

ABSTRACT

Title of Dissertation: A STUDY OF THE RELATION OF VERBAL
EXPRESSION AND PRAGMATICS TO
CLASSROOM BEHAVIORS OF MALE
LEARNING DISABLED CHILDREN,
GRADES 3-6

Vaughn K. Lauer, Doctor of Philosophy, 1992

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A study was undertaken to determine the relation of verbal expression and pragmatics to classroom behaviors of 36 boys with learning disabilities, grades three through six. Subjects were administered a test of verbal expression and observed during a play activity to assess pragmatics. Teachers of the sample completed a child behavior rating scale.

Correlational analyses showed moderate correlations among the independent and dependent variables. Although with few correlations reaching a level of significance, a general trend indicating a negative correlation between verbal expression and classroom behaviors of students with learning disabilities was found.

of significance between these two variables was maintained in the full regression, however, the regression equation did not reach a level of significance. Subjects with higher abilities to create sentences with one or two word prompts were less likely to exhibit acting out behaviors in classroom settings. Regression analyses also revealed that Shy/Anxious behaviors were predictive of pragmatic measures.

Additionally, it was determined that racial differences were found only under measures of pragmatics with no significant differences observed by age, I.Q., verbal expression and classroom behaviors.

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by

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DEDICATION

This research is dedicated to my friend and advisor, Dr. Bonnie Tyler, who always found a way to encourage me to go forward; who saw the possibilities when I saw none; and, who never gave up and would not allow me to. Without her skills, patience and never ending inspiration, this project would not have been accomplished.

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CHAPTER I

Introduction

Students with learning disabilities (LD), are described, in part, by federal definition as having "... a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations" (Education of All Handicapped Children Act of 1975, now known as the Individuals with Disabilities Education Act). There are two major tenets within this definition that require further consideration.

The first is that, historically, the definition of learning disabilities is founded on the premise that psychological process disturbances (i.e., perceptual difficulties including visual, motor, and auditory perception) impact adversely on learning. However, as Kavale and Forness (1985) point out, "...psychological processes represent abilities which are not observable" (p. 69). Furthermore, "...abilities are never measured directly and, therefore, represent hypothetical constructs" (p. 69). As these authors conclude from a review of empirical research, there is simply insufficient support for the justification of learning disabilities as a process disorder. As such, attention should be placed on performance rather than ability (process) deficits.

The second area of attention focuses on the nomenclature within the definition clearly delineating learning disabilities in terms of a language based disability. That is, learning disabilities is formulated on language processes of decoding and encoding information. Specifically the encoding of language is both observable and measurable in terms of verbal expression.

While a case is made for appraisal of language deficits of potentially qualifying LD students, when criteria employed for determining eligibility for classification are assessed, it is neither the psychological processes nor language deficits that are utilized in determining eligibility. States typically revert to an educational discrepancy and the initial issues of psychological processes and language deficits give way to a basic contrasting of intellectual and achievement orientation (Delaware Administrative Manual: Programs for Exceptional Children, 1990).

In the final analysis of determination of eligibility for special education services, the psychological processes are only assumed to be causal, but are not tested. Concurrently language assessment is not routinely administered. The result is that both definitional components of psychological processes and language fail to play a major role in the determination of eligibility.

As practitioners employ a broad based achievement

affiliated definition, it might be assumed that the population in question exhibits behaviors that are homogeneous in nature. However, this is simply not the case (Samuels, 1987). More specifically, documentation of LD students' behaviors denotes a disproportionate degree of inappropriate school and social related behaviors compared to students with no disabilities, as most recently observed in a study conducted by Bear and Proctor (1991). As a result, decisions for treatment may often necessitate multiple assessments and intervention techniques necessary for academic and behavioral achievement (Schumaker, Hazel, Sherman, & Sheldon, 1983; Silver, 1987; Smith, 1986). This conclusion is in contradiction to the practice of determining eligibility based on an ability-achievement discrepancy. It does, however, redirect support for investigation of areas other than achievement and its relation to classroom behaviors.

For example, in a study conducted by La Greca and Stone (1990), it was concluded that achievement was not found to be a primary factor of LD students' social performance. Perhaps it is an artifact of the psychological processes that is the variable influencing these students' behaviors. Since inappropriate behavioral differences are not atypical of children with learning disabilities, it appears appropriate to pursue in this investigation the relation of verbal expression to inappropriate classroom behaviors.

Statement of Purpose

The problem under investigation is to determine the relation between verbal expression skills, pragmatic usage of those skills and classroom behaviors of students identified as learning disabled.

Rationale

By definition, identification of learning disabled students is established through deficits in those psychological processes involved in the decoding and encoding of language. Determination of a learning disability is then founded as a language based classification, distinguishing this handicapping condition from others (e.g., severely emotionally disturbed, autistic, mentally handicapped, etc.) and from the "normal" (nondisabled) population. Additionally, LD students differ from the nondisabled population in that they display a disproportionate number of inappropriate behaviors.

Two independent, but related, issues emerge. The first is that assessment has become a function of formulas whereby discrepancy between achievement and potential has become the standard for identification. Assessment of verbal expression is conducted only when the severity of the problem is recognized by pronounced observation. Subsequently, although identification is language based, interventions are characterized by instruction of academics and curricula.

Second, behavioral problems of LD students are unrelated to the criteria used for identification and often are viewed as a secondary problem which is seen as a function of student frustration associated with unsuccessful progress in academic achievement. However, research does not provide evidence that LD behaviors are a function of intellectual or subperformance in achievement (McConaughy and Ritter, 1986; and Bryan, 1989). Consequently, teachers of LD students maintain the provision of academic instruction, but, nevertheless, continue to request and require assistance in intervention techniques addressing classroom behaviors. This is clearly indicative of 1) other variables influencing LD student behavior and 2) teacher behaviors that are contraindicated given these findings.

Although a relation between verbal expression and classroom behaviors of the nondisabled population would most likely surface, a skewed and stronger relation would be expected to surface from among the LD population. This contention is supported since identification of learning disabled is premised on a language based disability and, as a group, displays a significantly higher number of inappropriate behaviors when compared to the nondisabled peer group.

Consequently, since the potential for observing a greater correlation would be anticipated, the expected findings lend credence to the investigation of the

relation between verbal expression and inappropriate classroom behaviors of students identified as learning disabled.

In support of the critical skill under investigation, several studies (Biller, 1986; Stevens, 1982; Weiss, 1981) have noted the influence of verbal expression on social competence. Weiss (1981), for example, references the influence of receptive and expressive language on the ability to perceive others accurately and to perform related social skills. In a study conducted by Stevens (1982), it was found that verbal expression was predictive of children's ability to accurately depict affective role-taking of others.

These findings, however, delineate verbal expression only in terms of quantitative measures through formal assessment. They do not account for spontaneous language skills of decoding and encoding. Therefore, another variable that must be taken into consideration is that of pragmatics, which is the use of language skills across different social settings.

