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Learning disabilities: Educational considerations

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Learning disabilities: Educational considerations

Abstract

The purpose of this paper is to review the literature on learning disabilities so a more appropriate approach to the education of children with learning disabilities can be utilized in Ecuador. The term learning disabilities may be applied to any learner who fails to benefit from the curriculum in which he/she has been placed. Moreover, this paper presents many of the important facts for understanding children with learning disabilities and dealing with these children in school. However, the information found in this paper represents just a portion of the knowledge base about learning disabilities.

Learning Disabilities: Educational Considerations

A Research Proposal

Presented to

Dr. Melissa Heston

Department of Educational Psychology & Foundations

University of Northern Iowa

In Partial Fulfillment of the Requirements

for the Degree of

Master of Arts/Educational Psychology

by

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Abstract

The purpose of this paper is to review the literature on learning disabilities so a more appropriate approach to the education of children with learning disabilities can be utilized in Ecuador. The term learning disabilities may be applied to any learner who fails to benefit from the curriculum in which he/she has been placed. Moreover, this paper presents many of the important facts for understanding children with leaning disabilities and dealing with these children in school. However, the information found in this paper represents just a portion of the knowledge base about learning disabilities.

Chapter I

Introduction

Children are the world's greatest resource. The education we give our youth directly relates to their success in the future. An important reality of the educational process is that all children have different learning needs as well as different modes of learning. For example, students of every age are affected by their environment, emotionality, sociological needs, physical characteristics, and psychological inclinations when trying to master new or difficult information or skills. Educators must be able to evaluate the individual situations where a child fails to learn. Failure must be explained, understood, and corrected. Educators must determine why learning is difficult for some children and then develop strategies for improving the situation.

Extensive research has been done in the area of learning disabilities. This is a new concept to educators in Ecuador, and has caused educators to realize that children who are failing in school still have a capacity for learning. Professionals are able to constructively use a variety of educational procedures for those

students hindered by a learning disability.

Statement of the Problem

The purpose of this paper is to review the literature on learning disabilities so a more appropriate approach to the education of children with learning disabilities can be utilized in Ecuador.

This study will help me understand how best to promote awareness of major constructs among Ecuadorian educators. Throughout my review of the research on learning disabilities, I have tried to answer three basic questions: 1) Who is the individual with learning disabilities? 2) Why does he/she encounter academic difficulty? 3) What can be done to help?

Significance of the study

According to Barsch (1992), the term learning disability may be applied to any learner who fails to benefit from the curriculum into which he/she has been placed. From this we can conclude that the population of children with learning disabilities is essentially a normal group of children who do not learn as expected. Education needs to respond to the learning problems faced by these children. Identifying children with learning disabilities is not a major

problem for the educators. Discovering the reasons for existence of a particular learning disability, ascertaining the relative significance of the disability in terms of impairment to total learning, and devising methods to overcome the problem are key issues for all educators (Barsch, 1992). The diverse nature of the population of children with learning disabilities requires educators to be creative in using different models and approaches to help such children learn.

Learning disabilities are to be found wherever there are learners. However, a narrow definition of a precise set of symptoms will inevitably lead to massive exclusion (Barsch, 1992). Increased awareness of the existence of a wide variety of learning failures in the regular classroom has generated a dilemma for the concept of learning disabilities. With all who have written about and researched this phenomena, I share the belief that the disabled learner cannot be denied the educational assistance he/she needs because he/she is important, valuable and asking for help.

Chapter II

Review of Literature

Definition of Learning Disabilities

Approximately 30% of the school age population is significantly underachieving academically. Students' underachievement can be attributed to low ability, socio-educational disadvantage, and inadequate opportunities to learn. Yet, generations of educators have recognized a subgroup of underachieving students for whom there is no obvious cause for their learning problems. This particular group of children have been identified as having learning disabilities.

What is a learning disability? Numerous definitions of this term have been suggested, which reflects the general complexity of this field of study. The purpose of this section of this paper is to briefly describe the historical development of the current definition of learning disabilities.

The definition of learning disabilities has been revised continually over the past 30 years. The changing nature of this definition is disturbing because it appears that no one clearly

understands what learning disabilities really are, what causes them, how these disabilities can be detected, or how they can be ameliorated. Fortunately, there have been some benefits accruing from the efforts to define learning disabilities. Specifically, increased attention has been given to identifying specific reasons and remedies for children's learning difficulties in school (Rist & Harrell, 1982).

The first effort to define the term learning disabilities was made by Samuel Kirk in 1962. He developed the following definition:

A learning disability refers to a retardation, disorder, or delayed development in one or more of the processes of speech, language, reading, spelling, writing or arithmetic, or other school subjects resulting from a possible cerebral dysfunction and/or emotional or behavioral disturbances. It is not the result of mental retardation, sensory deprivation, or cultural or instructional factors. (Kirk, 1962, p.263)

Kirk's definition, like many definitions which followed it, is essentially one of exclusion in that it says as much or more about what learning disabilities are not than it says about what learning characteristics are. Paraphrased, his definition simply states that a learning disability is the suspected cause of some students'

underachievement when other known causes have been ruled out. The single most distinctive phrase in his definition , "possible cerebral dysfunction," approaches a defining quality; yet no one to date has been able to provide empirical evidence of neurological differences between normal and learning disabled individuals.

