1970).

The instructions for the IAR will be:

(Experimenter) "I am going to read some questions to you. After I complete a sentence, I will read two answers, you select the one 'that best describes what happens to you or how you feel' (Crandall et al., 1965, p. 98). There are no right or wrong answers, just select the one best for you."

The instructions for the PIAT - Mathematics subtest will be: (Experimenter) "I am going to give you some tasks to solve. I would like for you to try as many of the tasks as you can. You will have enough time to complete many of the tasks, but work quickly. Do the very best you can!" (See appendix B for further instructions).

Debriefing Phase

The debriefing phase will be conducted on the tenth day. The students will be thanked for their participation. They will be informed that some of the tasks were not solvable, that everyone had difficulty with them. Each person will be allowed to select a prize (matchbox car), from a variety of models provided, as a token of appreciation for their assistance (see appendix B for further instructions).

Design

The twenty-eight learned helpless learning disabled children will be randomly assigned to one of four treatment groups. The study will be a repeated measures mixed model with two grouping factors and one trial factor. The first grouping factor will consist of the treatment conditions of reinforcement. The second grouping factor will consist of the treatment condition of attribution retraining. The trial factor will be the time of the measurements (pre-assessment and post-assessment). The repeated measurements are made of the same variables for each student.

The design will control for differences that might be experienced between males and females by including only males in the study. Other variables such as the intellectual functioning of the students, the degree of learned helplessness, and chronological age will be controlled

for through random assignments of the students to the four different experimental groups and the use of covariates.

The four different treatment conditions in the study are: (1) attribution retraining; (2) reinforcement; (3) attribution retraining with reinforcement; and (4) the control. These treatment conditions will make up the active or manipulated factors. The trial of pre-assessment and post-assessment will serve as the assigned factor.

The dependent measures in the study will be scores obtained on the Intellectual Achievement Responsibility Questionnaire, the Peabody Individual Achievement Test - Mathematics subtest, and the average length ot time devoted to unsolvable block design items.

The statistical design of the study will constitute a 2 (reinforcement) X 2 (attribution retraining) analysis of covariance, with repeated measures. The design is a mixed model with two active factors (treatments) and one assigned factor (trials). In all of the hypothesis testing, the .05 level of significance will be utilized to evaluate the F-ratios.

Experimental Task

The experimental task will consist of individually administered block designs. The experimental participant will be shown a card showing a four block design. The participant will be asked to duplicate the pattern from the card using the four blocks given to him. The experimental training block designs will be constructed so that a minimum of two quarters of the pattern will be composed of solid colors and the remaining quarter or quarters, when appropriate, will be made up of two

EXPERIMENTAL DESIGN WITH TWO GROUPING FACTORS AND ONE TRIAL FACTOR

				Reinforcement: yes	Reinforcement: no	
R	Attribution Retraining	Y_1	yes	ARR	AR	Y_2
			no	RE	C	

R = Random assignment of all students to treatment groups

Y_1 = Pre-assessment

Y_2 = Post-assessment

ARR = Attribution retraining with reinforcement

AR = Attribution retraining

RE = Reinforcement

C = Control

split color sides. The participant will view the pictorial design whereas the four blocks always make a square pattern. The experimenter will give the participant four Wechsler Intelligence Scale for Children - Revised (Wechsler, 1974) blocks, when the task can be successfully completed. Each of the blocks will have two solid red sides, two white sides, and two diagonally split (white/red) sides (this procedure is similar to one used be Dweck & Repucci, 1973). When tasks are presented that are unsolvable, the experimenter will present four blocks that resemble the Wechsler blocks. One block will be a replica of the Wechsler blocks. However, the remaining three will be diagonally split (white/red) on all sides. A total of eight blocks will be available to each experimenter, yet only the appropriate four will be exposed to the participant. The participants will be exposed to similar block patterns for solvable and unsolvable tasks, yet in a randomly assigned order.

Experimenters

Two of the experimenters will be women, thirty to thirty-five years of age, who will have no prior knowledge of the experimental hypotheses. This procedure will prevent them from inferring that the learning disabled students receiving one type of experimental training were supposed to perform better than students receiving a different type of training. They will be assisted by the author on some aspects of the study. The experimenters will be given training in the assessment and experimental exercises by the author.

Materials

The blocks used to construct the designs will be one inch cubes of hardened plastic. The blocks will be taken from a Wechsler Intelligence Scale for Children - Revised (Wechsler, 1974) kit. They will be sanded and repainted with red and white paint, to meet the criteria stated for the experiment.

The block design will be displayed with a 2 X 2 inch pattern, drawn in red and white on a 4 X 4 inch piece of white cardboard. Each will have visible black lines separating it into four quarters. Each pattern will be on a separate cardboard so that random assignment of the tasks can be made for different sessions.

The experimenter will use a square-angle 10 X 10 inch shield made of brown cardboard, behind which they can scramble or exchange the blocks between one trial and another. It will also serve to shield other stimulus cards, data sheets, and other materials from the view of the participant during his presence in the experimental room. The shield will also be used when conducting the pre-assessment and post-assessment phases of the study.