In a study addressing this variable, Biller (1986) concluded that, although pragmatic use of language of high school LD students was poorer than non-LD students, a correlation between comprehension and use of pragmatic skills did not surface. Evidence from this study indicated that LD students may have been able to correctly identify the intent of others (e.g., decoding), but failed

to produce (e.g., encoding) appropriate language usage.

In an effort to reduce the confounding influence of low verbal skills, many studies (Bruno, 1981, Coie & Dodge, 1988; Dodge, 1981) have either excluded children with verbal expressive deficits from the study sample or simply excluded verbal expression as a variable under study. None have focused specifically on the relation of verbal expression to inappropriate classroom behaviors.

Candler and Keefe (1988) note that LD students often exhibit language deficits that are not readily obvious, creating a number of problems impacting on social interactions. As such, expressive language is not addressed through assessment or classroom instruction. Because these deficits may be subtle, and less immediately observable, it would seem that the variable of verbal expression may be an influential factor in contributing to classroom behaviors. Therefore, the purpose of this study is to investigate the relation of verbal expression and pragmatics to classroom behaviors of students with learning disabilities.

Theory

The relation between verbal expression and classroom behaviors will be addressed through two theoretical perspectives of different disciplines, both of which focus on observable behaviors exhibited through dyadic and social settings.

Dodge's social information processing model of

competence, describes a sequential cognitive process through which children must progress in order to respond efficiently in social events (Dodge, 1981). Although he focuses on an individual's processing skills within the model, he ascribes first to a basic interactive model of social exchange (Dodge, Pettit, McClaskey and Brown, 1986).

According to Dodge, the fundamental interaction occurs following a social stimulus accompanied by the initiation of cognitive social information processing. The enacted behavioral response to the stimulus (following completion of the cognitive processing) provides for peer assessment and judgment of the behavior followed by a reciprocal behavior continuing the cyclical process until its conclusion.

The cognitive component of the overall model is depicted through five major cognitive and successive operations involved in social information processing (described more fully in Chapter II). It is the final step of this model that warrants careful attention. Dodge (1981) notes that the carrying out of social behaviors is dependent upon the proficiency of the individual's "motoric skills" and is extremely critical if accomplishment of the optimal response is to be successful. The encoding process of language (e.g., syntactic and semantic structures), observable and measurable through verbal expression, may be represented

as an example of a "motoric skill" referenced in the final stage of Dodge's social information processing model of competence. Verbal expression, as a measure of syntax and semantics, is one of the two independent variables of this study.

The second theoretical framework stems from that of language theory, specifically that of pragmatics. Until approximately two decades ago, language acquisition theory had primarily focused on assessment of language skills independent of usage outside the clinical setting (Prutting, 1982). The study of linguistics, language acquisition and therapeutic interventions concentrated on structures of syntax and semantics. Prutting and Kirchner (1983) state that in this "formalistic linguistic paradigm, the rules for governing word order were of most import and what the rules did or did not accomplish was not addressed" (p. 29).

As a result, a perplexing and theoretical dilemma was presented and, from the traditional role of linguists, an attempt was made to determine "whether one views syntax as central and regulative to the language system or whether one views pragmatics as a framework from which to understand syntax and semantics" (Prutting and Kirchner, 1983, p.30). The evolution and theoretical shift from the traditional approach of language acquisition to the study of pragmatics was the result.

Pragmatic literature changed the theoretical focus

from the clinical perspective of language skills to that of production of language in social settings. By definition, pragmatics is the ability to use verbal skills of syntax and semantics in dialogue with a conversational partner (McConnell and Blagden, 1986). It is the second independent variable to be investigated in this study.

The communicative system is then structured as an interactive model comprised of linguistic rules, pragmatic rules and social and cognitive knowledge. In effect, this theoretical shift is explained by Prutting (1982) when she stated that "semantics and syntax led to the study of cognitive behavior, and pragmatics has led us to consider social development in relation to linguistic behavior" (p. 131).

The elements of these two frameworks are strikingly similar. Each is based on an interactive exchange of behaviors with at least one other individual and each stipulates the impact on social behaviors. Whereas Dodge focuses on cognitive processing, execution of the selected behavior (through motoric skills) and its relation to social context, linguistic literature focuses on cognitive processing specific to language acquisition, its application (motoric skills) and the relation to social context.

In summary, it is anticipated that if learning disabled students are inept in verbal skills (i.e., use of structures of syntax and semantics and social application

of pragmatics) that this will adversely impact on social behaviors and competencies measured in the classroom. This investigation, therefore, focused on the relation between verbal expression skills, pragmatic usage of those skills and their influence on classroom behaviors. Recognizing the manner in which preceding studies have dealt with verbal expression, this study included measurement of a greater range of expressive language skills than has been assessed in previously documented studies.

Research Questions

The research questions of this study were:

1. Is there a relation between verbal expression and classroom behaviors of students with learning disabilities?
2. Is there a relation between pragmatic skills and classroom behaviors of students with learning disabilities?
3. Is there a relation between verbal expression and pragmatic skills of students with learning disabilities?
4. Is there a relation between verbal expression, pragmatic use of verbal skills and classroom behaviors of students with learning disabilities?

Hypotheses

From questions one and two, the hypotheses under

investigation were stated as follows:

1. There is a positive relation between verbal expression and classroom behaviors of students with learning disabilities.
2. There is a positive relation between pragmatic skills and classroom behaviors of students with learning disabilities.

Study Questions

From research questions three and four, the following questions remain:

1. Is there a relation between verbal expression and pragmatic skills of students with learning disabilities?
2. Is there a relation between verbal expression, pragmatic use of verbal skills and classroom behaviors of students with learning disabilities?

Definition of Terms

In order to understand the variables of this study, the following terms have been defined and operationalized:

Learning Disabled: Students who, by Delaware state eligibility criteria, have a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. In addition, Delaware

delineates criteria for eligibility as the existence of a

...severe discrepancy between intellectual ability and achievement in one or more of the following areas...:

- a. basic reading skills;
- b. reading comprehension;
- c. mathematic calculation;
- d. written expression;
- e. listening comprehension;
- f. expressive language; or
- g. perceptual disorder (visual, auditory, motor)

Classroom Behaviors: Those actions carried out and observable in school settings. Operationally, they are defined in the Teacher-Child Rating Scale (T-CRS) and are as follows:

Part I comprises three subscales measuring: 1) acting out--defined as aggressiveness, disruptiveness and impulsivity, 2) shy anxious--measures shy, withdrawn and dependent behavior and 3) learning skills--assessing items such as poor work habits, difficulty following directions and poor motivation.

Part II, consisting of four subscales, measures: 1) frustration tolerance--assessing coping skills and tolerance of imposed limits, 2) assertive social skills--social status with peers, 3) task orientation--effectiveness within the educational setting (e.g., completes work; well organized), and 4) peer social skills--measures popularity among peers.