Efforts to define learning disabilities continue as parents, professionals, and governmental agencies attempt to arrive at a valid and widely acceptable definition. Today, the most widely accepted definition of learning disabilities was introduced in 1968 by the National Advisory Committee on the Handicapped (NACHC) and was later used by the Congress in 1975 in the drafting of Public Law 94-142. However, not all professionals in education were satisfied with this definition as many considered it to be overly broad.

Specifically, this definition (as did Kirk's) consists largely of exclusionary clauses which provide more information about what learning disabilities are not, than it does information about what learning disabilities are. Consequently, several alternative definitions have been proposed by a variety of authors, such as Bateman (1965), Wepman et al.'s (1975), and agencies such as The

Council for Exceptional Children (CEC, 1967), the Division for Children with Learning Disabilities (DCLD, 1960), the Learning Disabilities Association of America (LDA, 1986).

Hammill (1990) reviewed the efforts made since 1962 to define learning disabilities. First, he consulted 28 recent editions of textbooks that deal with learning disabilities. He identified those prominent definitions that appeared to have had the greatest influence in the field of learning disabilities. Then, he described 11 different definitions that are prominent today or have experienced some degree of popularity at one time or another. Third, after studying the 11 definitions, he identified the important conceptual elements on which definitions of learning disabilities might differ. These elements created a way to discriminate among definitions. The specific elements identified were:

- 1) evidence of underachievement,
- 2) central nervous system dysfunction etiology,
- 3) process involvement,
- 4) being present throughout the life span,
- 5) specification of spoken language problems as potential

- learning disabilities,
- 6) specification of academic problems as potential learning disabilities,
 - 7) specification of conceptual problems as potential learning disabilities,
 - 8) specification of other conditions as potential learning disabilities, and
 - 9) allowance for the multihandicapping nature of learning disabilities.

Fourth, after documenting the characteristics of the 11 definitions relative to the nine elements identified above, Hammill contrasted the definitions. He concluded that considerable agreement exists among these definitions, and therefore the definers, and that the definition given by the National Joint Committee on Learning Disabilities (1988) is probably the best descriptive statement of the nature of learning disabilities. This definition is as follows:

Learning Disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to

the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other handicapping conditions (e.g., sensory impairment, mental retardation, social and emotional disturbance) or environmental influences (e.g., cultural differences, insufficient or inappropriate instruction, psychogenetic factors), it is not the direct result of those conditions or influences (NJCLD, 1988, p.1)

According to this definition, a diagnosis of learning disabilities depends upon judgments regarding academic learning behavior. Thus, a learning disability is presumed to exist when a child's performance in school is lower than expected in a certain area (Westman, 1990), as judged by professionals such as teachers and psychologists, whose opinions are based upon data gathered on a particular student.

In addition, Kirk (1989) distinguished two broad categories of learning disabilities: developmental and academic. Developmental learning disabilities include attention and perceptual disorders, memory and perceptual-motor disorders, and thinking and language disorders. For example, the child with an attention disorder may respond to too many stimuli simultaneously. This child will often be moving around, and have difficulty sustaining his/her attention long

enough to learn. In other words, the child often cannot direct his/her attention to the desired task. On the other hand, students with academic learning disabilities seem to experience significant inhibitions of the processes of learning to read, spell, write, or compute arithmetically. These types of disabilities generally first appear when children are in school and performing well below their academic potential (Kirk, 1989). Overall, researchers have not been able to pinpoint the exact relationship between developmental learning disabilities and academic learning disabilities, in part because developmental disabilities do not always inhibit the ability to learn academic skills. For example, a child who has difficulty learning to read words using a whole word recognition method might be able to learn to read using a phonics method. Thus, a deficit in one developmental area does not necessarily result in an academic disability. As a result, teachers will need to find a different approach that doesn't require developmental readiness.

After 1972 children with learning disabilities were deemed entitled to special education services by Public Law 94-142. This law's regulations established several general criteria for the

identification of children with learning disabilities:

- (a) A group of specialists may determine that a child has a specific learning disability if:
 - (1) The child does not achieve commensurate with his or her age and ability levels in one or more of the areas listed in paragraph (a); (2) of this section, when provided with learning experiences appropriate for the child's age and ability levels; and
 - (2) The team finds that a child has a severe discrepancy between achievement and intellectual ability in one or more of the following areas:
 - (i) Oral expression;
 - (ii) Listening Comprehension;
 - (iii) Written expression;
 - (iv) Basic reading skill;
 - (v) Reading comprehension;
 - (vi) Mathematics calculation; or
 - (vii) Mathematic reasoning.
- (b) The team may not identify a child as having a specific learning disability if the severe discrepancy between ability and achievement is primarily the result of:
 - (1) A visual, hearing, or motor handicap;
 - (2) Mental retardation;
 - (3) Emotional disturbance; or
 - (4) Environmental, cultural or economical disadvantage.