Instruments

The learned helpless learning disabled students will be compared on the Intellectual Achievement Responsibility Questionnaire (IAR) and the Peabody Individual Achievement Test - Mathematics subtest (PIAT). The IAR will be read to the student, whereas he will choose between two answers. The PIAT mathematics subtest will be read to the students, whereupon he will be shown four alternative answers. He will select his best answer.

Peabody Individual Achievement Test

The Peabody Individual Achievement Test - Mathematics subtest (Dunn & Markwardt, 1970) consists of 84 multiple-choice items, each with four options. The subtest purports to measure such skills as matching, discrimination, recognizing numerals, addition, subtraction, division, multiplication, in addition to advanced concepts in geometry and trigonometry at the upper end of the scale (Salvia & Ysseldyke, 1978). The test can be used to assess skills from kindergarten to the twelfth grade. The rules for administration set forth by the authors will be followed with one exception. All items below the ceiling level, answered incorrectly, will be considered failed for the purpose of this test. Otherwise, the same basal and ceiling rules will be in effect for this study.

The standardization sample was drawn from children throughout the United States, with consideration for such variables as sex, age, race, and socio-economic status. The standardization sample consisted of 2,899 children. Two hundred or more students were included in the sample, at each grade level. The children were drawn from students enrolled in the "mainstream of education," attending regular classes in the public schools.

Reliability evidence reported for the PIAT consists of test - retest reliability coefficients. The coefficients ranged from a low of .68 at grade three to a high of .73 for fifth grade students, within the grade range studied. The reliability evidence is based on readministration of the PIAT, after one month, to samples of fifty to seventy-five students. The students ranged from kindergarten to twelfth grade.

Dunn and Markwardt (1970) report two types of validity for the PIAT. Salvia and Ysseldyke (1978) assert that content validity is based on "extensive reviews of curriculum materials used at each grade level" (p. 158). Dunn and Markwardt (1970) note that the PIAT - Mathematics subtest is "a test of general mathematics skills and knowledge" (p. 50), indicative of content validity.

Concurrent validity is based on correlations with the Peabody Picture Vocabulary Test (PPVT) (Dunn, 1965). The PIAT and the PPVT correlate from .53 at grade five to .73 at grade three. Further support for concurrent validity of the PIAT is reported by Sitlington (1970), when he correlated the scores of forty-five educable mentally handicapped students from the PIAT and the Wide Range Achievement Test (WRAT) (Jastak & Jastak, 1976). The PIAT - Mathematics subtest correlated .58 with the WRAT - Arithmetic subtest.

More recently, Ysseldyke and associates (1973) conducted a study of the convergent and discriminant validity of the PIAT for sixty-eight primary age children enrolled in educable mentally handicapped classes. Convergent validity is indicated by a high correlation between similar subtests, such as mathematics, on different tests such as the PIAT and WRAT. Convergent validity was demonstrated for the mathematics subtest on the WRAT and Metropolitan Achievement Test (Nurss & McCauvran, 1976).

Discriminant validity is indicated when subtests have low correlations with subtests from which they should differ. More specifically, a low correlation should be reported between the mathematics subtest and a different subtest such as reading, for the instrument to claim discriminant validity. The authors report discriminant validity for the

mathematics subtest.

Burns (1975) evaluated fifty-five primary age children who had been diagnosed as educable mentally handicapped. The students were administered the PIAT, WRAT, and PPVT. The PIAT subtest of mathematics demonstrated convergent validity, yet failed to demonstrate discriminant validity with the same instruments.

The results of the cited studies indicate that the PIAT and WRAT are measuring similar skills for mathematics. Thus, the studies provide support for the author's contention for concurrent validity for the PIAT.

Intellectual Achievement Responsibility Questionnaire

The Intellectual Achievement Responsibility Questionnaire (IAR) (Crandall et al., 1965) is a measure of internal versus external reinforcement responsibility. The IAR assesses children's beliefs in reinforcement responsibility in achievement situations. The scale helps to determine whether a child believes his successes and failures, in achievement oriented situations, are a result of his own behavior or are due to the behavior of situations in his environment (tasks, teachers, other persons).

The IAR consists of 34 forced-choice items. Crandall and associates (1965) state that, "each item stem describes either a positive or negative achievement experience which routinely occurs in children's daily lives. The stem is followed by one alternative stating that the event was caused by the child and another stating that the event occurred because of the behavior of someone else in the child's immediate

environment" (p. 94). Thus, the child has an opportunity to select a response that denotes internal attribution or self responsibility, or a response that indicates that responsibility is attributed to an external situation or person.

The IAR yields an I score. The I score represents the number of positive and negative items for which the child attributes the responsibility. The scale was designed so that an equal number of positive and negative responsibility items were assessed.

The standardization sample of the IAR was made up of 923 elementary and secondary students, representing grades three through twelve. The students were selected from five different schools, in an effort to represent children from various residential areas. The childrens' socioeconomic status was determined from their parents' occupation, for the third through fifth grades. Knowledge of intellectual functioning, for these three grade levels, was obtained from the Lorge-Thorndike Test. The mean score was 103, with a standard deviation of 12.51. This compared favorably with the intelligence test scores obtained on the older children in the samples.