Discourse Errors: Errors in conversation such as

omissions, improper sequencing of events that interfere in effective expression of thoughts to listeners. These are not errors in articulation or sound production.

Pragmatics: The application of language skills adjusted for differing social settings and audiences. It is the ability to use verbal skills of syntax and semantics in dialogue with a conversational partner. Operationally, they are defined in the Interpersonal Language Skills Assessment (ILSA): A Test of Pragmatic Behaviors and are defined by category of comments as follows:

- 1) Advising/ Predicting, 2) Commanding,
- 3) Commenting, 4) Criticizing, 5) Informing,
- 6) Justifying, 7) Requesting and 8) Supporting.

Additionally, categories of comments tallied are also evaluated against the percent of the total number of comments that represent 1) Negations (e.g., isn't, would not), 2) Production Efficiency Errors (i.e., pauses, fillers, word(s) repetition in a single comment), 3) Grammar Error (e.g., "He goed."), 4) Semantic Errors (i.e., word substitution or vague reference) and 5) Unfinished Comment Errors (i.e., an incomplete statement made by the speaker not due to interruptions from another).

Verbal Expression: The ability to effectively state verbally a thought or idea to a listener. Operationally, this skill is measured by the Clinical Evaluation of

Language Fundamentals-Revised (CELF-R). This instrument provides a composite score of verbal expression measuring abilities to convey complexity of meaning through different levels, obtained from the following subtests within the Expressive Language section of this instrument:

1) Formulated Sentences assesses the ability to create complex sentences. One or two word combinations are provided with a pictorial stimulus whereby the child orally uses the word(s) in context. Measurement is made against syntax and semantics with conjunctions provided to encourage expression of complex sentences.; 2) Recalling Sentences measures the ability to recall and reproduce sentences varying in length and syntactic complexity.; and 3) Sentence Assembly measures the ability to assemble words or word phrases into grammatically and semantically acceptable sentences.

Significance of the Study

As noted earlier, students identified as LD are evaluated through discrepancy criteria found between ability (e.g., intelligence quotients) and achievement (e.g., academic, developmental) with interventions generally addressing academics. However, unless the student shows gross deficits in verbal expression, no effort is made to address assessment of this motoric skill.

Compounding this problem are research findings which

indicate that deficits in verbal expression often exist with subtle and often qualitative differences not easily discernable as a weakness outside of formal evaluations. Consequently, verbal expression is not routinely assessed, and, therefore, not addressed through classroom instruction. Additionally, LD students display a disproportionate number of inappropriate behaviors compared to the nondisabled population. Interventions to address student behaviors, however, are typically limited to treatment through applied behavior analysis, irrespective of other confounding variables.

Should findings from this study attain significance, two important outcomes would be established. First, support for a relation between verbal expression (i.e., skills of syntax and semantics), pragmatic skills and inappropriate classroom behaviors would indicate the need for assessments of verbal expression as part of a routine evaluation of all potential LD students. Indications of deficits in verbal expression would alert the teaching staff to potential behavior problems in the classroom for the LD students.

Second, it would suggest that, as an intervention addressing classroom behaviors, instructional strategies to enhance skills of verbal expression should be considered in an effort to minimize inappropriate behavior problems in the classroom and to increase appropriate classroom behaviors. This approach would be in addition

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to techniques of applied behavior analysis which are currently employed.

CHAPTER II

Review of Relevant Literature

In 1975, the Education of All Handicapped Children Act (now referred to as Individuals with Disabilities Education Act) was passed by Congress directing that children with educational disabilities be educated in public school systems. To say the least, this is the greatest educational and federally legislated law to be passed in the history of special education. In addition to providing procedural safeguards ensuring the carrying out of the mandates found within this legislation, this law identified, and with varying degrees of clarity, defined those handicapping conditions to be served.

As one of the eleven handicapping conditions identified, learning disabilities is by far the largest single category representing 3.53 percent of the total 7.41 percent of all handicapping conditions ages six-through 21 year-olds as reported in the Education of the Handicapped (1990). These percentages are based on the 1988 general resident population of states.

The population represented under the term specific learning disabilities (SLD), although delineated as a single handicapping condition, does not exhibit behaviors that are homogeneous in nature (Samuels, 1987). For example, it is not atypical for students with specific learning disabilities to demonstrate performance deficits beyond those relating to academic achievement

(e.g., language development and behavioral problems) and associated with other disabilities (e.g., speech/language and serious emotional disturbance) (Ysseldyke, Algozzine, & Shinn; McGue, 1982). Decisions for treatment may often necessitate multiple assessments and intervention techniques to improve academic and behavioral achievement (Schumaker et al, 1983; Silver, 1987; Smith, 1986).

Concerns for further discussion within this chapter will include problems associated with defining the term learning disabled (LD) and this population's related issues of programming interventions. Learning disabilities are reviewed in terms of federal definition, presenting difficulties with defining LD and eligibility criteria as applied by states in general and as they relate to the state of Delaware. In addition, other educational impairments are to be reviewed as they relate to analogous strands of the learning disabled.

Although the intent is not to critique the laws and regulations governing eligibility for special education services, it is important to recognize the problems associated with defining specific learning disabilities, as well as other handicapping conditions (Algozzine & Ysseldyke, 1987), and to provide a perspective on the criteria used in determining whether a child qualifies as learning disabled. Attempts by states to further define learning disabilities and to establish eligibility criteria, however, have led to variability and

inconsistency in application (Hammill, 1990).

Students with a specific learning disability (SLD), defined, in part, by federal definition are described as having "a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations" (Education of All Handicapped Children Act).

The federal regulations fail to elaborate on the basic psychological processes. However, they do include an exclusionary statement prohibiting from eligibility those children who "have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage" (Education of All Handicapped Children Act).

Hammill (1990) addressed three major concerns regarding the federal definition, including reference to the psychological processes. The first is that the "psychological process...clause was not operationalized in the identification criteria accompanying the 1977 USOE definition" (1990, p. 83). Hammill summarizes the overall weaknesses of the definition by stating that because of this and other internal inconsistencies, "the definition has diminished value as a precise, comprehensive and descriptive statement about learning disabilities

(Hammill, 1990, p. 83)."

The federal regulations have, in effect, allowed states, by default, to interpret the definition of specific learning disability. The result has shown variability in interpretation, definition, and the establishment of eligibility criteria employed by each state (Algozzine & Ysseldyke, 1987; Rivers & Smith, 1988).

The state of Delaware maintains the basic federal definition of specific learning disability. In addition, Delaware delineates criteria for eligibility as the existence of a

severe discrepancy between intellectual ability and achievement in one or more of the following areas:

- a. basic reading skills;
- b. reading comprehension;
- c. mathematic calculation;
- d. written expression;
- e. listening comprehension;
- f. expressive language; or
- g. perceptual disorder (visual, auditory, motor) (Administrative Manual: Programs for Exceptional Children, (State of Delaware, 1990, p.23).