(Federal Register, Dec. 29, 1977, p.65083)

The successful learner has never been as highly prized as he/she is today. Consequently, because students with learning disabilities have been unsuccessful, these students have become the focus of intense national and international concern as never before.

Characteristics of children with learning disabilities

The one common characteristic shared by children with learning disabilities is the presence of a significant discrepancy between their expected achievement predicted by their intelligence test scores and their actual achievement in school settings.

Children with learning disabilities have also been characterized as passive or inactive learners because of their failure to use a variety of metacognitive learning strategies. These strategies include attending selectively, organizing the material to be learned into a meaningful sequence, using mnemonic and comprehension strategies, or maintaining on-task behavior (Ryan et al., 1986). Children with learning disabilities have also been found lacking in their task approach skills, including the ability to focus on the relevant task information.

Students with learning disabilities also frequently display an apparent lack of motivation which has been posited to have resulted from the students' casual attributions concerning their successes and failures. Children with learning disabilities make more external and unstable attributions for success and more internal and stable

attributions for failure. For example, a student with learning disabilities is more likely to attribute a high test grade to luck than to the effort he/she exerted preparing for the test. And a low test grade will be attributed to lack of ability. Particular attributional patterns have been associated with signs of learned helplessness. Butkowsky & Willows (1980) investigated of these attributional patterns in several achievement situations. Children with learned helplessness attribute their failures to a lack of ability and bad luck and they tend to focus heavily on these as causes of failure. For example, children with reading difficulties take less personal responsibility for their failures in reading because they attribute their failure to a lack of ability and they do not focused on remedies for failure.

Also, students with learning disabilities are often disorganized and confused in the areas affected by their disabilities and tend to develop ineffective coping mechanisms. These mechanisms in turn greatly tend to limit the academic success and to thwart emotional development of children with learning disabilities. The relationship of self-concept and school

achievement is assumed to play a critical role in the academic functioning of children with learning disabilities (Johnson & Morasky, 1977). How children feel about their potential for school success and how they interpret school experiences are important factors in determining success. This is related to learning disabled students in specific because their abilities are not particularly apparent, these students feel less than adequate when confronted with academic tasks in school.

Another characteristic among students with learning disabilities is a pattern of passive behavior. Such students frequently exhibit poor eye contact, resist making choices, fail to ask questions or use effective study skills, experience discomfort when receiving complements, and avoid taking risks. These children generally do not use self-monitoring techniques, and are usually unaware of having used any such strategies at all when they complete tasks successfully (Kay, 1986).

Etiological factors of learning disabilities

What makes learning difficult for children with learning disabilities? According to Adelman (1992), failure to differentiate

between types of learning problems (i.e., reading, math) in term of underlying causes has contributed to widespread misdiagnosis, and to prescriptions of unneeded specialized treatments. This may be due to the fact that research has yet to determine specific neurological dysfunctions as the causes of specific learning disabilities. Students in whom learning problems are suspected to have a neurological etiology cannot be distinguished from other students with unexplained underachievement. Theoretically, it is reasonable to speculate that a small group of students with learning disabilities may have relatively minor internal disorders causing minor central nervous system (CNS) dysfunctions which makes learning difficult even under good teaching circumstances. In most cases, however, it is impossible to determine the primary instigating factor responsible for a specific learning problem. As a result, most individuals currently diagnosed as having a learning disability have been labeled as such based primarily on perceived discrepancies between the students' performances and their potential.

In addition, as a way of reducing the confusion caused by

varying definitions and criteria, it is important to report to the teacher specific kinds of background information such as demographic, personality, and programming variables on every student with learning disabilities. There are cases when an individual's disabilities predispose him or her to learning problems. There are also situations in which the students' environments are so inadequate or hostile that individuals begin to have trouble learning despite the fact that they have no disability. Finally, it is important to note that learning problems can be caused by a combination of personal and environmental factors (Adelman, 1992).

Types of Learning Disabilities

Those who write definitions of learning disabilities do agree on one issue: youngsters with learning disabilities are a heterogeneous group of children. Researchers, teachers, and parents do not believe that there is only one type of learning disability. They generally agree that some pupils have difficulty in certain areas, while others have difficulty in other areas. McKinney (1984) critically examined the findings of researchers who have attempted to divide heterogeneous samples of children with learning

disabilities into more homogeneous subtypes. Some of the common areas of difficulty for children with learning disabilities identified from this literature included: perceptual-motor impairment, attention disorders, language, memory and thinking; distractibility, impulsivity and emotional liability; poor motivation and self-concept; deficiencies in basic academic skills; and equivocal neurological symptoms. Based on his research, McKinney has identified four subtypes of learning disabilities. McKinney's classification constitutes one of the first steps taken toward the development of an adequate taxonomy of learning disability subtypes.

Subtype I represented 33% of McKinney's (1984) sample. Students in this category had average verbal skills and deficits in sequential and spatial skills. Students in this category generally displayed in the behavioral profile a lack of independence and task orientation. These students often needed to be told exactly what they were to do. Teachers rated the students in this category as more considerate and less hostile than other types of students with learning disabilities. Academically, these students were mildly

impaired in reading and math.

Subtype II represented 10% of the sample. Students in this category displayed the greatest scatter on the Wechsler Intelligence Scale for Children-Revised (Wisc-R). Students in this category were rated by their teachers as lower in behavioral skills than other types of students with learning disabilities. They were less considerate and more hostile. Furthermore, students in this category were less competent academically (i.e. poor vocabulary level, poor reading scores), and less oriented toward academic tasks than other students with learning disabilities.

Subtype III represented the largest group constituting 47% of the sample. Although these students have good conceptual skills, their scores on the intelligent test Wisc-R were unremarkable. Children in this subgroup were rated low on their degree of task-orientation. While these students were as extroverted as non-disabled pupils, they were rated as less considerate and more hostile than youngsters in other categories of learning disabilities.

Subtype IV represented 10% of the sample. They are much like those in Subtype I; however, subtype IV students did not display

behavioral disorders, such as not conforming classroom rules. This group was also more academically impaired than students in either Subtypes I or III.

According to the learning disabilities definition of the National Joint Committee on Learning Disabilities, learning disabled students can be represented in three types: Type I students have learning problems which have been caused by outside factors, such as inadequacies in the environment in which learning takes place. For example, a classroom that has poor light or distracting stimulus with which children find difficult to concentrate. Also, poor pedagogy (inadequate teaching) can constitute an external causal factor. Type II students do not learn or perform well in situations in which their individual differences and vulnerabilities are poorly accommodated or are responded to with hostility. For example, a student with poor reading level working with a high level reading book might well experience high levels of anxiety and concomitant lower performance. It is difficult to distinguish this from actual learning disabilities. Type III students have learning difficulties which are caused by factors

within the individual. For example, a child who has sensory deficits may perceive sensory stimuli differently. He/she may see "was" and perceive "saw", or he/she may have great difficulty with auditory discrimination and thus find it very difficult to perceive the difference among phonetic sounds.

Summary

Although the term "learning disabilities" was not coined until the 1960's, the topic of learning disabilities is not a recent discovery, but rather a historical issue in education. Controversies about the definition, characteristics, causes, and types of students with learning disabilities have served to improve the education offered to this group of students. Research conducted to assist our understanding of these students has brought attention to their educational needs and has led to advances in pedagogical techniques. These pedagogical advances are the subject of Chapter III.

Chapter III

Educational Considerations

Students with learning disabilities possess different characteristics and learning styles. In addition, learning disabilities may arise from a variety of causes. As a result, professionals need to consider a variety of factors in order to understand the students' problems and generate appropriate instructional strategies to best prepare students for independent living (Westman,1990). Moreover, children with learning disabilities are a heterogeneous group since characteristics and causes differ from student to student. As a result, no one instructional approach will meet the diverse needs of all students with learning disabilities. Thus, teachers must appreciate each student's uniqueness, and be willing to examine and use a variety of methods and materials. In this chapter, teaching styles, educational-treatment approaches, and the role of the teacher are reviewed.

Teaching styles.

The way teachers approach situations, solve problems, handle

their emotions, and treat others are important influences upon children (Carew & Lightfoot, 1979). While many different teaching styles are developed by individual teachers, teachers of children with learning disabilities generally need guidelines in order to develop effective teaching styles. Numerous investigators (Blankenship & Lilly, 1981; Deshler et al. 1984; Mercer, 1991; Rosenshine, 1981) believe that teachers of students with learning disabilities should use systematic instructional procedures. For example, Mercer (1991), in her teaching guidelines, highlights the major findings of numerous investigators. She then proposed specific guidelines that can be incorporated into daily instruction in order to promote the achievement of students with learning disabilities.

First, effective classroom management must exist in order for students to be consistently engaged in academic work. Classroom management refers to the teacher behaviors and activities that encourage learning in the classroom (Dembo, 1991). Therefore, when using effective classroom management, students remain on task, disruptions are minimal, and rules and procedures guide the flow of

the learning activities. Also, effective classroom teachers make consistent use of a few rules and clearly state expectations about appropriate classroom behavior. In addition, good classroom management involves teaching students to be accountable for their own learning. Activities which promote accountability include (a) having students monitor their progress toward instructional goals, (b) participate in planning their practice activities, (c) help and receive help from other students, and (d) participate in goal setting and learning strategies that enable them to be more independent learners.

Second, direct instruction enhances the achievement of students with learning disabilities. Direct instruction involves: 1) the explicit teaching of problem-solving strategies whenever possible, 2) an emphasis on small group instruction as opposed to students working alone, 3) a systematic technology of correction procedures, 4) a variety of principles for the cumulative review of previously learned material, and 5) an insistence on mastery of each step in the learning process. Studies indicated that direct instruction tends to produce higher academic gains for all special

education students than traditional approaches (Reith et al., 1982; Gersten & Maggs, 1982; Gersten, 1985). Some of the principles in direct instruction (i.e. complete mastery in each stage of learning process) are quite important for all special education students, even though there is a need for further research. Finally, teachers using direct instruction serve as strong instructional leaders. They select and direct the academic activities, approach the subject matter in a direct, businesslike way, organize learning around questions they pose, and occupy the center of attention.

Third, Mercer (1991) points out that teachers of learning disabled students should provide them with opportunities for success (i.e., frequent questioning of students regarding their knowledge of the content being covered). Children with learning disabilities improve their academic achievement when they have a high percentage of correct responses during teacher questioning and seatwork (Stevens & Rosenshine, 1981). Lack of success can lead to anxiety, frustration, inappropriate behavior, and poor motivation. On the other hand, success can improve motivation, attitudes, academic progress, and classroom behavior as applied to students with

learning disabilities.

Fourth, teachers of children with learning disabilities should establish goals and expectations (i.e., "Our goal for you is to read orally a list of 20 words with 90% accuracy"). Goal setting results from the teacher's effort to match instruction to student and task characteristics. Thus, appropriate instructional goals are based on a careful assessment of each student's learning needs (Mastropieri & Scruggs, 1987). Also, student attention and achievement improve when teachers present clear goals and precise directions. In presenting goals, effective teachers clearly identify the students' goals and what they need to do to achieve them.

Fifth, the effective teacher monitors progress (i.e., students move to the next level of learning after mastering skills in an explicit sequence of objectives) and provides feedback (i.e., tells the student if his/her answer is either correct or incorrect in order to improve performance). The teacher of children with learning disabilities continuously checks the behavior and academic work of students and adapts instruction to ensure that an appropriate instructional match is being maintained (Bireley & Hoehn, 1987;

Cotterell, 1982; Deshler et al. 1978; LaShell, 1986)

Sixth, the teacher of children with learning disabilities needs to provide positive and supportive learning environments. For instance, when the teacher is cheerful, supportive, and enthusiastic, students tend to model those actions and attitudes. This can result in a pleasant, productive learning environment because children with learning disabilities need support and encouragement from others to sustain interest in schoolwork (Lovitt, 1977; Deshler & Schumaker, 1986).

In addition, studies have found that teachers of students with learning disabilities need to teach them to be independent learners and active problem solvers (Kay, 1986; Torgesen, 1982). Also, teachers should focus on teaching students to generalize their skills across different curricular areas. Finally, many students with learning disabilities lose their motivation to learn due to a history of frustration and school failure. The teacher of children with learning disabilities needs to develop systematic procedures for increasing motivation. Therefore, the establishment of realistic instructional goals and specific mastery criteria are important to

student motivation.

Educational Treatment Approaches

This section presents information on the commonly used educational-treatment approaches for children with learning disabilities. A variety of general approaches to instruction have been suggested for use with the learning disabled students. Three major approaches are behavioral treatment intervention, metacognitive model of learning, and learning strategies. These three approaches have strong foundations in theory and good empirical support for their effectiveness. Hallahan, Kauffman and Lloyd (1985), Wallace & Kauffman (1986) are among the scholars who have developed and researched these approaches. Besides the three major approaches this section presents also the problem-specific approach and the co-ecological approach.

Behavioral Approach

The behavioral approach is one type of educational treatment for learning disabilities. Maheady, Duncan, & Sainato (1982) report in their research that 90% of teachers working with learning disabled children used behavioral interventions in their classes.

Maheady et al. (1982) research demonstrated that behavior modification is the major system of classroom management among teachers of children with learning disabilities. Behavioral psychology concentrates on measurable behaviors, and their antecedents and consequences. Behavioral techniques are effective for children with learning disabilities because teachers can elicit and control the behavior of the students by accurate measurement of those behaviors and manipulation of the antecedents and consequences of those behaviors. For example, children who are easily distracted, who turn in incomplete work, and who are off task in the classroom are capable of performing better when they are taught methods to manage these specific behavior (Zeluff, 1988) Also, behavior modification techniques may be thought of as a set of procedures designed to measure and manipulate behavioral change. For instance, the child can be taught self-discipline in organization and study habits. Behavioral psychologists tend to concentrate on the positive consequences of behavior. Positive reinforcement is the application of consequences that increase target behaviors. Hilton (1985) found that the use of a positive reinforcement system

was a powerful tool for managing problem behavior among children with learning disabilities. Moreover, teachers reported that when using positive reinforcement they feel better about teaching and that their students with learning disabilities displayed improved behavior. Therefore, teaching strategies that utilize positive reinforcement to manage the behavior of students with learning disabilities are very effective. For example, one useful method for providing ongoing reinforcement is the use of a token economy (Hilton, 1985; Robinson et al., 1981; Rosenberg et al., 1985). A token economy is a system of payment for work completed and appropriate behavior in the classroom. Another effective method is the behavioral contract which includes a written agreement between a child and teacher specifying a change in behavior and a reward for the change. According to Salend (1987), the use of behavioral contracts offers an excellent opportunity to involve students in their behavior change process with positive results. The teacher and the student select the behavior that needs to be changed and they develop a contract that establish the rules.

Also, there has been considerable use of negative consequences

in the educational treatment of children with learning disabilities (Maheady, Duncan, & Sainato, 1982). One of the procedures that uses negative consequences is timeout. Timeout (Powell & Powell, 1982), involves the removal of the possibility of reinforcement for a specified period of time (i.e., the child is unable to earn reinforcement from persons or activities). This procedure is effective only if the person's environment changes from one in which reinforcement is available to one in which it is not. In summary, behavioral strategies have been shown to be effective in changing behavior of students with learning disabilities.

Cognitive Behavior Modification

Another interventional approach for students with learning disabilities, metacognitive instruction, is receiving particular attention from researchers and use of this approach is increasing (Bender, 1992). This term means thinking about thinking, or the use of inner language to plan a thinking/learning activity.

Increasingly, the notion of cognitive strategies is influencing the direction of theory and research in learning disabilities.

Researchers in the field of learning disabilities agree that these

children fail to use either spontaneous or effective task-appropriate strategies (Gerber, 1983; Montague, 1992; Ryan et al. 1986).

However, Clark, Deshler, Schumaker, Alley, and Warner (1984), found that students with learning disabilities can learn strategies such as visual imagery and self-questioning and can apply them in both reading and grade level materials. Visual imagery requires the student to read a passage and to create visual images representative of the content of the passage. Self-questioning teaches the student to form questions about the content of the passage as he/she reads to maintain interest and to enhance recall. According to this research, the students' use of these strategies resulted in greater comprehension scores from the pretest to the posttest. Also, Clark et al. (1984) concluded that these strategies teach the students how to learn. Students with learning disabilities can also be taught to use strategies designed to increase their reading comprehension (Clark et al., 1984). Furthermore, most cognitively based instructional strategies focus on giving the students the correct set of inner language statements to be used as self-instruction while the student completes the task. As a result, this learning model

became known as the *metacognitive model* (Ryan, 1986).

Some activities referred to as metacognition involve overall planning of the cognitive task, self-instructions to complete the task, and performance self-monitoring, or checking to see that each phase of the task is completed appropriately and in the appropriate order. An example of self-monitoring is when the student has a checklist on his/her desk with a sequential order of procedures that need to be completed for the assignment. Another self-monitoring procedure is designed to help students increase their attention to academic tasks. During this procedure, the student periodically ask to him/herself, "Am I paying attention?" He records his answer (yes or no) on a chart designed for this purpose (Mastropieri, 1987). Studies (Rooney, Polloway, & Hallahan, 1985; Hallahan, Lloyd, Kneedler, & Marshall, 1982; Hallahan, Lloyd, Kosiewicz, Kauffman, & Graves, 1979) indicate that self-monitoring does increase on-task behavior in classroom settings for children with learning disabilities. Self-monitoring teaches students how to attend and is more effective when the teacher directly teaches attending behavior (Snider, 1987). This model of metacognitive learning is one of the

most important models of learning and instruction in the field of learning disabilities.

Learning Strategies

Learning strategies is a metacognitive intervention that teach students "how to learn" so they can more effectively cope with increased curriculum expectation (Deshler & Shumaker, 1986). This approach has been designed to teach students how to learn rather than to teach students specific curriculum content. According to Deshler & Shumaker (1984), learning strategies are techniques, principles, or rules that help a student to learn, solve problems, and to complete tasks independently.

In many instances, students with learning disabilities perform poorly academically because they have not learned how to learn (Ellis & Lenz, 1987). These students need to be taught how to learn by teaching them learning strategies (i.e. , acronyms) that will enable them to use existing skills in a strategically optimal way. Learning strategy instruction is concentrated on both how to learn and how to effectively use what has been learned. The manner in which the steps used in learning strategies are presented to

students is characterized by simplicity and brevity. First, learning strategies are designed to be as brief as possible while maintaining the original plan. Second, these strategies are characterized by the use of a system to facilitate recall. Third, instruction in a learning strategy is contingent on student skills and needs. Fourth, the presentation of the learning strategy should address limitations for use of the strategy across settings and time. Consequently, the student needs to be taught to be aware of the conditions which indicate a particular strategy that should not be used. Fifth, the learning strategy should be presented through the use of principles of effective behavior and cognitive modification. Sixth, the student needs to determine if he/she needs the strategy. The student understands the strategy and set goals for learning the technique. The teacher models the technique, then the student memorizes the steps of the technique using verbal rehearsal. Then the student starts practicing the strategy. After the strategy has been mastered, the student start using the system independently and in different materials (Ellis & Lenz, 1987).

An example of a learning strategy for reading comprehension is

RAP (Ellis & Lenz, 1987):

R = Read a paragraph

A = Ask yourself what where the main idea and two details

P = Put main idea and details in your own words

This technique is a paraphrasing strategy that has been found that increase comprehension by requiring students to manipulate information and put it into their own words (Ellis, 1987).

Finally, a learning strategy is an integrated system that assists a learning disabled student in solving an academic problem efficiently and effectively.

Problem-Specific Approach

Bender (1992) points out a group of interventions in the field of learning disabilities which are specific to a particular problem. These techniques are called problem-specific treatments. These types of treatments are not related to any particular approach, but rather are used for particular problems often demonstrated by students with learning disabilities. One example of this approach is, cooperative instructional interventions to increase the active integration of students with learning disabilities in the

mainstreamed class. Johnson et al. (1986) provided evidence that the positive relationships formed between handicapped and nonhandicapped students during cooperative learning activities generalize to unstructured classrooms and school situations -this study includes the learning disabled children in the handicapped group. It seems that this results in more positive attitudes toward and acceptance of students with disabilities participating in cooperative learning groups. Also, more positive attitudes may generalize to and sustained in voluntary, self-initiated interaction in nonstructural classrooms and school situations. Data indicated that the nonhandicapped students in the pure cooperative condition indicated more constructive interaction with handicapped peers. When cooperative elements dominate instruction, positive relationships among students may develop. An example of cooperative learning procedures is when students work under positive interdependence with handicapped and nonhandicapped peers. For instance, in Teams-Games-Tournaments, the students of different ability, race, and gender are assigned to four or five member teams. After the teacher presents the material for the day,

the teams complete worksheets, quiz each other, and study together in preparation for a tournament. In the tournament, students are assigned to three person "tournament tables," in which they compete with students of similar ability. As a result, the lowest achieving students in each group have the same opportunity to earn points for their teams as the highest achieving students. The tournaments consist of students' taking turns picking cards and answering corresponding questions on the material studied during the week (Johnson & Johnson, 1987).

Peer tutoring, occurs when one student helps another student to learn academic material, and has been recommended as a way of integrating handicapped, including learning disabled, and nonhandicapped. Special tutoring programs have been developed (i.e. Classwide Peer Tutoring, Student tutoring teams) in which children with handicaps served in some capacity as a tutor/tutee with regular class students (Beirne-Smith, 1991; Delquadri et al., 1986; Meheady et al., 1988). These programs have generated promising results with respect to academic and social benefits. Also, in peer tutoring when students acted as a leader, they increased their

awareness toward the teacher's position and they developed responsible study habits. Certainly, peer tutoring is a viable technique for students with diverse academic and social needs; yet it is considered only one alternative technique rather than a replacement of traditional approaches of instruction. Further research on students with learning disabilities acting as tutors with peers is needed.

In order to combat locus of control problems, students with learning disabilities can be exposed to attributional training in which they learn to attribute success in schoolwork to internal factors such as study time and effort (Pascarella & Pflaum, 1981; Schunk & Cox, 1986). For example, students with learning disabilities are taught to see that, "When I succeed it is because I tried hard". Jacobsen et al. (1986) found that attributional differences between normally achieving children and children with learning disabilities may reflect differences in self-esteem, expectations, and uncertainty. Students with learning disabilities used lack of effort and lack of ability to explain failure. As a result, remediation efforts with children with learning disabilities may

enhance self-esteem and attributional patterns. In this specific study (Jacobsen et al., 1986), children with learning disabilities presented an attributional pattern suggestive of lower self-esteem, less certainty about future, and more doubts about their ability than did their normally achieving counterparts.

Children identified as learning disabled often have concurrent emotional and interpersonal difficulties because they experience social failure (Amerikaner & Summerlin, 1982). These factors become a major impediment to learning and retaining information. As a result, studies suggested that these children need to receive some exposure to biofeedback or relaxation training. These procedures have been demonstrated to result in improved socio-emotional well-being as well as increasing students' attention during instruction (Amerikaner & Summerlin, 1982). Biofeedback involves providing feedback on one's responses in stressful situations. Carter & Rusell (1985) reported two related investigations of the effects of biofeedback and relaxation training upon the academic attainment of learning disabled boys. According to these researchers, learning is more effective when the children

are physically relaxed and mentally attentive. Moreover, it appeared that as learning disabled children became more relaxed, they had more efficient access to previously learned material and could attend more effectively to the schoolwork. Relaxation training involves the use of stress-reducing messages to effect positive behavior change. Amerikaner & Summerlin (1982) found that children with learning disabilities could learn relaxation techniques and this learning was beneficial in terms of the classroom teacher's perception of the child's behavior. Finally, Carter & Rusell (1985) emphasized that biofeedback and relaxation training are not intended to supplant curricular or program requirements, but should be used as supplementary procedures for selected children, so that they may counter act physiological stress reactions, and therefore learn more easily.

Ecological Approach

The ecological approach endorses the position that learner and environmental variables are equally important and deserve consideration in planning instruction (Coles, 1987). An ecological approach considers the interaction between the child and the two

most important learning environments, home and school. An analysis of the match or mismatch of child and environment provides understanding for intervention (Hummel, 1982). For example, the ecological approach examines the relationship of parents' behavior to the development of their learning disabled child as well as the interpersonal problems of the learning disabled child in school.

Research suggests that parents of learning disabled children do not maintain positive attitudes and expectations and tend to view their learning disabled child's academic failure as a result of lack of ability (Bryan, 1981). The ecological approach raises the question of how much of the learning disabled student's poor performance is a function of a nonaccepting environment (i.e. school, family).

Furthermore, according to this approach, the problems of learning disabled children can not be seen simply as inadequate progress in reading, writing and math. Failure to recognize the reciprocal influence of interpersonal skill development and academic progress is counterproductive.

Hardin (1978) stresses the importance of the interaction between a learner's strengths and weaknesses and the total

environment. The impact of a learning disability is influenced not only by the specific disabilities of the child, but also by environmental variables such as the number of students in the class (student-teacher ratio), the school environment, family structure, educational material, and type of instruction.

Roles of the learning disabilities teacher

According to Alley (1979), the teacher of students with learning disabilities fulfills three major roles. First, he/she serves as a learning strategist helping pupils to acquire coping skills. This role requires the teacher to assess and then address skill deficits so that the student masters sufficient strategies and principles for independent application. Second, the learning disabled teacher must spend a significant portion of time working with other professionals in the school in order to coordinate the education of each learning disabled child. For example, if the particular student is attending some of the regular classes, the regular class teacher needs support services provided through frequent consultation with the teacher of children with learning disabilities. The teacher of students with learning disabilities plays an active role in this capacity. Third,

learning disabled teachers need to serve as advocates for children with learning disabilities within the school setting.

Impact of Learning Style Preferences

Students with learning disabilities learn differently. Thus teachers need to adapt instruction to the needs of each student as an individual (Lloyd, 1984). When instruction differentiated on the basis of learner characteristics and learning styles leads to greater achievement, an aptitude-treatment interaction has occurred.

According to Dunn and Dunn (1978) and Carbo (1987), research on child development and learning styles indicates that what is "appropriate" for one student may be damaging to another. Thus, learning style theorists believe that no one method is beneficial for all learners and advocate the identification of individual learning preferences to determine the most appropriate and beneficial instructional activities. Learning style instruction is based on the premise that teaching to the strengths of students enhances their ability to learn.

Summary

Students with learning disabilities must be taught specific

strategies that enable them to learn. Therefore, teachers must plan for their instruction deliberately and select the most appropriate educational treatment to help the student return to the regular class. Throughout this section, suggestions have been made about ways to teach students with learning disabilities in direct and systematic ways. Several important points about effective instruction have been highlighted, together with the important role that the teacher of learning disabled children has, because these teachers face many demands on their time and expertise. Finally, the concept of different styles helps us to understand and believe that all students can learn. It calls upon educators to recognize that each student has his/her own learning style and create the atmosphere and experiences that will encourage the student to reach his/her full potential.

I have presented many of the important facts for understanding children with learning disabilities and dealing with these children in school. However, this information represents just a portion of the knowledge base about learning disabilities. This knowledge base is constantly growing as researchers continue not only to discover

different aspects of these conditions to investigate, but also to develop, implement, and evaluate new ways to improve the education of the learning disabled children.

In Ecuador, we presently have no special preparation for our educators in the field of learning disabilities. Thus, this is a real need and a new area of study for us to incorporate into our teacher training program. I remain hopeful that educators in Ecuador may begin to collaboratively achieve the better understanding of learners which is critical to preventing and remediating the many problems that learning disabled students are struggling with. Also, in Ecuador we need to use empirically derived evidence to help us understand learning disabilities in our own population. We need to gather specific information about any learning disabled students we teach to identify their individuals needs, and ultimately to plan and deliver instruction effective to them.

Finally, I would like to suggest that many problems with learning in general occur when one or more of the critical elements in the natural learning process are missing in the environment of the child. Until we can be assured that all students have been given the

opportunity to learn in the fullest sense of the word, we cannot presume or even guess why any one student is having a problem with learning.

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