The means and standard deviations for the standardization sample's I scores, for the boys are as follows: (a) 3rd grade (N = 102), $\bar{x}$ = 23.16, SD = 3.80; (b) 4th grade (N = 103), $\bar{x}$ = 24.83, SD = 3.00; and (c) 5th grade (N = 99), $\bar{x}$ = 24.04, SD = 3.69.

Dunn and Markwardt (1970) report test - retest and internal consistency reliability estimates. Forty-seven of the children, in grades three through five, were retested after a sixty day interval. The test - retest was .69. This correlation was significant at the .001

level. This suggests that the IAR provides a stable measurement.

Split-half reliability coefficients were computed for the odd and even numbered items of the internal responsibility for positive events (I+ score) and for the negative events (I- score). The correlation of .54 was obtained for the I+ sub-scale and .57 for the I- sub-scale, for 130 randomly selected elementary children. These were obtained after correlation with the Spearman Brown Prophesy Formula.

The IAR total I score was correlated with the Iowa Tests of Basic Skills and the child's report card grade averages. The total I scores correlated positively with such achievement measures as reading, mathematics, and language, as well as report card grades.

Crandall and associates (1965) reported significant correlations between the total I scores and achievement behaviors at the elementary grade level for boys. The total I scores were highly correlated with time spent in pursuit of intellectual activities during a free time (.70) and the intensity of their efforts on such tasks (.66).

The authors of the IAR state, "a belief in self-responsibility constitutes a motivational influence upon achievement performance and thus should predict behavior on tasks where motivational factors account for a relatively large proportion of the variance over and above ability or acquired knowledge" (p. 108). Thus, the child who attributes responsibility for his successes and failures to himself, should demonstrate persistence in pursuing difficult tasks, in contrast to children who attribute behavior to environmental situations or other people.

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"APPENDIX B"

INSTRUCTIONS TO STUDENTS

General Instructions to Students

(Experimenter) "I will be asking you to complete some tasks during the next few days. You should try as hard as you can on all of the tasks. The results from your work and that of other children will allow us to understand more about how children learn."

Instructions for the Pre-Assessment Phase

Pre-Assessment Instructions on the IAR for all Students. (Experimenter) "I am going to read some questions to you. After I complete a sentence, I will read two answers, you select the one 'that best describes what happens to you or how you feel.' There are no right or wrong answers, just select the one best for you (repeat directions when necessary so the student can make a choice)."

Pre-Assessment Instructions on the PIAT Mathematics Subtest for all Students. (Experimenter) "I will be asking you some mathematics problems. On each task you will have an opportunity to look at four different answers. You should decide which answer you think is best and point to it (directions can be repeated). If you have difficulty selecting a best answer, look at all of the choices again, then make a selection (follow PIAT directions explicitly for administration)."

Instructions for the Experimental Phase. (Experimenter) "I am going to give you some tasks to solve. I would like for you to try as many of the tasks as you can. You will have enough time to complete many of the tasks, but work quickly. Do the very best you can!"

Group One (AR) Instructions

(Experimenter) "Today (days two through eight) I will be showing you some designs. Each time I show you a design I will give you four blocks. I want you to put the blocks together to make a design like the one on the card.

First, I will take the blocks and make a design like the one on this card. Watch me. (use example card) Now, I want you to try it. (Assist child with example until correctly reproduced). Now I will show you a card and give you four blocks. You make a design like the one on the card." (Results and time should be recorded on the response form.)

The procedure to be followed for the ten block designs administered each day and the order of presentation of the cards for the seven experimental training sessions will be as follows:

Day 1:	(1-s)	(10-s)	(5-s)	(4-u)	(3-s)	(6-s)	(7-u)	(8-s)	(9-u)	(2-s)
Day 2:	(5-s)	(7-s)	(1-u)	(3-s)	(9-s)	(10-s)	(4-s)	(2-u)	(8-s)	(6-u)
Day 3:	(9-s)	(6-s)	(3-s)	(5-u)	(10-s)	(1-u)	(7-s)	(4-u)	(8-s)	(2-s)
Day 4:	(3-s)	(6-u)	(4-s)	(10-s)	(5-s)	(2-u)	(9-s)	(7-s)	(1-u)	(8-s)
Day 5:	(6-s)	(8-s)	(2-u)	(1-s)	(5-s)	(10-u)	(3-s)	(4-u)	(7-s)	(9-s)
Day 6:	(9-s)	(7-u)	(2-s)	(6-u)	(3-s)	(4-s)	(8-s)	(5-s)	(1-u)	(10-s)
Day 7:	(4-s)	(8-s)	(9-s)	(2-u)	(1-s)	(7-u)	(6-s)	(10-u)	(3-s)	(5-s)

The "s" and "u" trials denote that the tasks are solvable (s) or unsolvable (u), respectively. When an "s" trial is being presented, the experimenter should place the appropriate card on the table, in front of the student. He should then be given the four WISC-R blocks, so that he may attempt the task. When a "u" trial is being presented, the experimenter should place the appropriate card on the table, in front of the student. The experimenter should then give the one WISC-R block and the three experimental blocks to the student, so that he may attempt the task.