In order to implement the above, Delaware provides specific identification procedures for determination of a learning disability (Appendix A). The procedures, however, depart from the original reference to the psychological processes in that the final determination reiterates an endorsement of attributional discrepancies between measures of intelligence and achievement.

Thus with the final criteria reverting to an educational discrepancy, the initial issue of

psychological processes give way. Ignoring the basic psychological processes during assessment poses a major point of opposition by many organizations including the Board of Trustees of the Council for Learning Disabilities (1987).

As pointed out earlier, the population of learning disabled is not comprised of singular conditions but may also exhibit behavioral similarities in common with other handicapping conditions. For example, the effects of dysfunctional processes and the relationship to achievement are also found within the federally defined disability of speech (articulation and general language impairment).

In addition to articulation, dysfluency, and voice dysfunctions, the federal definition of speech includes language impairment "... which adversely affects a child's education performance" (Education of All Handicapped Children Act). There is, then, an important implication for the area of language manifested in deficiencies of receptive and expressive dimensions (language impairment) found within the definitions of both speech and learning disabilities. The communicative dysfunction of verbal expression addressed under both handicapping conditions is germane to the topic under study representing the independent variable. There are, however, additional attributes of LD students that must be considered when assessing this population.

For example, although the definitions of LD and speech are achievement affiliated and characteristic of learning disabled students, documentation of LD students often demonstrates a disproportionate degree of inappropriate school and social related behaviors compared to students without disabilities (Bear & Proctor, 1991; Schumaker, Hazel, Sherman, & Sheldon, 1982; Schumaker, Deshler, Alley, & Warner, 1983). Silver advises, however, that "it is important to differentiate between primary problems and secondary problems" (Silver, 1987, p. 499) when considering interventions focusing on social or emotional problems. It is necessary to know whether the problem is a function of the disabilities themselves, or of outcome behaviors resulting from the general academic frustrations experienced by LD students.

Germane to this issue are the findings of research conducted by La Greca and Stone (1990) in which the results indicated, when matched by achievement with low achieving students, LD students' lower social status, lower self-esteem, and deficit behavioral functioning were not "primarily a function of the low achievement that accompanies LD status" (p. 487). The conclusion that may be drawn is that these variables, although related to that of the LD students, must be a function related to some aspect of the learning disability itself and not as an outcome of the frustration thought to be associated with low achievement. This conclusion is corroborated by Osman

(1987).

Not unlike those associated with students who are emotionally disturbed, students with learning disabilities display disruptive behaviors, anxiety, and attention deficits (Eliason & Richman, 1988; McConaughy, 1986; McConaughy & Ritter, 1986). Supporting this contention are the number of teacher requests for strategies applicable to classroom management.

Annually, the Delaware Department of Public Instruction conducts a needs assessment as a subpart of the federal mandate under the Education of All Handicapped Children Act of 1975 entitled Comprehensive System of Personnel Development (CSPD). This assessment formally solicits from special and regular teachers and administrators areas of concern requiring inservice to advance proficiency of instruction.

For several years the survey has yielded "classroom management/behavior" as a priority (Matthews, 1988, 1989, & 1990). This is not a finding uniquely limited to Delaware, as this need is also found within Region III supporting six additional mid-Atlantic states and Washington, D.C. (C. Riffle, personal communication, December 3, 1990).

Close review of the data from the Delaware CSPD surveys, revealed that the concern about classroom management/behavior applies to those who instruct students with behavioral disorders as well as teachers

and administrators responsible for students with learning disabilities. In short, LD students exhibit behavioral problems requiring corrective interventions. This request for behavioral interventions is in addition to the requested assistance under the area of academic instruction.

A review of inservice activities provided by the Department of Public Instruction (1988, 1989 & 1990) over the past three years shows that typically the techniques of intervention provided have been through application of applied behavior analysis (G.A. Smith, personal communication. December 5, 1990). Ironically, there has been a continued recurrence of classroom management/behavior as a state priority need.

Applied behavior analysis (ABA) techniques have been prominent within the educational system, since proponents of these techniques stress the basic premise of limited knowledge of the individual as a necessary prerequisite for implementation. Other than cursory acknowledgement of human development (physical/cognitive development) little attention is expended on related cognitive processes. It is conceivable that, by intervening through ABA, educators are actually sidestepping, and perhaps more simply, ignoring the relationship of cognitive processes to social behaviors.

As concluded earlier from La Greca and Stone's study, achievement was not found to be a primary factor of LD

students' social performance. Perhaps it is an artifact of the psychological processes that are the variables influencing these students' behaviors. It is, then, reasonable to consider the psychological processes and the relationship of these with social and classroom behaviors.

Dodge's social information processing model of competence describes a sequential cognitive process through which children must progress in order to respond efficiently in social events (Dodge, 1981). The model depicts five major cognitive and successive operations involved in social information processing. The major underpinning of this model is that appropriate social behaviors occur only after successful completion of each of the five steps. Singular success, therefore, does not merit social competence. Discussion of these steps follows.

The first level is a decoding process requiring accurate perception of social cues. Following the presentation of a stimulus (verbal or physical action), the child must conduct an examination of cues relevant to the intent of the stimulus.

The second step within this process is one of interpretation. The child must "integrate [the clues] with...memory of past events and...goals for the task" (Dodge, 1981, p. 5), again searching for plausible interpretations. Dodge suggests that a correspondence to the child's memory and a "programmed rule structure"

(Dodge, 1981, p. 5) is made. Specifically the rule structure relates to past experiences necessary in determining meaning from the observed act of another. What Dodge references appears to address both association and reinforcement history.

The third step is the response search process which involves a search for possible behavioral responses applicable to similar social encounters. It is important, however, that the appropriate rule structure, defined by the general population, be selected. Conceivably the process may break down by inappropriate application of the rule structure; that is to say, minority or cultural rules may not be generalized outside specific settings.

The next process is one of decision making. This entails the evaluation of consequences for each possible response considered before selecting the "optimal response." Again this parallels the reintroduction of association and the individual's reinforcement history. A question regarding this step is whether reflection actually precedes reaction.

Finally, the encoding process is the act of carrying out the optimal response. Dodge points out that the proficiency of "motoric skills" is extremely critical if accomplishment of the optimal response is to be successful.

Reactions to the individual following the response and a reinitiating of the cycle provides social cues

allowing for self monitoring. Dodge holds that each of these processes may be assessed independently, although they are automated and occur at a "nonconscious level" both during the acquisition of new behaviors as well as during maintenance.

Although the encoding process is the major interest of the proposed research, literature referencing the major tenets of the complete model will be reviewed.

In a review of research findings testing the processing component of the proposed model, Dodge (1981) provides data supporting each of the process steps contained within this paradigm. Primarily, Dodge's research sample is representative of aggressive boys. There is no evidence that the learning disabled population is included in this examination of cognition and its relationship to social behaviors. The model does, however, provide a vehicle applicable to different samples inclusive of the learning disabled (Grant & Clatterbuck, 1990).

There is little question that successful interaction with the environment requires accuracy in perception of environmental stimuli, in this case Dodge's decoding of social cues. The second condition of this first stage, however, requires that the individual first have an intact sensory receptive process. Weaknesses associated with inefficiencies in decoding skills and their impact on academic and social behaviors are supported in studies

addressing the aggressive and the learning disabled child (Reiff & Gerber, 1990; Samuels, 1987; Dodge, Murphy & Buchsbaum, 1984; Weiss, 1981). In each of these studies, decoding (i.e. perceptual abilities) of social information was determined to be correlated with social behaviors of these groups.

More recently, Reiff and Gerber (1990) examined the relationship of the Picture Arrangement and Comprehension subtests of the Wechsler Intelligence Scale for Children-Revised (WISC-R) with the Profile of Nonverbal Sensitivity (PONS) which measures the ability to decode nonverbal communication (i.e., facial and body gestures). Their conclusions from this study support the contention that LD students do not accurately perceive social situations as a result of process deficits measurable in comprehension and picture arrangement subtests. These subtests require attention to detail followed by the convergence of the individual component parts of information into a singular theme/framework of understanding. Difficulty in decoding of individual components would lead to faulty or partial perception of the whole culminating in misinterpretation of the stimulus.

Based on these studies it might be concluded that social behaviors are related solely to skills of decoding. However, Stevens (1982) calls attention to the effects of verbal expression as a variable to be controlled for when conducting studies of social cognition. This conclusion

was as a result of post hoc findings that revealed that verbal expressive skills (as measured by the vocabulary subscale score of the WISC-R) of normal middle childhood children were predictors of perception of others and effective role-taking ability. On the other hand, Weiss (1981), studying aggressive, LD and normal males, concluded that decoding and interpretation of social behaviors may be influenced by both receptive and expressive deficits.

Other researchers also suggest that the subsequent step of Dodge's model, that of interpretation, may be flawed via the weakened encoding process (Bruno, 1981; Dodge, Murphy, & Buchsbaum, 1984; Reiff & Gerber, 1990; Weiss, 1981). Even when receptive skills are intact, the selected optimal responses chosen may be inappropriate. Again, this may be due to either, or both, the response repertoire or the skills of delivery of the response selected and not the specific selection made. As Dodge pointed out, motoric skills are essential in successful completion of the model.

Larson and Gerber (1987) suggest that LD students' proficiency in social settings is impacted by difficulties in discriminating, or by not having response requirements. What this implies is that LD students exhibiting discrimination problems will also demonstrate limited alternatives to problem solving. As a result, they choose from an already limited array of solutions failing to have

available a match of an appropriate response to the social conditions presented.

Petit, Dodge and Brown (1988) conducted a study to determine, in part, the relationship between social problem solving patterns and children's social competence. The supported contention was that the ability to produce numerous and varied responses to social problem-solving was a predictor of social competence.

In a measurement of social information processing (problem-solving patterns), the number of solutions to presented social problems generated by four- and five-year-olds failed to indicate a correlation between solutions, with preference of aggressive solutions and classroom social skills or aggressive behaviors. In addition, it was determined that fluency of varied responses was strongly related to classroom competence. However, through regression analysis, when early family experience was placed into the path of influence (social problem solving to family experience to social competence) the predictive ability of social problem solving remained viable only in conjunction with early family experience. Given the earlier results, aggressive solutions failed to be predictive of classroom competence.

It appears that variables other than measures of generated solutions to social problems must be considered when evaluating social competencies of children. In particular, Petit, Dodge and Brown's study is suggestive

of the mediating role of social problem solving. However, prediction was based on the ability of the subjects to generate responses determined through verbal expressive competencies. Subjects able to generate (verbally) a higher quantity of responses were also more likely to generate prosocial solutions and, hence, the observed higher correlation of fluency of responses with social skills in the classroom.

This and similar studies (Stevens, 1982; La Greca & Stone, 1990) indicate possible interactions of several cognitive skills necessary for competent social behaviors. This is an important aspect when considering the encoding process as a separate and independent process. It is apparent that other processes may be interacting, impeding, or prohibiting the successful enacting of the selected optimal response behavior.

Subjects who might have limited verbal skills may have, as a result, formulated a limited number of responses with a greater proportion of negative solutions when compared to the quantity of prosocial responses. In addition, their exhibited classroom behaviors were not necessarily representative of the verbalized problem solving solutions. In this case, they were limited in the number of positive solutions presented. The issue may actually be one of quantitative as opposed to qualitative measurement of the variable verbal expression.

Subtle differences may again be overlooked requiring

more precise measurements of differences observed. If deficits in expressive abilities are correlates or causal, this variable must be considered in the sample and evaluated more closely with those subjects observed outside of clinical analysis to have such deficits. This variable was not under consideration in these studies, however.

Studies of, and related to, attribution, perception, and behavioral histories have assessed the impact on the response search and response decision processes (Dodge, 1980; Dodge, Murphy, & Buchsbaum, 1984; Dodge, & Fame, 1983; Whalen, Henker, Dotemoto, & Hinshaw, 1983; Hymel, 1986). Whether, in these studies, the sample was normal, aggressive or aggressive LD, conclusions were similar. All groups were likely to respond in accordance with perceptions influenced by attribution, general social perceptions and previous experiential, or behavioral histories. As such, these are important variables in the response search and response decision stages of Dodge's model.

Again, according to Dodge, facilitation of the encoding process requires prerequisite competencies necessary in order to carry out the optimal behavioral response. Studies reviewed have consistently controlled for or excluded the variable of verbal expression from the sample or through statistical application. Few have included verbal expression in either path analysis or in

correlational analysis.

Two additional issues need to be addressed in this review. These issues focus on 1) the exclusion from studies of children exhibiting verbal expressive deficits (e.g., Bruno, 1981; Dodge, 1981, Dodge et al., 1984), and 2) the exclusion of verbal expression from research studies (e.g., Dodge et al, 1984; Coie & Dodge, 1988).

In these studies, subjects with marked verbal skill deficiencies were eliminated from the study sample in an effort to reduce the confounding influence on test results. Influences of verbal skills may not be sufficiently distinct, however, so as to be eliminated due to the more subtle differences not assessed.

For example, Bruno (1981), recognized the effects of less pronounced variations during analysis of data where differences were not readily reflected in quantitative measures, but which were observed through qualitative evaluation. His study investigated the interpretation of pictorially presented social situations comparing verbal responses of LD and normal children. During data collection (interview process) a distinction between groups was not apparent. It was not until a statistical assessment of qualitative responses between groups was made that a difference was noted. In the final analysis it was determined that the difference rested not with the number of responses, but with the type and quality of responses. The conclusion drawn from this study was that

subtle qualitative differences may not be observable outside of clinical and statistical application.

Although the purpose of statistical applications is to determine significance of variable relationships, what remains a concern is that subtle effects of variables, unless accounted for during analysis, may simply be overlooked. Therefore, studies that do not take into account the effects of verbal expression, or that exclude this variable in a gross fashion (i.e., sample criterion), may continue to omit its possible effects.

It appears necessary at this point to reconsider the definition of LD. First, LD is a language based definition. Determination of eligibility notes that LD is "a disorder in one or more of the basic psychological processes involved in understanding or in using language" (P.L. 94-142, 1987, p. 102). Second, the federal definition fails to include reference to social or classroom behaviors. And finally determination of LD is based on assessment of achievement and not behavioral observation.

Therefore, on the basis of the LD definition and considering the research presented, it may be hypothesized that it is the expressive language deficit in LD students that contributes to behavioral disorders (i.e., social incompetence, classroom misbehaviors), and that the primary influence is neither "emotionally" driven nor as a result of frustration due to low achievement.

To this point, emphasis has been placed on research relevant to the social processing model delineated by Dodge. Although most findings support the impact of verbal deficiencies at each level on social behaviors, many findings also suggest that differences between groups of LD and non LD are qualitative in nature. It becomes necessary to first, briefly, examine the theoretical framework from which the importance of language acquisition and application in social settings originates.

Early theoretical frameworks of language acquisition focused on basic speech correction and language functioning measured in terms of syntax and semantics assessed within a clinical structure independent of the child's interpersonal setting. Prutting (1982) referred to this period of time as the study and measurement of "...innate factors related to the acquisition of language" (p. 127). More precisely, Prutting and Kirchner (1983) state that in this "...formalistic linguistic paradigm, the rules for governing word order were of most import and what the rules did or did not accomplish was not addressed" (p. 29).

In a historical review of pragmatic literature, Prutting (1982) illustrated the shift from the speech-language pathologist's assessment of semantic and syntactic rules (i.e., measurements of singular components of language or competence in grammatical structures) to that of a speech act theory, and the assessment of the

relationship of linguistic rules with the application and use of language skills in a functional role (i.e., within the context of a social setting).

It was during the early seventies that the study of language acquisition was marked by an attempt to interface "...social and cognitive factors influencing the acquisition process..." (Prutting, 1982, p.127) and, with this restructuring, the movement toward the study of pragmatics began. The resultant theoretical framework of pragmatics represents an interactive model of language acquisition involving a cross of disciplines comprised of linguistic theory with that of cognition and social development.

Clearly, it is not that the value of assessing language acquisition through measures of syntax or linguistic structures had lessened, but rather the emergence of the study of pragmatics focused practitioners on the interaction of language skills with the environment providing "...a more complete and accurate understanding of the entire communicative system" (Prutting, 1982, p.125). As such, it presents a similar structure of processing posited by Dodge, as both reference cognition, social knowledge and development.

The influence of verbal expression on social competencies, whether measured in terms of linguistic or pragmatic structures remains to be addressed. However, it is important to recognize that pragmatic rules of language

and assessment conducted in a social context represent an intermediate vehicle for the study of social competence. Discussion of this qualitative nature of language with literature explicitly addressing language and the relationship to social competencies and behaviors, is presented in the following section.

Of an interesting note was the finding in a study conducted by Petit, et al (1988) which indicated that types of verbal responses were not predictive of actual classroom behaviors. Specific to this study, aggressive responses did not predict classroom competence. This suggests that deficiencies in verbal skills, perhaps globally labeled as intent of the speaker, may limit not only the number but also the type and diversity of responses observed. In addition, it may be that skills of verbal expression (i.e., conveying intent) of LD students may actually influence and impact on social behaviors and competencies. This is viewed as further depicting the more subtle differences not assessed in those studies presented thus far (i.e., quality of verbal responses) and the need to study more closely this variable which may not have been explicitly addressed, but which may be implicit and subsumed within studies.

Analysis of those studies reviewed either controlled for verbal skills, or excluded from the sample students exhibiting deficits of verbal expression. Attempts were made to reduce the influence of marked language deficits

and, as a whole, studies did not address the more discerning deficits of verbal expression.

As noted earlier, Stevens (1982) and Weiss (1981) described the influence of receptive and expressive language on social skills, the ability to perceive others accurately, and the predictability of verbal expression on the ability to perceive motives of others (e.g., affective role-taking).

Specific to the population under study, Pearl and Cosden (1982) suggested that LD students make greater errors on skills of social comprehension (e.g., receptive and perceptual skills) than their non-LD peers. Biller (1986), on the other hand, concluded that although pragmatic use of language of high school LD students was poorer than non-LD students, a correlation between comprehension and use of pragmatic skills did not surface. Evidence from this last study indicated that LD students may be able to correctly identify the intent of others, but actually failed to produce appropriate language usage. Additionally, in a review of discourse literature (examination of narrative abilities) of LD students, Roth (1986) also suggested that, while students possess the ability to comprehend information, they experience deficits in strategies for expressing this knowledge.

Of a more singular nature, Bryan (1979) found that LD students are less likely to ask for clarification when given uninformative or partially informative information.

This led these authors to conclude that: 1) LD children do not recognize uninformative information and 2) LD children are less proficient in asking questions. A similar finding of the second point was found by Donahue (1980) who evaluated the pragmatic competence (i.e., measuring linguistic and social knowledge) of 33 LD children in grades 2, 4 and 6. Although children presented measured and appropriate linguistic abilities, a deficit in "requesting strategies" was observed.

There is an apparent disagreement as to the degree of social comprehension deficits exhibited by LD students and the influence on language proficiency. However, there is clear evidence of agreement in that those conclusions reached have been founded on, and measured in, terms of deficiencies in the qualitative aspect of pragmatic skill production and strategies.

Candler and Keefe (1988), supporting these notions, emphasized that LD students often exhibit language deficits that are not readily obvious, creating a number of problems impacting social interactions that include problems in expressing ideas orally. They also asserted that recognition of verbal expression is, in many cases, not a conspicuous problem. These points, supportive of earlier referenced findings, add to the need for further investigation of verbal expression and the possible relationship to classroom behaviors.

Moreover, Candler and Keefe (1988) suggested that

when LD students express themselves, the adult listener actually interprets the intent of the student. The intricacy of the problem is, thereby, exacerbated by failure of the teacher to recognize the dilemma. As such, expressive language is not addressed through classroom instruction. Since it is less pronounced as a problem, it remains unaddressed and unassessed.

Dudley-Marlings (1985) reviewed nineteen studies in which researchers attempted to determine the existence of differences between LD and non-LD students in pragmatic competence, the use of language skills in social settings, and the corresponding need for language intervention focusing on pragmatics. Although he focused on methodological flaws in the review (e.g., sample criteria and contrived versus natural investigative settings), it was apparent that language differences did surface. Consistent with previous findings, group differences were not in numbers of discourse errors, but were found within the qualitative errors of response.

McCord and Haynes (1988) noted that "...the presence of effective conversational skills is necessary for the development of learning strategies, adequate classroom performance, and good social relations" (p. 238). Their research findings, heeding Dudley-Marling's concerns of previous methodological flaws, supported the contention that LD students do exhibit discourse errors different from the nondisabled population. The types of errors

were found to be similar to those studies reviewed by Dudley-Marling, that is, qualitative versus quantitative differences.

The constant discriminating factor found between LD and non LD samples, in these and previously discussed research findings, remains to be one of qualitative over quantitative responses. There does, then, appear to be research supporting the variable of conversational language differences between LD and non LD populations. In addition, the difference between groups remained of specific error types and not the number of discourse errors observed. As Dudley-Marling (1985) observed, the difference noted of LD students is one of "...what they say and how they say it" (p.196).

Earlier work by La Greca and Misibov (1979) pointed to the "what" portion of this issue. Their research findings of LD students who presented poor social interactions had, among other areas of social behaviors, deficits in conversational skills. Differences included deficiencies in 1) frequency of conversational statements, 2) numbers of questions asked, 3) generation of topics of conversation and 4) exhibiting a higher number of questions requiring yes or no responses.

Based on earlier work by Zirkelbach and Blakesley (1985) which addressed language deficient children in the classroom, Candler and Keefe (1988) expanded on the above differences noting nine areas characteristic of LD

students with language deficits. Difficulties included problems with 1) word meaning, 2) off-target responding, 3) word selection, 4) word finding, 5) neologisms (inventive wording or phrasing), 6) referent errors, 7) topic closure, 8) the use of immature grammatical structures, and 9) disorganization and sequencing. These and La Greca's and Misibov (1979) findings are supported by several works by other authors (Donahue, 1980 a, 1983, & 1984; Biller, 1986).

The final area of discussion will examine language skills and corresponding behaviors of classroom adjustment. Few studies focus on more than sociometric assessments of social competencies (e.g., peer acceptance, friendships and social status). As a result, literature is fragmented and loosely related to specific classroom behaviors that may, in effect, have caused social rejection. The following studies reviewed do convey an existent relationship between language skills and behaviors of a more specific nature which contribute to less than acceptable social interactions.

Bryan and Pearl (1982) found, for example, that LD children tend to act in somewhat of a submissive manner and in a defenseless communicative role. Interpretation of this finding could relate to earlier discussion in that LD students are less involved in providing comments of a commanding, directive or assertive nature. (These do not denote aggressive or sarcastic forms of communication.)

To further illustrate, Bryan, Donahue, Pearl and Herzog (1984) found that LD children tended to exhibit a lesser likelihood of disagreement and a greater inclination to agree more with their mothers than do non-LD subjects. In school settings, Bryan, Donahue and Pearl (1981) observed these behaviors to also be representative of LD students with regard to peer interactions. In addition, results indicated that LD students were less likely to justify and argue for their choices than did non LD subjects.

Donahue (1984) points to LD students' behaviors in the classroom when she states that the "...difficulty in learning to identify social contexts where different conversational rules apply may help to account for many [of these] children's problems in classroom adjustment" (p. 33). This point differs slightly from general social comprehension in that skills of appropriate rule application are stressed.

These factors of behaviors would clearly have a less than positive impact on the LD student's degree of successful social interactions. In a review of research of LD adolescents' communicative abilities and consequential effects of peer acceptance, Donahue and Tanis (1984) pointed to consistent findings in which deficits of the LD subjects included oral language in addition to social perceptions and social experiences which lead to less peer acceptance.

Additional research by Donahue (1980 b) found that LD second and fourth graders were simply less skilled in initiating and maintaining a conversation with peers and, paralleling others' findings, actually participated in more of a submissive versus dominant communicative role.

Of those findings reviewed, it is evident that communicative deficits of LD children impact on social behaviors, social interactions, social roles and acceptance by non LD peers. Of, perhaps, a greater importance is the need to focus on the relationship between skills of communication and specific adjustment and pragmatic behaviors in addition to sociometric measures or global assessments derived outside of actual peer interaction. Acknowledging this observation, Boucher (1984), voiced concern with study conclusions that are based solely on the results of sociometric appraisals based on peer perceptions, noninteractional data and contrived situations "...in which the LD child is merely a spectator, not a participant" (p.272). This position clearly postures the importance for inclusion of data acquired from natural settings.

Although addressing divergent populations, several other authors, however, were able to study and relate language abilities and skills of pragmatics to behaviors that, in turn, impact on social experiences and peer acceptance.

Carr and Durand (1985) found that, by providing

functional communication training, a significant decrease in behavior problems could be reduced. Although this was applied to the more severely disabled, its premise is also indicated by findings of Chess and Roseberg (1974) who determined that, as a result of poor communication skills, frustration resulted in emotional and behavioral problems.

These findings are also advocated by Baron-Cohen (1988) who, in a review of literature focusing on social and pragmatic deficits in autism, drew conclusions that deficits in language and pragmatic skills were directly related to behavior problems and social skills.

Although these findings were based on severely disabled populations, Funk and Jurs (1986) found similar results when evaluating the relationship of pragmatics and deviant behaviors of children with chronic otitis media. The findings caused the authors to conclude that deficits in pragmatic skills were linked to specific behavior disorders (e.g., hyperactivity, aggression, irritability and neurotic and psychotic behaviors).

A general conclusion that may be drawn from these latter studies is that, in populations where moderate to severe deficits in language skills exist, a corresponding relationship with both adjustment behaviors and social skills also exists. Perhaps the most significant conclusion and recurrent theme pertinent to this study is that proposed by Silva, Kirkland, Simpson, Steward, and Williams (1982). They suggested that those behavior

problems identified in students with chronic otitis media, as compared to the normal population, were the direct result of subtle language deficits. The essential and transitional point is that language deficits need not be one of a severe nature to impact on behavior problems and resultant interpersonal relationships.

In summary, LD is not a homogeneous grouping. Language usage differs from the general population via subtle differences. To assume that LD can be categorically grouped under the heading of language disorders would be to categorically exclude those students with the more subtle language errors. As referenced earlier, Candler and Keefe (1988), among others, noted that because these conditions may be more mild in nature, the very fact that adults interpret their expression indicates the subtleness of the problem. General programming has remained intent on addressing speech and severe language problems, overlooking, because of their subtleness, language problems that may actually cause classroom behavior problems in addition to impeding social interaction. While adults may overlook this occurrence, peers may not.

Conclusions that may be drawn from this review focus on five major issues requiring more careful attention. First, learning disabilities are based on deficits involved in the understanding and use of language. Second, in addition to deficiencies in academic

achievement, LD students often exhibit disorders impacting social competence.

Third, in Dodge's social information processing model, social competencies are dependent on the proficiency of the individual's ability to carry out the optimal response. Deficits in expressive language would impede the achievement of social proficiency.

Fourth, pragmatic literature addresses two components of language acquisition and the impact on social competence. From an assessment of syntax and semantic structures, pragmatics focuses on the contextual use of these skills in social settings viewing social development in relationship to communication behaviors.

The common elements of those frameworks proposed by Dodge's social processing model of social competence and the study of pragmatics are strikingly similar. Both models are based on an interactive exchange of behaviors with at least one other individual and both stipulate the impact on social behaviors. Whereas Dodge focuses on cognitive processing, execution of the selected behavior (through motoric skills) and its relation to social context, linguistic literature focuses on cognitive processing specific to language acquisition, its application (motoric skills) and the relation to social context.

Finally, many studies have excluded from the study sample those exhibiting deficits in expressive language.

By doing so, two additional concerns surface. First, by excluding more severe expressive language disabilities from the sample, expressive language continued to be a predictor of the dependent variables under study. In addition, because less severe deficits of expressive language may not be prominent, analysis of these must be addressed, since they appear to continue to influence study results.

These five areas, therefore, warrant further investigation into the relationship of verbal expression and behaviors of students with learning disabilities. Thus, it is the purpose of this study to explore the independent variables of verbal expression and pragmatics and their relationship to the dependent variable of classroom behaviors of students with learning disabilities.

CHAPTER III

Methodology

Subjects

Subjects consisted of 36 male LD students, identified by established criteria as found within the Delaware Administrative Manual: Programs for Exceptional Children (1990, Revised). The sample was comprised of male LD students in grades three through six who had been served in special programs for at least two months and who were receiving at least 2 1/2 hours of special education instruction outside of the regular classroom, excluding related services (e.g., speech, occupational therapy, physical therapy).

Males in grades three through six were selected for two reasons. First, the general special education population is predominantly male. Since so few females account for the population, non-inclusion would avoid the addition of a confounding variable. Second, the instruments used in this study were based on a sample inclusive of these grade levels.

Materials

The Teacher-Child Rating Scale (T-CRS) (Hightower, Spinell & Lotyczewski, 1987) is a behavior rating scale measuring student classroom behaviors and was used most recently by Bear and Proctor (1991) to analyze classroom behaviors of LD students.

Although the "norm group is limited [in size],

reliability and validity are good" (Sattler, 1988, p. 928). Sample sizes ranged as follows: 1) in grade 3, N was 137, 2) in grade 4, N was 120 and 3) in grades 4-6, N was 238. Raw scores of each subscale are converted into percentile scores. Alpha scores, across each of the grade samples, are noted below following each subscale description.

Part I comprises three subscales measuring: 1) acting out--defined as aggressiveness, disruptiveness and impulsivity (Alpha scores = .88, .92 and .94, respectively), 2) shy anxious--measures shy, withdrawn and dependent behavior (Alpha scores = .84, .86 and .89, respectively) and 3) learning skills--assessing items such as poor work habits, difficulty following directions and poor motivation (Alpha scores = .92, .93 and .94, respectively).

Part II, consisting of four subscales, measures: 1) frustration tolerance--assessing coping skills and tolerance of imposed limits (Alpha scores = .86, .93 and .93, respectively), 2) assertive social skills--social status with peers (Alpha scores = .90, .90 and .90, respectively), 3) task orientation--effectiveness within the educational setting (e.g., completes work; well organized) (Alpha scores = .95, .94 and .94, respectively), and 4) peer social skills--measures popularity among peers (Alpha scores = .86, .97 and .95, respectively).

The Clinical Evaluation of Language Fundamentals-Revised (CELF-R) (Semel, Wiig & Secord, 1987) provides composite scores of both receptive and expressive language. The subsection of expressive language (verbal expression) measures the ability to convey complexity of meaning through different levels, obtained from the following subtests within the Expressive Language section of this instrument: 1) Formulated Sentences, 2) Recalling Sentences and 3) Sentence Assembly. This instrument was constructed by the two major leaders in the field of language assessment and is commonly used by speech/language therapists throughout Delaware.

Over 3,000 students were included in the study sample and were comprised of the following: 1) sex - 52.1% female and 47.9% male, 2) race - 78.5% white, 16.4% black and 5.1% other, and 3) ages - 5 through 16 years 11 months.

Specific to the subsection of verbal expression, the CELF-R correlates with previously designed and validated instruments including the Test of Language Development-Intermediate (TOLD-I) and the Peabody Picture Vocabulary Test-Revised (PPVT-R) with better predictive measures than the PPVT-R.

Alpha scores across the age range of 5 through 16 are as follows: 1) Formulated Sentences ranged from .60 to .91 with the lowest score at age 16 and the highest at ages 5 and 6, 2) Recalling Sentences ranged from .79 to .92 with the three highest scores at ages 6, 5, and 7,

respectively, and 3) Sentence Assembly ranged closely from .86 to .92. Finally, the Expressive Language subsection provided a range of Alpha scores from .86 to .93.

The full battery of the CELF-R (Revised edition) was evaluated for predictive abilities on 157 students equally distributed across ages 7, 9, 12 and 15. Application of a discriminant analysis revealed that the CELF-R categorized at the 90.4% level of agreement with participating school systems which had identified children with, or without, language deficits. The sample consisted of 85 males, 70 females and 2 where sex had not been identified. Of these 67.5% were white (33.8% identified as language-learning disabled (LLD) and 33.8% nonLLD), 28% were black (12.7% LLD and 15.3% nonLLD) and the remaining 4.4% were other, or not identified.

The Interpersonal Language Skills Assessment (ILSA): A Test of Pragmatic Behaviors (Blagden & McConnell, 1988) is used to determine pragmatic language skill usage observed in a natural setting requiring the observer to record all conversation during a 15 minute group activity (i.e., playing the game "Sorry") and to then tally, by category, specific language performances of the subject(s). It is not a test as in the strict interpretation of ability or achievement instruments where a set number of questions is administered to all subjects. It does not provide data that is measured in terms of right or wrong with the evaluator seeking a "correct

score". However, totals by category may then be compared with normative data.

Categories of comments measured include: 1) Advising/Predicting, 2) Commanding, 3) Commenting, 4) Criticizing, 5) Informing, 6) Justifying, 7) Requesting and 8) Supporting. Each category is measured in terms of totals and percent of total comments. In addition, categories of comments tallied are also evaluated against the percent of the total number of comments that represent 1) Negations (e.g., isn't, would not), 2) