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Intrinsic motivation in students: a comparison of students with learning problems and their non-handicapped peers

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INTRINSIC MOTIVATION IN STUDENTS

A COMPARISON OF STUDENTS WITH LEARNING PROBLEMS AND THEIR NON-HANDICAPPED PEERS

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ABSTRACT

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1995

DR. KLANDERMAN

MA SCHOOL PSYCHOLOGY PROGRAM

The question of what motivates a child to learn has been an important interest to educators, psychologists, and parents as well. Within the domain of motivation, "intrinsic motivation" is an area that holds promise to students with learning problems. The purpose of this study is to see whether students with learning problems are less intrinsically motivated than their non-handicapped peers.

There are two groups of subjects: 30 third-grade students in self-contained classrooms and 30 third-grade students in regular classrooms. Each subject was given the "Scale of Intrinsic Versus Extrinsic Orientation in the Classroom." Statistical procedures were used to determine whether a difference exists between students with learning problems and students without learning problems. It was found that the students in the self-contained classrooms scored lower than the students in the regular classrooms.

MINI-ABSTRACT

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When children are intrinsically motivated and learn out of curiosity and the desire for challenge, competence and self-determination, they achieve higher classroom performance levels. This study used statistics to evaluate the association between intrinsic motivation and higher academic performance. It was found that students with learning problems are less intrinsically motivated then their non-handicapped peers.

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CHAPTER 1: THE PROBLEM

NEED

One of the many challenges facing the classroom teacher is how to motivate the child who has a learning problem. Current theories of motivation document the significant effect of "intrinsic motivation" on academic performance of children with learning problems such as learning disabilities and mild mental handicaps. When these children learn out of curiosity and the desire for challenge, competence, and self-determination, they display higher classroom performance levels than those predicted by assessed levels of intelligence (Harter, 1983; Haywood & Switzky, 1986b; Switzky & Haywood 1985a, 1985b; Zigler & Balla, 1981).

In support of this consideration, there are legitimate concerns regarding traditional operant classroom approaches currently used in educating children placed in special education settings, for example, token economies (Bry & Witte, 1982; Morgan, 1981; Greene, Sternburg, & Lepper, 1976; Lepper, Greene, & Nisbett, 1973; Malouf, 1983). Special education programs that depend heavily on external rewards and incentives in modifying behavior in students with learning problems may be contrary to instructional considerations and approaches that come from current theories. When a teacher uses incentives such as grades,

stickers, praise and other procedures that involve rewarding behavior to meet their needs, this sends a message to the student. Even though these procedures are effective in producing the behavior sought by the teacher, behavior controlled primarily by external incentives is not likely to become internalized by the student or become an intrinsically motivated activity (Switzky, 1985; Switzky & Haywood, 1985a). However, teachers of students with learning problems should not completely eliminate operant methodology in their classrooms. They can be effective in teaching basic academic skills.

The problem with these kinds of instructional approaches, however, is that by themselves they are insufficient over the long-term for sustaining significant growth and generalizable academic growth (U.S. Department of Education, 1986; Torgesen, 1986). To have a larger, long-term effect, instructional approaches need to have a broader teaching strategy that focuses on the internalization and development of intrinsic motivation in students.

PURPOSE

The purpose of this study is to determine whether intrinsic motivation is a key concept in explaining academic performance differences and deficits in children with

learning problems. Teachers need to pay more attention to the mediational dynamics (i.e., shared responsibility and communication between teacher and student in the learning process) if they hope to develop intrinsic motivation and academic growth in their students.

HYPOTHESIS:

Children with learning problems are less intrinsically motivated than their non-handicapped peers.

NULL HYPOTHESIS:

Children with learning problems are not less intrinsically motivated than their non-handicapped peers.

THEORY

Several theories of motivation, each describing different reasons for sustained goal-oriented behavior, have been proposed. Four of them will be discussed: behavioral, humanistic, cognitive and effectance motivation.

The most influential contemporary of learning theory or behaviorism is B.F. Skinner. Skinner believes that operant conditioning plays an important role in complex learning. In

operant conditioning, the process whereby a particular behavior is strengthened, making it more likely that the behavior will occur more frequently, is referred to as reinforcement (Skinner, 1953). If the reinforcement is controlled by someone else and is related to the behavior such as money, a token, stickers, or a smile, then the motivation is extrinsic. Behavior may also be initiated or sustained for intrinsic reasons such as curiosity or the desire for challenge.

Humanistic approaches to motivation are interested in the social and psychological needs of individuals. Humans are motivated to employ behavior to meet these needs. Abraham Maslow believes that there is a hierarchy of needs that directs behavior, starting with physiological and safety needs, love and belonging, esteem and finally self-actualization. Some other important needs that influence motivation are recognition, status, competence, achievement and autonomy. In Maslow's words (1968), "Healthy children enjoy growing and moving forward, gaining new skills, capacities, and powers."

The cognitive approach is the dominant view of motivation in the educational psychology literature. These theories suggest that our beliefs about our success and failure affect our expectations with future performance. How children think is much more important, and more revealing of

their mental ability, than tabulating what they know (Flavell, 1963; Cowan, 1978).

Bandura's social cognitive learning theories demonstrate that observational earning, often referred to as "modeling", is the basic for a wide variety of children's behaviors, such as aggression, helping, sharing, and sex-typed responses (Berk, 1991). Bandura recognized that from early age, children acquire many skills in the absence of direct rewards and punishment, just by watching and listening to others around them (Berk, 1991).

According to Piaget, each child passes through four distinct periods of development. He refers to the stages as sensorimotor, preoperational, concrete operational, and formal operational, sensorimotor. Understanding how a child thinks in each stage will enable teachers to develop strategies that facilitate intrinsic motivation in students. Students who believe that their success due to their ability and effort are motivated toward mastery of skills. Students who think their poor grades are due to inadequate abilities have low self-efficacy, tend to become discouraged and are at risk failure.

Susan Harter (1978, 1983) also has presented a general theory of effectance or mastery motivation that has implications for both defining and understanding the development of extrinsic and extrinsic motivational

orientation in children with learning problems. Her theory is based on the ideas that effectance motivation, using one's own cognitive resources to the fullest, is intrinsically gratifying and motivating. The development of an intrinsic motivational orientation is believed to come from positive reinforcement or approval by adults or teachers for independent mastery attempts early in development. This leads the children to develop feelings of competence, of being in control of their success and failure and increases their effectance motivation and intrinsic motivation (Schultz & Switzky, 1990). This increased sense of intrinsic pleasure helps to motivate children to engage in subsequent mastery behavior. As a result, children internalize two critical systems, (a) a self-reward system and (b) a system of standard or mastery goals that lowers the child's dependency on external social reinforcement (Schultz & Switzky, 1990).

DEFINITIONS

Motivation - used by educators to describe the process of initiating, directing, and sustaining goal oriented behavior.

Motivational Orientation - a learned personality trait that characterizes individual children in terms of the incentives that are effective in motivating their behavior, whether they are task intrinsic or task extrinsic. The reasons why a child performs an activity.

Effectance Motivation - using one's own cognitive resources to the fullest, is intrinsically gratifying and motivating.

Intrinsic Motivation (IM) - individuals who characteristically seek their principal satisfaction by concentrating on task-intrinsic factors (e.g., responsibility, challenge, opportunities to learn, creativity, and task achievement).

Extrinsic Motivation (EM) - individuals who tend to concentrate on the ease, comfort, safety, security, and practicality aspects of the environment (i.e., task-extrinsic factors). Tokens, stickers, and grades are some external incentives used to control behavior.

Mediational Learning Experiences (MLE) - a type of teacher/student interaction that are both cognitive and motivational in their effect. The active participation of the child and the sense of responsibility for joint outcome engendered by the interaction leads to a greater sense of intrinsic motivation (Bandura, 1981).

Reinforcement - a procedure for strengthening behavior (making it likely to be repeated) by providing certain kinds of consequences.

Reward Contingency - the nature of the relationship between Behavior and its reward.

Achievement Motivation - refers to the level of one's motivation to engage in achievement behaviors, based on the interaction of such parameters as need for achievement, expectancy of success, and the incentive value of success.

LIMITATIONS

A major limitation in this study is sample size. Ideally, more children in the 3rd grade in both the regular and special education classroom should have been tested. Also, each specific classification could have been studied

separately, instead of grouping children with attention deficit disorder, learning disabilities, or mild mental retardation into one entity. However, due to the time restriction, it was an impossible task. Another limitation deals with the test. Anytime a test is administered by different people, the results could vary. Examples of some influences during administration of a test include the test environment: room temperature, level of lighting, time of day, amount of noise, etc. If time permitted, a variety of assessment devices, along with observation by the teacher over a period of time could have been used to capture the complex variables that contribute to motivational development.

ASSUMPTIONS

The first assumption is that the subjects in the study generalize to the population. The subjects were taken from 3rd grade regular and special education classes, and then compared. The second assumption is that the tests were administered in the same way to all subjects. There were two different administrators (one for regular classes; one for special education) and both gave the same instructions to the subjects.

OVERVIEW

Chapter 1 illustrates how intrinsic motivation seems to have a long-term effect for sustaining significant and generalizable academic growth. In Chapter 2, intrinsic motivation will be discussed in more detail and the recent literature will be reviewed. The review will begin with the definition of motivation followed by definitions of intrinsic and extrinsic motivation. Next, it is important to review some of the factors of motivation which include: Conflicting opinions on intrinsic and extrinsic motivation; different kinds of motivation; and strategies used to motivate learners.

In Chapter 3, design of the study, the nature of the sample and the device used for measuring the characteristics being studied will be specified. Also the specific design of the study, and the nature of the variables will be reviewed. And finally, the testable hypotheses will be stated using both the null hypothesis and the alternative hypothesis, and models used in the analysis of the design will be discussed.

CHAPTER 2: REVIEW OF LITERATURE

I. General Review of Motivation

For many years the question of what motivates a child has been asked by educators, psychologists and clinicians. Motivation as used by educators is the process of initiating, directing, and sustaining goal oriented behavior. It is a very complex phenomenon that involves many factors affecting how an individual completes tasks. Motivation which is very difficult to measure by intelligent tests and still really a mystery, has a great deal to do with the child's success in using his mental ability (Healy, 1987). Children are naturally motivated to learn, to master their environments, and to feel competent (Healy, 1987). To accomplish this, children must feel respected and cared for by their parents and teachers. Natural excitement, the love of learning, and the desire to know are seen very clearly in children in kindergarten and the primary grades (Bennett, 1990). However, as students grow older, the excitement dims and teachers have to do something to motivate students to learn.

II. Intrinsic Motivation

Recently, within the domain of motivation, there has been a growing emphasis on "intrinsic motivation." For

Haywood and Switzky (1975, 1985), intrinsic motivation is the primary concept in a cognitive theory of motivational orientation, in which the main idea is behavior for its own sake and as its own reward.

Children who seek their principal satisfactions by concentrating on task-intrinsic factors (e.g., responsibility, challenge, creativity, opportunities to learn, and task achievement) are referred to as intrinsically motivated (Schultz & Switzky, 1990). Those who tend instead to avoid dissatisfaction by focusing on the ease, comfort, safety, security, and practicality aspects of the environment are referred to as extrinsically motivated (Schultz & Switzky, 1990). All individuals respond to each kind of incentive differently. However, it is the balance between the two that constitutes a stable and measurable trait (Schultz & Switzky, 1990). In today's classrooms, motivational inequality is widely spread. Some students persist and work independently for their own intrinsic interest, while others work because they are required to and do not believe their actions are related to success and failure (Nicholls, 1979).

In two early studies using both handicapped and non-handicapped subjects, Haywood (1968a, 1968b) found that intrinsically motivated, learners worked harder and longer on a task than the extrinsically motivated learners. On

tests of school achievement, the IM learners were characterized as "overachievers" and the EM learners as "underachievers." Of great importance was the finding that these motivational influences intensity as the intellectual ability levels of the students decrease and that a disproportionate number of low-ability children were reported to be extrinsically motivated (Haywood, 1968a).

In a follow up study (Haywood, 1968b), school achievement scores of intrinsically and extrinsically motivated 10-year-olds were matched on age, sex, and IQ, in reading, spelling, and arithmetic. They were then compared over a 3-year period. The results showed that the achievement scores of intrinsically and extrinsically motivated students in the superior intelligent groups did not differ as a function of motivational orientation in any achievement areas. However, in both the average and low normal groups, the intrinsically motivated students were achieving in school at about one full grade level ahead of the extrinsically motivated students in the same IQ group.

This study suggests that low ability intrinsically motivated students may compensate for their lower intelligence levels by increasing their effort and intrinsic involvement in academic activities (Haywood, 1968a, 1968b). This finding has been further validated in more recent studies (Switsky & Haywood, 1984, 1985a, 1985b) looking at

individual differences in non-handicapped children and children with learning problems in intrinsic and extrinsic motivation and how these affect learning and performance in the classroom. This study also found that having an intrinsically motivational orientation to learning is helpful to the student. Performance levels seem to be at or above those predicted by mental age levels. Also, this motivational effect was reported to be most significant in children who have learning problems (Schultz & Switzky, 1990).

The previous studies are just a few examples of many that deal with motivation. The following pages review conflicting opinions on both intrinsic and extrinsic motivation. It is also important to note various kinds of motivation and the ramifications involved. They include motivation used in the classrooms, praise as a reward, and how creativity is affected by rewards. The final section will review the development of intrinsic motivation in the classroom.

III. Intrinsic versus Extrinsic Rewards

For some 20 years, the claim has been made that systematic reinforcement undermines student learning (Chance, 1992). Not all forms of reinforcement are

considered bad. A distinction is made between reinforcement involving intrinsic reinforcers or rewards, as they are often called and reinforcement involving extrinsic rewards. Only extrinsic rewards are said to be harmful to students (Chance, 1992).

The distinction between intrinsic and extrinsic rewards has been maintained partly because extrinsic rewards are said to be damaging (Dickinson, 1990). Are they? If teachers smile, congratulate, praise, say "thank you" or in any way give a positive consequence (a reward) for student behavior, will the student be less inclined to repeat that same behavior when the reward is no longer available? Rewards can get people to do what we want in the short term: read a book, share a toy, complete an assignment. But they rarely produce effects that survive the rewards themselves. Extrinsic motivators do not alter the attitudes that underlie our behavior. They do not create an enduring commitment to a set of values or to learning: they temporarily change what people do (Kohn, 1993).

According to Chance (1992), using extrinsic rewards proves effective in teaching or maintaining good discipline. Some teachers believe that extrinsic rewards should be used, even if they reduce interest in learning. They feel that it's better to have students read even if they only do it when required than to have them not read at all. However,

the evidence overwhelmingly demonstrates that extrinsic rewards are ineffective at producing lasting change in attitudes or behaviors (Kohn, 1993). Studies have found that rewarding people for losing weight, quitting smoking, or using seat belts is less effective than using different strategies and can prove worse than doing nothing at all (Kohn, 1993).

If rewards do reduce interest and motivation, then it is of great importance to understand these effects. "The teacher may count himself successful," wrote B.F. Skinner, "when his students become engrossed in his field, study conscientiously, and do more than is required of them, but the important thing is what they do when they are no longer being taught" (Skinner, 1968, p. 162). Whether rewards adversely affect motivation is of practical importance to the teacher.

In a typical experiment, Greene and Lepper (1978), observed 3-to 5-year-old nursery school children playing with different toys. The children were given felt tip pens of various colors and paper to draw on. The researchers promised some children a "Good Player Award," and asked others to draw pictures without receiving a reward.

The researchers returned to the school two weeks later, gave the children felt tip pens and paper, and observed the children. They found that children who had been promised an

award spent only half as much time drawing as they had the first time. The students who had received no reward showed no decline.

The outcome of this study and others like it are fairly consistent. People who expect to receive a reward for doing something don't perform as well or even bother to try as those who expect nothing. When the reward is gone so is any original interest in the work. In general, the more cognitive sophistication and open-ended thinking required, the worse people perform when they are working for a reward (Greene & Lepper, 1978).

Extrinsic rewards appear to have detrimental effects on intrinsic motivation, when initial interest is high, when extrinsic constraints are salient, and when they provide a "bribe" for participation in the activity (Leeper & Hodell, 1989). Leeper (1981) found that unnecessarily powerful extrinsic rewards, temporal deadlines, and excessive adult surveillance all can be shown to have effects on children's later intrinsic interest in the activity. The detrimental effects on intrinsic motivation are less likely to occur when extrinsic rewards are seen as bonuses rather than bribes (Switzky, 1991).

Research also tells us that if children will do an activity voluntarily, the activity is satisfying enough to justify itself (Katz, 1988). Once you give a reward like a

sticker or candy, the activity becomes overjustified, and the child thinks something like "I must be nuts to like doing this if they reward me for doing it." Thus, added rewards actually diminish interest.

According to Dickinson (1991), there are three kinds of reward contingency all extrinsic in nature. Task-contingent rewards are given for merely participating in an activity, without regard for standard of performance. Performance-contingent rewards are available only when the student obtains a certain standard. Performance-contingent rewards might produce negative results. And finally, success-contingent rewards are given for good performance and may reflect success toward a goal. Dickinson (1991) concludes that the danger of undermining students motivation comes not from extrinsic rewards, but from the use of inappropriate reward contingencies. Rewards reduce motivation when they are given without regard to performance or when the performance standard is so high that students fail (Chance, 1992). When students have a high rate of success and those successes are rewarded, the rewards do not have negative effects. Dickinson (1991) contends that this finding "is robust and consistent. Even strong opponents of contingent rewards recognize that success-based rewards do not have harmful effects" (p. 204).

The evidence shows that extrinsic rewards can either enhance or reduce interest in an activity, depending on how they are used in the particular situation. However, because extrinsic rewards sometimes cause problems, it might be wise to avoid their use altogether.

One of the reason rewards are so ubiquitous, researchers find, is that they actually destroy intrinsic motivation and make people dependent on external rewards (Schrof, 1993). This cycle can be seen throughout society, from the home to school to the workplace. Kohn (1993) believes that "Rewards motivate people very well. They motivate people to get more rewards. The more rewards are used the more they are needed" (p. 55).

Kohn (1993) and others who study rewards know that incentives are not about to disappear anytime soon. They do not advocate a completely reward free society. "It's not that rewards are bad, but rewards which are used in a manipulative way sap the intrinsic motivation that leads to excellence." (Amabile, 1979, p. 224). Intrinsic motivation can be fostered or rekindled by allowing students to have more control over their lives, and by putting away the carrot-and stick style of leadership in favor of a more democratic style of decision making (Schrof, 1993).

IV. Rewards used in Education

There is a growing prevalence of rewards used with children in education. Schools nationwide are offering certificates, prizes, and other incentives from everything to completing homework to getting certain grades. These instructional reinforcements can be derived from the provision of verbal, symbolic, tangible or other rewards desirable for academic performance or effort in the classroom (Cotten, 1988). However, even more research indicates that these rewards undermine interest.

The grading process itself is an external reward (and punishment) that makes kids like learning less (Kohn, 1993). He believes in de-emphasizing grades and other rankings, to help children get rid of anxiety about how well they are doing, and giving students more control over how they learn.

All educators do not agree that rewards are harmful to learning. Chance (1992) feels that students actually learn better when given appropriate reinforcements, such as rewards clearly signaling that they are making progress. Although he acknowledges that some rewards can be harmful if standards are set too high, he contends that intrinsic motivation is not always enough to guarantee efficient learning and that rewards can act as a valuable supplement.

According to Connell & Harter (1984), the child's motivational orientation and related self-perceptions should predict his/her actual achievement. Thus, an intrinsic motivational orientation, along with positive feelings of competence and perceptions of personal control over outcomes, should be associated with higher levels of achievement in school (Connell & Harter, 1984). Conversely, lower levels of achievement would be expected from the child whose motivational orientation was more extrinsic, whose perceptions of competence were relatively low and whose perceptions of control were relatively external (Harter & Connell, 1984).

This means that getting children to think about learning as a way to receive a sticker, a gold star, or a grade, which amounts to an extrinsic motivator for an extrinsic motivator, is likely to turn learning from an end into a means (Kohn, 1993). Learning then becomes something that must be gotten through in order to receive the reward, possibly affecting the outcome of the child's academic achievement.

V. Words as Rewards

The simple words of approval and admiration are so powerful, that the late psychologist B.F. Skinner felt that

praise can be one of the greatest tool in behavior modification (Schrof, 1993). Although researchers agree that encouragement is essential for everyone, studies have found that praise can be just as manipulative as any other reward and just as destructive to creativity, perserverence and performance (Schrof, 1993). Even behaviorists who advocate heavy use of praise for positive reinforcement in the classroom say that its power can be misused.

Kohn (1993) argues that praise should not be considered synonymous with human kindness. He believes that children can become completely dependent on praise and in the process can lose any love of doing things for their own sake. Experiments show that children who are praised for being generous with others actually end up being less generous than those receiving no strokes (Schrof, 1993).

Another downside to praise is that it is very disruptive on confidence, concentration and performance. People who receive praise often become so self-conscious of their good standing that they cannot focus on the task at hand, or avoid challenging themselves in order to prevent the possibility of failure.

Although words of praise may be more subtle than other rewards, the psychological issue is one of power and manipulation (Schrof, 1993). Praise carries with it the

possibility of criticism. Today the child is perfect but tomorrow he/she is worthless.

Kohn (1993) isn't promoting stony-faced silence but recommends plenty of warmth and encouragement. There can't be any strings attached in order to get the child to do something. Parents need to make sure they praise for the right reasons.

However, there are conflicting viewpoints on whether praise is good for children. According to McDaniel (1987), verbal praise can be a powerful tool if teachers understand the requirements of effective praise. He believes that teachers should give descriptive details about a specific thing he or she likes about student behavior. For example, instead of just saying "You are doing a good job on your drawing," the teacher should add "I like the way so many of you are using contrasting colors."

McDaniel (1987) does admit that praise can be overdone and should be sincere. He feels that teachers could use more praise, especially to compliment students on how they came into the room quietly, how they started work efficiently, how they took turns, and how they kept the classroom free of trash. Positive reinforcement can build a positive self-concept, develop an attitude for success, and enhance instructional motivation for students (McDaniel, 1987).

VI. Creativity and Motivation

Creativity takes a special beating in a reward-driven system not allowing the children to use their imagination (Schrof, 1993). If you place a reward in front of a child, he/she will take the quickest and easiest but not the most imaginative route to that reward. Psychologist Teresa Amabile (1979) found that professional artists produce less creative works judged by other artists, when they have signed a contract to sell their art work upon completion. When other study subjects were rewarded for remembering certain types of information from a piece of reading, they had difficulty recalling what they were asked and their recollection of other facts dropped to almost nothing. Researchers call this "incidental learning." Cognitive psychologists consider incidental learning essential to creativity because it gives the learner a broad base of knowledge, allowing new ideas and associations to form. In children as young as 3 as well as working adults, rewards, competition, and performance evaluations consistently reduce creativity (Amabile, 1979). It does so in areas ranging from art to writing to complex problem solving.

VII. Development of Intrinsic Motivation

Children obtain knowledge in two ways (Feuerstein & Rand, 1974: Haywood, Brooks, & Burns, 1986). First they teach themselves by learning through natural exposure to environmental stimuli because of their inborn intrinsic motivation to learn. They independently acquire very complex skills and abilities (Schultz & Switzky, 1990). Two examples of this process are ambulation and language. The other way children learn is from significant others in their lives. They acquire knowledge and understanding of skills from their parents and teachers which are not learned easily or naturally.

Teachers and parents can play an important role in maintaining and shaping the natural ability in children to learn intrinsically, depending on how they communicate and interact with children (Schultz & Switzky, 1990). The promotion of intrinsic motivation to learn in children is best accomplished when adults create mediational learning experiences. Adult-child instructional interactions that lack this mediational quality can undermine the inborn intrinsic motivation that most children bring in the beginning of their learning experience (Harter, 1978, 1983).

In order to be considered mediated learning experiences, interaction between students and mediating teachers must meet the following criteria (Haywood, Brooks, & Burns, 1986):

1. Transcendence. The intended change will permit the student to apply new processes of thought to new situations.

2. Intentionality. To produce cognitive change the teacher must intend to use the interaction.

3. Mediation of feeling of competence. The teacher gives feedback on the child's performance by praising what is done correctly.

4. Communication of meaning and purpose. Long-range, structural, or developmental meaning and purpose of a shared activity is communicated by the teacher.

5. Sharing. The teacher and the student share the search for new knowledge, solutions to problems and developmental changes in the child's cognitive structure.

6. Promote self-regulation of student's behavior. A students behavior is brought under control when he/she is can focus attention on the task at hand. In the beginning, operant controls need to be removed systematically and slowly so that behaviors are maintained with less direct extrinsic reinforcement.

The more cognitive ability, intrinsic motivation, and environmental opportunity a child has, the more easily a child learns and the greater the proportion he learns naturally and independently (Schultz & Switzky, 1990). Children who have problems that impede child development, such as impoverished environments, mental retardation, learning disabilities, and emotional disturbances will need more time to develop these mediated learning experiences. Mediational experiences have been used successfully with students in both regular and special education classrooms (Feuerstein, Rand, Hoffman, & Miller, 1980; Haywood, Brooks, & Burns, 1986; Paur, 1978; Schweinhart & Weikart, 1981).

Research that demonstrates the utilization of a mediational-type approach to instructing students with learning problems in the classroom has been conducted by Annemarie Palincsar and Ann Brown (Brown & Palincsar, 1982, 1987; Palincsar & Brown, 1984). The importance of this research is that they were able to report significant maintenance and generalization of academic achievement in

students with learning problems. Students receiving this mediational-type teaching approach far outperformed students receiving any control interventions. These findings provide some justification for a greater focus on the use of mediational teaching approaches as a way of promoting intrinsic motivation in the learning process for children with learning problems (Schultz & Switzky, 1990).

VIII. Summary

After reviewing the literature, it is seen that motivation is indeed a complex phenomenon. There is much debate over using intrinsic or extrinsic motivation as an avenue to accomplish academic achievement. Intrinsic rewards present the most promising alternative to extrinsic rewards. Experts on reinforcement, including defenders of extrinsic rewards, universally acknowledge the importance of intrinsic rewards (Chance, 1992).

Intrinsic rewards actually teach, unlike punishment and encouragement. Students who can see that they have figured out a problem correctly, know how to solve other problems of that kind. Also, unlike extrinsic rewards, intrinsic rewards do not depend on the teacher or someone else.

There are problems with intrinsic rewards just as there are problems with extrinsic ones. Sometimes students lack

the necessary skills to obtain intrinsic rewards. To help these students, teachers must develop new strategies such as the creation of mediational learning experiences. At the same time, there is much that can be accomplished by using both operant methodology and intrinsic orientation in a classroom. Understanding basic academic skills and long-term effects in learning can be achieved if both techniques are used properly.

As seen in the previous pages, a steady stream of research has found that rather than bolstering motivation and productivity, rewards actually undermine interest and diminish performance (Schrof, 1993). Praise, which was covered in section IV of this review, was also under attack for its disruptive effects on confidence, concentration and performance. But at the same time, McDaniel (1987) feels that positive reinforcement in practice can build a positive self-concept, develop an attitude of success and enhance instructional motivation from students.

Another area affected by using a reward system is creativity. In adults, creativity is generally regarded as the demonstration of unusual accomplishment at some intrinsically meaningful activity, such as writing, painting, science or mathematics (Wallach 1985). Children are not yet mature enough to make these types of contributions but certainly should be given the opportunity.

If teachers continue to rely solely on rewards, a child may feel that forming new associations or ideas is not worth it.

The focus on this present study is on intrinsic motivation. Children who have learning problems are reportedly less intrinsically motivated than their non-handicapped peers (Harter, 1981; Haywood, 1968a; Haywood & Switzky, 1986a; Thomas, 1979; Thomas & Pashley, 1982). The external motivational orientation of these children requires and encourages use of operant instructional approaches in special education classrooms and programs. However, if the developmental pathways leading to an intrinsic orientation toward learning consist of experiences that encourage intrinsically motivated self-regulatory behavior, then teachers of children with learning problems must modify and supplement classroom practices with methodology that promotes and encourages intrinsic motivation (Feuerstein & Rand, 1974; Harter, 1983; Haywood, Brooks, & Burn, 1986; Silon & Harter, 1985).

The nature of operant instructional approaches and techniques may be responsible for student failure to become intrinsically motivated and reach academic growth in the classroom. The present study investigates the comparison between children with learning problems and their non-handicapped peers to determine whether a difference in exists between intrinsic and extrinsic motivation.

CHAPTER 3: DESIGN OF THE STUDY

SAMPLE

There were two groups of subjects. The first group of subjects in the study were 30 third grade students in self-contained classrooms. There were 20 males and 10 females. The classifications of these children consisted of 13 perceptually impaired, 15 neurologically impaired, and 2 with mild mental retardation. According to all three teachers, most of the students had attention deficit disorder with/without hyperactivity. Those students who were hyperactive presently take Ritalin. Their ages ranged from 9 to 10. Parents approved their children to participate in the study.

The second group of subjects in the study were 30 third grade students in regular classrooms. There were 15 males and 15 females. None of these students had a learning problem that would warrant classification. Their ages ranged from 9 to 10. Parents approved their children to participate in the study.

In the group of students with learning problems, 21 came from Winslow Township, N.J. and 9 came from Washington Township, N.J. Both of these groups were from Southern N.J. As for the regular group of students, 30 came from Richmond, Va. Although there were children from Virginia included in

the sample, both groups came from similar suburban areas and have similar socioeconomic status.

MEASURE

Each group was given "The Scale of Intrinsic Versus Extrinsic Orientation in the Classroom," which is used to assess the child's motivation for classroom learning determined by intrinsic interest or extrinsic orientation (Harter, 1980). Using this as a framework, five dimensions of classroom learning were delineated as having both an intrinsic and extrinsic motivational pole:

Intrinsic Pole		Extrinsic Pole
1.Preference for Challenge	vs.	Preference for Easy Work
2.Curiosity/Interest	vs.	Pleasing the teacher/Grades
3.Independent Mastery	vs.	Dependence on the teacher
4.Independent Judgment	vs.	Reliance on Teacher
5.Internal Criteria	vs.	External Criteria

The Scale is a 30-item scale that uses a "structured alternative format." The child is first asked to decide which kind of kid is more like him or her, and then asked whether this is only sort of true or really true for him or her. The effectiveness of this question format is that half

of the children in the world (or in one's reference group) view themselves in one way, whereas the other half view themselves in the opposite way.

Each item is scored on an ordinal scale from 1 to 4, where a score of 1 indicates the maximum extrinsic orientation, and a score of 4 indicates the maximum intrinsic orientation. After the individual items have been scored, they are transferred to a Data Coding Sheet. Average or mean scores for each child, on each subscale will depict the child's profile across the five dimensions. An Individual Pupil Profile form, for plotting subscale profile scores is then used to determine the child's overall motivational orientation.

The scale's validity was based on factor analytic procedures. The factor pattern clearly reveals that a five-factor solution, reflecting the five subscales, is appropriate. The average loadings for items on their designated factors is between .46 and .53, and no items systematically cross-load on other factors (Harter, 1980).

Each subscale's reliability was assessed by employing a reliability coefficient (Kudor-Richardson Formula 20) which provides an index of internal consistency. Across the samples from New York, California, and Colorado, reliabilities range from 0.78 to 0.84, 0.68 to 0.82, 0.70 to 0.78, 0.72 to 0.81 and 0.75 to 0.83, for Challenge,

Independent Mastery, Curiosity, Judgment, and Criteria subscales, respectively.

In examining the subscales and item content, the following distinction is notable. The Challenge, Curiosity, and Mastery subscales each have a distinctive motivational flavor in that they tap issues involving what the child wants to do, likes to do, and prefers (Harter, 1980). A child with a high score on these subscales is telling us that he/she is intrinsically motivated to engage in the mastery process. In contrast, the Independent Judgment and Internal Criteria subscales seem to tap more cognitive-informational structures. What does the child know, on what basis does he or she make decisions, how much has the child learned about the rules of the game called "school"? A child with a high score tells us that they can make these judgments automatically.

DESIGN

Two groups of subjects participated in the study: male and female 3rd-grade students in both self-contained and regular classrooms. Both groups completed "The Scale of Intrinsic Versus Extrinsic Orientation in the Classroom." The sample of the students with the learning problems were taken from self-contained classrooms and the administrator

was the experimenter. The sample of the children without learning problems was taken from regular classrooms and the administrator was the classroom teacher. The scale was administered to the students individually. All subjects were given the same instructions in the manual. Both administrators emphasized that this was not a test and there were no right or wrong answers. The last names of the subjects were not recorded so they could remain anonymous. Both groups of subjects took approximately 15-20 minutes to complete the scale.

TESTABLE HYPOTHESIS

Hypothesis:

Intrinsic motivation, measured by "The Scale of Intrinsic versus Extrinsic Orientation in the Classroom," is lower among children with learning problems as compared to their non-handicapped peers.

Null Hypothesis:

No significant difference in Intrinsic motivation as measured by "The Scale of Intrinsic versus Extrinsic Orientation in the Classroom," among the students with learning roblems and their non-handicapped peers.

In this present study, students who have learning problems (independent variable), are less intrinsically motivated (dependent variable), than students without learning problems.

ANALYSIS

The statistical technique used in this study, will be the Mann-Whitney, which was developed for use of data measured on an ordinal scale. The Mann-Whitney test is designed to evaluate the difference between two populations, using data from an independent-measures experiment. It is predicted that the students in the regular classrooms will score higher in the intrinsic pole than the students in the self-contained classrooms.

SUMMARY

The present study uses statistical procedures to evaluate the difference between these two groups of students with/without learning problems and to determine their motivational orientation in the classroom. The sample consists of two groups of subjects: third grade students in both self-contained and regular classrooms. Each subject was given "The Scale of Intrinsic versus Extrinsic Orientation

in the Classroom." It is hypothesized that the non-handicapped students will score higher in intrinsic motivation than the students with learning problems.

Chapter 4 will cover the interpretation and analysis of the data using the Mann-Whitney U-Test. By using statistics, the data can be summarized and then compared in a meaningful and manageable way.

CHAPTER 4: ANALYSIS OF RESULTS

RESULTS

Hypothesis: Intrinsic motivation, measured by "The Scale of Intrinsic versus Extrinsic Orientation in the Classroom," is lower among children with learning problems as compared to their non-handicapped peers.

Null Hypothesis: No significant difference in intrinsic motivation as measured by "The Scale of Intrinsic versus Extrinsic Orientation in the Classroom," among the students with learning problems and their non-handicapped peers.

The hypothesis can be accepted and the null hypothesis can be rejected.

After scoring "The Scale of Intrinsic Motivation versus Extrinsic Orientation in the Classroom," it was found that students with learning problems scored lower in all five subscales as a whole (Table 4.1). The results indicate that students with learning problems experience difficulty with preference for challenge, curiosity interest, independent mastery, independent judgment and internal criteria. The regular students' scores were significantly higher in these five areas.

An interesting finding is that students with learning problems prefer easy work, want to please the teacher, depend more on the teacher, and rely on teacher judgment.

Table 4.1

	Self-contained Students		Regular Students	
	Intrinsic	Extrinsic	Intrinsic	Extrinsic
Challenge Subscale	17%	83%	80%	20%
Curiosity Subscale	7%	93%	90%	10%
Mastery Subscale	3%	96%	83%	17%
Judgment Subscale	0%	100%	63%	36%
Criteria Subscale	0%	100%	53%	46%

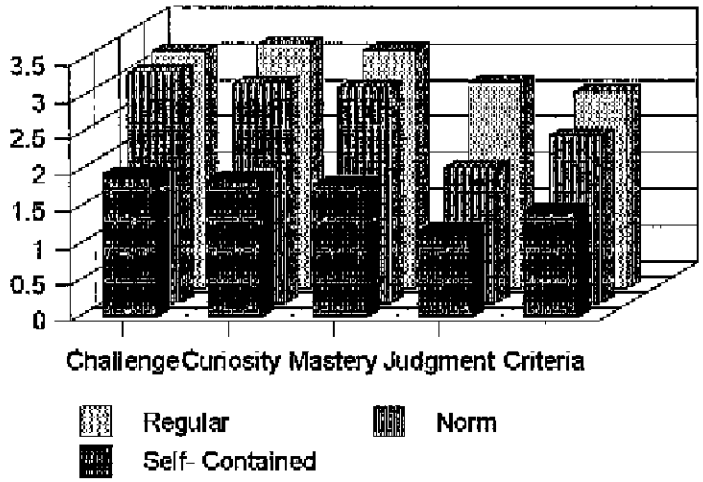
Group scores change systematically with grade and thus a child's score can only be meaningfully interpreted with this norm in mind. A score of 4 designates the maximum intrinsic orientation, and score of 1 designates the maximum extrinsic orientation. The mean demonstrates the differences for both groups used in this study. An overall picture of

the variations can be compared by viewing these averages (See Table 4.2 and Figure 4.1).

Table 4.2

	Challenge	Curiosity	Mastery	Judgment	Criteria
	Mean	Mean	Mean	Mean	Mean
Regular	3.25	3.35	3.26	2.83	2.70
Norm	3.17	3.01	2.96	1.85	2.30
Self-Contained	1.97	1.90	1.83	1.21	1.47

Figure 4.1



The data from Harter, 1980, strongly support the argument that one should identify the components of a construct such as motivational orientation rather than consider a global or unitary construct. Therefore, since the data cannot be merely summed across all items and calculated as a total scale score, each of the 5 subscales were compared individually between the two samples used in the study. Using the Mann-Whitney U-Test, the comparison of intrinsic and extrinsic motivation between self-contained and regular students was found to be statistically significant in each of the 5 subscales: Challenge subscale, (-5.505, $p<.00001$); Curiosity subscale, (-6.2796, $p<.00001$); Mastery subscale, (-6.0762, $p<.00001$); Judgment subscale, (-6.5995, $p<.00001$), and Criteria subscale, -6.5861, $p<.00001$).

SUMMARY

The present study consists of one hypothesis: that students with learning problems are less intrinsically motivated then their non-handicapped peers. The hypothesis is accepted in that significance was found in all five subscales of the testing instrument. The Mann-Whitney U-Test was performed to determine whether a difference existed between the two groups used in this study.

CHAPTER 5: SUMMARY AND CONCLUSIONS

SUMMARY

Current theories of motivation stress the importance of "intrinsic motivation" on academic performance of children with learning problems. When these children learn out of curiosity, challenge, and self-determination, they are more likely to succeed in the classroom. To insure educational success, the personality and motivational aspects of each student need to be addressed so special programs may be developed.

Most special education teachers use external rewards and incentives in changing the behavior of students with learning problems. However, this method is in conflict with contemporary theories of intrinsic motivation. Even though giving a student such incentives as tokens, grades, stickers

and praise may produce behavior sought by the teacher at that moment, it does not promote long-term academic growth. Students are not likely to become internalized by extrinsic incentives, nor are incentives to become intrinsically motivating activities (Switzky, 1985). This does not mean that teachers should disregard operant methodology used in their classrooms. When used properly, they are effective in teaching basic academic skills (Schultz & Switzky, 1990).

The purpose of this study is to determine whether students with learning problems are less intrinsically motivated than their non-handicapped peers. Intrinsic motivation is a key concept in explaining academic performance differences and deficits in children with learning problems (Haywood & Switzky, 1986a, 1986b). If children are to achieve and continue academic growth, the teacher needs to consider approaches that focus on internalization and intrinsic orientation. As mentioned in chapter 2, mediational learning experiences can promote intrinsic motivation. Teachers and parents can maintain and shape the natural ability in children to learn intrinsically.

This present study used statistics to conclude that a significant difference exists between students with learning problems and their non-handicapped peers. The sample consisted of two groups of subjects: 30 self-contained

students in the third grade and 30 regular students in the third grade. Each subject was given "The Scale of Intrinsic Versus Extrinsic Orientation in the Classroom." It was hypothesized that the students with learning problems would score lower than the regular students.

CONCLUSIONS

This study consisted of one hypothesis. It stated that students with learning problems are less intrinsically motivated than their non-handicapped peers. The hypothesis was accepted because the z-score was in the critical region for all five subscales. At the .00001 level of significance, these data do provide significant differences in intrinsic motivation between students with learning problems and their non-handicapped peers.

One finding that was consistent with Harter, 1980, was that even though the differences between the two groups were significant, both groups scored higher on the first cluster (Challenge, Curiosity and Mastery subscales), demonstrating mastery motivation, but scored lower with regard to the second cluster (Judgment and Internal Criteria subscales), reflecting their independence on the information provided by the teacher.

A second finding shows the need to be clear in the use of "intrinsic motivation." The interpretation of the data in this study and in other studies conducted by Harter, 1980, suggest that only three of the given subscales are truly motivational in nature, whereas the remaining two are more informational. The scale used in this study is viewed as a scale of intrinsic versus extrinsic orientation, with separable motivational and informational components.

DISCUSSION

Having an intrinsically motivational orientation to learning is helpful. Performance levels tend to be at or above those predicted by mental ages levels (Schultz & Haywood, 1990). An operantly controlling teacher approach, which is used in many special education classrooms, does not facilitate the development of intrinsic motivation. The results of the present study showed consistent findings, in each of the five subscales, that the students with learning problems were less intrinsically motivated then students in regular classrooms. This limitation of operant instruction may be partly responsible for students' poor performance in various academic subjects. This kind of teaching practice tends to focus student attention away from the intrinsic dimensions of the learning process, and students fail to

sustain the academic gains realized or fail to exhibit them in situations such as regular classrooms where rewards may not be immediate to the learning process (Madden & Slavin, 1983). As a result, the reward becomes an end to itself, and when the reward is gone or less obvious, the student fails to achieve.

The findings in this study lend substantial support to the importance of intrinsic motivational contributions to sustain academic growth. It was found that the students with learning problems were intrinsically motivated in each of the five subscales, respectively; Challenge 17%, Curiosity 7%, Mastery 3%, Judgment 0% and Criteria 0%. As for the students in regular classrooms, their subscale scores in intrinsic motivation were as follows; Challenge 80%, Curiosity 90%, Mastery 83%, Judgment 63%, and Criteria 53%. These results, indicate that students in special education classrooms seem to be influenced by the creation or the maintenance of extrinsic motivation.

IMPLICATIONS FOR FUTURE RESEARCH

This study was a comparison between motivational orientation used by children in self-contained and regular classrooms. Future research needs to view motivational orientation as having components rather than as a unitary

construct. However, the global nature of this construct does makes it difficult to measure or assess correctly.

In addition, school systems are gradually stifling children's intrinsic interest in school learning, specifically in the areas of curiosity, challenge and independent mastery (Harter, 1990). Schools promote a more extrinsic orientation which ultimately affects the child's academic growth. This trend may not apply to other areas of a child's life. The current study focuses on the cognitive domain, and not in other areas of life, such as social relationships, sports, and other extracurricular activities. Thus, the child may be channeling his/her intrinsic interest into these areas and not into his/her schoolwork.

According to Harter (1980), some confusion exists between the constructs of intrinsic versus extrinsic motivation and internal versus external locus of control. Often these terms are used interchangeably, however, they are quite different. Motivational orientation refers to the reasons why a child performs an activity. The perceptions of control refer to the attributions concerning the outcome of behavior, namely success and failure.

Classroom instructional practices that manipulate the learning process through extrinsic behavioral contingencies may be insufficient in the long term for maintaining significant academic growth in students with learning

problems (Schultz & Switzky, 1990). It is also important for teachers to promote an intrinsic orientation during the learning process so students will continue their own quest for knowledge.

This study suggests that further investigation in determining how intrinsic motivation can be sustained and improved in students with learning problems would be profitable. Teachers of children with learning problems must at some point modify classroom practices to encourage intrinsic motivation.

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