The order of presentation of the cards is noted above by the numbers one through ten. Each block design card is numbered on the back.

When the student participant solves an individual design, the experimenter will say, "That was right, you tried very hard."

When a solvable task is incorrectly reproduced, the experimenter will say, "You tried."

When an unsolvable item is completed or terminated after forty-five seconds, the student participant will be told, "That was wrong, you should try harder."

The experimenter should encourage the student to attempt tasks. However, one should be very cautious about providing extraneous verbal or non-verbal feedback to the student, except as indicated by specific directions included in the experimental training phase.

(Experimenter) "You have completed the tasks for today. Tomorrow you will come back to help again. Remember, do not talk to your friends about what you get to do in here. I want it to be a surprise for them when they come in to help."

Group Two (R) Instructions

(Experimenter) "Today (days two through eight) I will be showing you some designs. Each time I show you a design I will give you four blocks. I want you to put the blocks together to make a design like the one on the card. Each time that you complete an item correctly, you will be given a check on the reinforcement form, which can be used later to earn a prize.

First, I will take the blocks and make a design like the one on this card. Watch me. (use example card) Now, I want you to try it. (Assist the child with the example until correctly reproduced). Now, I will show you a card and give you four blocks, you make a design like the one on the card. Remember, when you complete one correctly you will get a check." (Results and time should be recorded on the response form.)

The procedure to be followed for the ten block designs administered each day and the order of presentation of the card for the seven experimental training sessions will be as follows:

Day 1:	(1-s)	(10-s)	(5-s)	(4-u)	(3-s)	(6-s)	(7-u)	(8-s)	(9-u)	(2-s)
Day 2:	(5-s)	(7-s)	(1-u)	(3-s)	(9-s)	(10-s)	(4-s)	(2-u)	(8-s)	(6-u)
Day 3:	(9-s)	(6-s)	(3-s)	(5-u)	(10-s)	(1-u)	(7-s)	(4-u)	(8-s)	(2-s)
Day 4:	(3-s)	(6-u)	(4-s)	(10-s)	(5-s)	(2-u)	(9-s)	(7-s)	(1-u)	(8-s)
Day 5:	(6-s)	(8-s)	(2-u)	(1-s)	(5-s)	(10-u)	(3-s)	(4-u)	(7-s)	(9-s)
Day 6:	(9-s)	(7-u)	(2-s)	(6-u)	(3-s)	(4-s)	(8-s)	(5-s)	(1-u)	(10-s)
Day 7:	(4-s)	(8-s)	(9-s)	(2-u)	(1-s)	(7-u)	(6-s)	(10-u)	(3-s)	(5-s)

The "s" and "u" denote that the tasks are solvable (s) or unsolvable (u), respectively. When an "s" trial is being presented, the experimenter should place the appropriate card on the table, in front of the student. He should then be given the four WISC-R blocks, so that he may attempt the task. When a "u" trial is being presented, the experimenter should place the appropriate card on the table, in front of the

student. The experimenter should then give the one WISC-R block and the three experimental blocks to the student, so that he may attempt the task.

The order of presentation of the cards is noted above by the numbers one through ten. Each block design card is numbered on the back.

When a solvable task is completed, the experimenter will say, "That was right." In addition the student will be reinforced with a check on the reinforcement form.

When a solvable task is incorrectly reproduced, the experimenter will say to the student, "You didn't get it, no check mark." The experimenter will then proceed to the next item.

When an unsolvable item is completed or terminated after forty-five seconds, the student participant will be told, "You didn't get it, no check mark."

The experimenter should encourage the student to attempt tasks. However, one should be very cautious about providing extraneous verbal or non-verbal feedback to the student, except as indicated by specific directions included in the experimental training phase.

(Experimenter) "You have completed the tasks for today. Tomorrow you will come back to help again. Remember, do not talk to your friends about what you get to do in here. I want it to be a surprise for them when they come in to help."

Group Three (ARR) Instructions

(Experimenter) "Today (days two through eight) I will be showing you some designs. Each time I show you a design, I will give you four blocks. I want you to put the blocks together to make a design like the one on the card. Each time that you complete an item correctly, you will be given a check mark on the reinforcement form, which can be used later to earn a prize.

First I will take the blocks and make a design like the one on this card. Watch me. (use example card) Now, I want you to try it. (Assist child with the example until correctly reproduced.) Now, I will show you a card and give you four blocks, you make a design like the one on the card. Remember, when you complete one correctly, you will get a check mark." (Results and time should be recorded on the response form.)

The procedure to be followed for the ten block designs administered each day and the order of presentation of the cards for the seven experimental training sessions will be as follows:

Day 1:	(1-s)	(10-s)	(5-s)	(4-u)	(3-s)	(6-s)	(7-u)	(8-s)	(9-u)	(2-s)
Day 2:	(5-s)	(7-s)	(1-u)	(3-s)	(9-s)	(10-s)	(4-s)	(2-u)	(8-s)	(6-s)
Day 3:	(9-s)	(6-s)	(3-s)	(5-u)	(10-s)	(1-u)	(7-s)	(4-u)	(8-s)	(2-s)
Day 4:	(3-s)	(6-u)	(4-s)	(10-s)	(5-s)	(2-u)	(9-s)	(7-s)	(1-u)	(8-s)
Day 5:	(6-s)	(8-s)	(2-u)	(1-s)	(5-s)	(10-u)	(3-s)	(4-u)	(7-s)	(9-s)
Day 6:	(9-s)	(7-u)	(2-s)	(6-u)	(3-s)	(4-s)	(8-s)	(5-s)	(1-u)	(10-s)
Day 7:	(4-s)	(8-s)	(9-s)	(2-u)	(1-s)	(7-u)	(6-s)	(10-u)	(3-s)	(5-s)

The "s" and "u" trials denote that the tasks are solvable (s) or unsolvable (u), respectively. When an "s" trial is being presented, the experimenter should place the appropriate card on the table, in front of the student. He should then be given the four WISC-R blocks, so that he may attempt the task. When a "u" trial is being presented, the experimenter should place the appropriate card on the table, in front of

the student. The experimenter should then give the one WISC-R block and the three experimental blocks to the student, so that he may attempt the task.

The order of presentation of the cards is noted above by the numbers one through ten. Each block design card is numbered on the back.

When the student participant solves an individual design, the experimenter will say, "That was right, you tried very hard." In addition, the student will be reinforced with a check mark on the reinforcement form.

When a solvable task is incorrectly reproduced, the experimenter will say, "You tried," and the check mark will be withheld.

When an unsolvable item is completed or terminated after forty-five seconds, the student participant will be told, "That was wrong, you should try harder," and the check mark will be withheld.

The experimenter should encourage the student to attempt tasks. However, one should be very cautious about providing extraneous verbal or non-verbal feedback to the student, except as indicated by specific directions included in the experimental training phase.

(Experimenter) "You have completed the tasks for today. Tomorrow you will come back to help again. Remember, do not talk to your friends about what you get to do in here. I want it to be a surprise for them whem they come in to help."

Group Four (C) Instructions

Group four will be designated as the "Control Group". They will be administered the pre-assessment and post-assessment instruments. They will receive exposure to the block designs in the same manner as the other treatment groups, yet will not receive attribution retraining or reinforcement.

Instructions for the Post-Assessment Phase

Post-Assessment Instructions on the IAR for all Students. (Experimenter) "I am going to read some questions to you. After I complete a sentence, I will read two answers, you should select the one 'that best describes what happens to you or how you feel.' There are no right or wrong answers, just select the one best for you (repeat directions when necessary so the student can make a choice)."

Post-Assessment Instructions on the PIAT Mathematics Subtest for all Students. (Experimenter) "I will be asking you some mathematic problems. On each task you will have an opportunity to look at four different answers. You should decide which answer you think is best and point to it (directions can be repeated). If you have difficulty selecting a best answer, look at all of the choices again, then make a selection (follow PIAT directions explicitly for administration).

You have completed all of the work. Tomorrow you will come back for the last session. You will have a chance to ask questions and be able to count up your checks so you can select a prize."

Debriefing Instructions to Students

(Experimenter) "You have completed all of the tasks. The work you have done will help us to know more about how children learn.

Today is your opportunity to ask questions and to share with me what you thought about the tasks. Some of the tasks that you were required to do were not solvable. Everyone who tried them had difficulty with them. When we finish talking about the tasks, you will be able to select a gift from the several choices that I have available. (The

experimenter should attempt to answer any pertinent questions that the student might have).

Thank you again for helping with this work. The work you have done is very important."

"APPENDIX C"

CORRESPONDENCE WITH NORMAN SCHOOL OFFICIALS

NORMAN PUBLIC SCHOOLS
131 South Flood
Norman, Oklahoma 73069

November 6, 1979

William D. Anderson, Jr., Ed. D.
Superintendent
Norman Public Schools
Norman, Oklahoma 73069

Dear Dr. Anderson:

I am submitting, for your review, a proposal to conduct a research study with some school children. The data from the study will help fulfill requirements for my research to complete my dissertation.

The proposed study will involve some training activities with twenty-eight elementary male students from the learning disability resource classes at Wilson, Monroe, Adams, and Kennedy Elementary Schools. The involvement with the students will require about ten minutes daily for ten consecutive days. Parental permission will be required for student participation. A schedule will be arranged with the teacher(s) so that each student will not miss any scheduled classroom activities. Upon completion of the study, individual results will be available to the teacher and parent. Otherwise, all individual information will remain strictly confidential.

Your attentiveness to this request is appreciated. After reviewing my proposal, I would like an opportunity to visit with you and discuss any suggestions or questions you might have.

Sincerely,

Herman Brock

Herman Brock,
School Psychologist

enc.

cc: Ann Ewing - Director of
Special Services

LEARNED HELPLESSNESS IN LEARNING DISABLED CHILDREN: EFFECTS OF ATTRIBUTION RETRAINING AND REINFORCEMENT ON PERSONAL RESPONSIBILITY AND MATHEMATICAL REASONING TASKS

BY

Herman B. Brock

INTRODUCTION:

The field of learning disabilities has been enriched in the last few years due to greater awareness of the problem and intervention with this group of handicapped children. Yet, the term learning disabilities at best is an amorphous term used to describe a heterogenous group of children with learning problems. More specifically, such terms as attentional deficit, perceptual handicap, language impairment, etc., have been used to describe learning disabled children. These specific deficits lead to lowered academic functioning with these children. Secondary to many academic problems among these children are low levels of motivation, frustration, and a feeling of defeat. Many of these children are hesitant about attempting tasks because they believe their efforts will be unsuccessful. Researchers have described this view as

learned helplessness. They suggest that many children do not attempt tasks because they view their responses and the eventual outcome as being independent. Teachers of handicapped children and teachers in the non-handicapped classes repeatedly describe some of the learning disabled children as frustrated, defeated, or maybe as researchers would suggest, "learned helpless." Current research indicates that the learned expectation of helplessness thwarts the motivational drive of the student to invest effort in trying to control the outcome of a task through voluntary efforts.

Some learning disabled children have often been portrayed as lacking motivation, or no longer believe that they are able to learn. Teachers direct much of their instructional time attempting to encourage and motivate the learning disabled children, yet often are not able to convince the children that their efforts are worthwhile.

The purpose of this study is to determine whether altering the learning disabled child's perception of the relationship between his behavior and the occurrence of success or failure experience would result in a change in his response pattern on new tasks in the training situation, and eventually in the classroom. Such results have been obtained with children with reading problems. Since many learning disabled children have concomitant reading problems, this procedure should be effective for them.

THE STUDY:

The proposed study will entail four phases, conducted consecutively. The initial phase will be the administration of an Intellectual

Achievement Responsibility Questionaire and the Mathematics subtest of the Peabody Individual Achievement Test (administration time approximately 15 minutes).

The second phase involves training experiences. A trained examiner will work with each student for a period of about 10 minutes for seven consecutive days. The tasks will involve reproducing ten block designs, similar to those included in the Wechsler Intelligence Scale. The students will be exposed to seven tasks that are solvable and three that are unsolvable, on each day. The order of presentation will have been randomly determined. After completion of each task, the student will be told that he tried very hard or will be encouraged to try harder on the next task. This verbal feedback is referred to as attribution retraining. The ultimate purpose is to get the student to thinking that his "efforts" have allowed him to be successful, and subsequently will allow him to attempt tasks that are difficult for him because he learns that his efforts are related to the outcome.

Phase three will be the post-assessment. This will involve re-administration of the Intellectual Achievement Responsibility Questionnaire and the Mathematics subtest of the Peabody Individual Achievement Test, to all twenty-eight students.

The final day, phase four, will be reserved for allowing the student to ask questions or provide voluntary feedback about the tasks. Each student will be given a small prize for their participation in the study.

STUDENTS:

Twenty-eight children enrolled in the learning disability resource program at Monroe, Adams, Kennedy, and Wilson will be involved.

Parental permission will be required before a student will be allowed to participate in the study (see letter to parent). Also, students will be allowed to make a choice as to whether they wish to participate. Their decision will be honored.

Direct teacher involvement is not required. However, the experimenter, in each school, will plan a schedule for the ten days so that a student's required classroom activities are not interrupted. Individual student results will be available to the teacher(s) and the parents, after completion of the study.

EXPERIMENTER:

I will take full responsibility for communication with the principal and teacher(s) in each of the schools, in addition to talking with parents. Likewise, I will take full responsibility for all materials to be used, data collection, and analysis. Since I have designed the study, it is preferable that I not be involved in the training or post-assessment phases. I am requesting that I be allowed to involve the school counselors and psychometrist for the ten days. Participation by the counselor and psychometrist would be voluntary, since the one hour daily may involve some of their lunch hour, rather than school time.

SUMMARY:

This study will help to determine if learning disabled children are able to alter their perceptions toward difficult tasks, after receiving verbal communication and reinforcement about their performance. Individual results will be available to the teacher(s) and parents, upon completion of the study. The ultimate goal is to teach learning disabled children to be more persistent and productive in school work, after receiving attribution retraining.

NORMAN PUBLIC SCHOOLS
131 South Flood
Norman, Oklahoma 73069

November 15, 1979

Dear Principal:

I have recently submitted, to Dr. Anderson, a proposal to conduct a research study with some children enrolled in the learning disability program at your school. He has approved the request. The study will involve twenty-eight students enrolled in four elementary schools. (See enclosed proposal, etc., for more information.)

I am now requesting your permission to work with five to ten students in the school. This study will last for ten consecutive school days. It will involve the student for about ten minutes each day, in addition to an hour of the counselor's time.

With your permission, I will be sending letters to parents of about ten male learning disabled students enrolled in your school. Upon receipt of written permission from the parent, a schedule will be worked out with your teacher so that the child will not miss any important school activity. Upon completion of the study, information about the child's performance will be shared with the teacher and parent.

With your cooperation and support, I should be able to conduct the study in January, 1980. Results should be available in February or March.

Thank you for your support.

Sincerely,

Herman Brock

Herman Brock,
School Psychologist

enc.

"APPENDIX D"

CORRESPONDENCE WITH PARENTS OF STUDENT PARTICIPANTS

NORMAN PUBLIC SCHOOLS
131 South Flood
Norman, Oklahoma 73069
December 26, 1979

Dear Parents:

Understanding how children learn in school is of paramount importance to parents as well as educators. Learning characteristics in children are quite complex due to individual differences and rate of development. This is especially true for children who have a learning disability. Although several important factors that influence learning have been identified among these children, there are still unknown areas of concern expressed by educators.

In an effort to better understand learning characteristics for these children, further individual work is needed. An opportunity that presently exists will allow your child to work on a one-to-one basis with a certified educator, to help us better understand his learning pattern. Since this involvement will be in addition to regular and special class instruction, your permission is needed for your child to participate in the activities. A schedule will be worked out with the teacher so your child does not miss any scheduled activities in class. Information about your child's performance will be made available to you and your child's teacher. No information will be released to any other person concerning his individual performance. Further information about the learning activities will be made available to you by calling Mr. Brock at 360-0220.

Thank you for your cooperation in allowing me to work more closely with your child.

Sincerely,

Herman Brock

Herman Brock,
School Psychologist

Ann Ewing

Ann Ewing,
Director of Special Services

William D. Anderson

William D. Anderson, Ed. D.,
Superintendent
Norman Public Schools

NORMAN PUBLIC SCHOOLS
131 South Flood
Norman, Oklahoma 73069

I hereby give my permission for

_____

to participate in the learning activities, conducted by Mr. Brock and the school counselor. His maximum involvement will last for a period of ten minutes, on ten consecutive school days. Upon completion of the activities, the results will be shared with his teacher and parents. When the study is completed, parents will receive written notification of the child's performance on the tasks.

Signature of Parent: _____

Date: _____ Phone: _____

PLEASE RETURN THIS PAGE WITH ENCLOSED ENVELOPE AS SOON AS POSSIBLE.

THANK YOU.

EASTERN NEW MEXICO UNIVERSITY
Department of Psychology
Portales, New Mexico 88130

Dear Parent:

Your child, _____, participated in the learning activities conducted by Mr. Brock. The purpose of the activities was to determine whether learning disabled childrens' perception of the relationship between their behavior and the occurrence of success or failure experiences in school related tasks would result in a change in their response pattern.

Specifically, the activities sought to teach your child to reassure himself that he could be more successful on some tasks if he were to continue to put forth a great deal of effort. Such effort would result in a more persistent attitude toward some tasks and should allow him to be more productive in school related work.

The group results indicated, _____
_____
_____
_____
_____
_____

Individually, _____'s performance was
_____
_____
_____
_____
_____

Thank you for allowing me to work with _____.

Sincerely,

Herman Brock,
Assistant Professor of Psychology

"APPENDIX E"

INTELLECTUAL ACHIEVEMENT RESPONSIBILITY QUESTIONNAIRE

AND CORRESPONDENCE WITH AUTHORS

INTELLECTUAL ACHIEVEMENT RESPONSIBILITY QUESTIONNAIRE

1. If a teacher passes you to the next grade, would it probably be

   _____ a. because she liked you; or
   _____ b. because of the work you did?

2. When you do well on a test at school, it is more likely to be

   _____ a. because you studied for it; or
   _____ b. because the test was especially easy?

3. When you have trouble understanding something in school, is it usually

   _____ a. because the teacher didn't explain it clearly; or
   _____ b. because you didn't listen carefully?

4. When you read a story and can't remember much of it, is it usually

   _____ a. because the story wasn't well written; or
   _____ b. because you weren't interested in the story?

5. Suppose your parents say you are doing well in school. Is this likely to happen

   _____ a. because your school work is good; or
   _____ b. because they are in a good mood?

6. Suppose you did better than usual in a subject at school. Would it probably happen

   _____ a. because you tried harder; or
   _____ b. because someone helped you?

7. When you lose at a game of cards or checkers, does it usually happen

   _____ a. because the other player is good at the game; or
   _____ b. because you don't play well?

8. Suppose a person doesn't think you are very bright or clever,

   _____ a. can you make him change his mind if you try to; or
   _____ b. are there some people who will think you're not very bright no matter what you do?

9. If you solve a puzzle quickly, is it

_____ a. because it wasn't a very hard puzzle; or
_____ b. because you worked on it carefully?

10. If a boy or girl tells you that you are dumb, is it more likely that they say that

_____ a. because they are mad at you; or
_____ b. because what you did really wasn't very bright?

11. Suppose you study to become a teacher, scientist, or doctor and you fail. Do you think this would happen

_____ a. because you didn't work hard enough; or
_____ b. because you needed some help, and other people didn't give it to you.

12. When you learn something quickly in school, it is usually

_____ a. because you paid close attention; or
_____ b. because the teacher explained it clearly?

13. If a teacher says to you, "Your work is fine," is it

_____ a. something teachers usually say to encourage pupils; or
_____ b. because you did a good job?

14. When you find it hard to work arithmetic or math problems at school, is it

_____ a. because you didn't study well enough before you tried them; or
_____ b. because the teacher gave problems that were too hard?

15. When you forget something you heard in class, is it

_____ a. because the teacher didn't explain it very well; or
_____ b. because you didn't try very hard to remember?

16. Suppose you weren't sure about the answer to a question your teacher asked you, but your answer turned out to be right. Is it likely to happen

_____ a. because she wasn't particular as usual; or
_____ b. because you gave the best answer you could think of?

17. When you read a story and remember most of it, is it usually

_____ a. because you were interested in the story; or
_____ b. because the story was well written?

18. If your parents tell you you're acting silly and not thinking clearly, is it more likely to be

_____ a. because of something you did; or
_____ b. because they happen to be feeling cranky?

19. When you don't do well on a test at school, is it

_____ a. because the test was especially hard; or
_____ b. because you didn't study for it?

20. When you win at a game of cards or checkers, does it happen

_____ a. because you play real well; or
_____ b. because the other person doesn't play well?

21. If people think you're bright or clever, is it

_____ a. because they happen to like you; or
_____ b. because you usually act that way?

22. If a teacher didn't pass you to the next grade, would it probably be

_____ a. because she "had it in for you"; or
_____ b. because your school work wasn't good enough?

23. Suppose you don't do as well as usual in a subject at school. Would this probably happen

_____ a. because you weren't as careful as usual; or
_____ b. because somebody bothered you and kept you from working?

24. If a boy or girl tells you that you are bright, is it usually

_____ a. because you thought up a good idea; or
_____ b. because they like you?

25. Suppose you became a famous teacher, scientist or doctor. Do you think this would happen

_____ a. because other people helped you when you needed it; or
_____ b. because you worked very hard?

26. Suppose your parents say you aren't doing well in your school work. Is this likely to happen more

_____ a. because your work isn't very good; or
_____ b. because they are feeling cranky?

27. Suppose you are showing a friend how to play a game and he has trouble with it. Would that happen

_____ a. because he wasn't able to understand how to play; or
_____ b. because you couldn't explain it well?

28. When you find it easy to work arithmetic or math problems at school, is it usually

_____ a. because the teacher gave you especially easy problems; or
_____ b. because you studied your book well before you tried them?

29. When you remember something you heard in class, is it usually

_____ a. because you tried hard to remember; or
_____ b. because the teacher explained it well?

30. If you can't work a puzzle, is it more likely to happen

_____ a. because you are not especially good at working puzzles; or
_____ b. because the instructions weren't written clearly enough?

31. If your parents tell you that you are bright or clever, is it more likely

_____ a. because they are feeling good; or
_____ b. because of something you did?

32. Suppose you are explaining how to play a game to a friend and he learns quickly. Would that happen more often

_____ a. because you explained it well; or
_____ b. because he was able to understand it?

33. Suppose you're not sure about the answer to a question your teacher asks you and the answer you give turns out to be wrong. Is it likely to happen

_____ a. because she was more particular than usual; or
_____ b. because you answered too quickly?

34. If a teacher says to you, "Try to do better," would it be

_____ a. because this is something she might say to get pupils to try harder; or

_____ b. because your work wasn't as good as usual?

NORMAN PUBLIC SCHOOLS
131 South Flood
Norman, Oklahoma 73069

December 26, 1979

Virginia C. Crandall
Fels Research Institute
Yellow Springs, Ohio

Dear Dr. Crandall:

I am preparing to conduct a research study with some learning disabled children as part of my doctoral dissertation. The study involves personal responsibility of the students and the effects of attribution retraining (a method developed by Dweck and Repucci in 1973). I would like to use the Intellectual Achievement Responsibility Questionnaire (IAR) to help determine whether the children attribute responsibility to themselves or to some external agent.

I am requesting your permission to use the IAR and to incorporate it into the appendix of my dissertation. I would be pleased to provide you with a summary of my results.

Thank you for your consideration.

Sincerely,

Herman Brock

Herman Brock,
School Psychologist

Wright State University
School of Medicine

Fels Research Institute
800 Livermore Street
Yellow Springs, Ohio 45387
513/767-7324

January 14, 1980

Dr. Herman Brock
Norman Public Schools
Instructional Services Center
131 South Flood
Norman, Oklahoma 73069

Dear Mr. Brock:

Yes, of course, you have my permission to use the Intellectual Achievement Responsibility (IAR) scale for your dissertation research and to include it in the appendix of your dissertation.

I would be most grateful for a summary of the results of your research when it is completed. Best wishes on the success of the investigation.

Cordially,

VCC

Virginia C. Crandall
Chief, Section of Developmental Psychology

VCC/lg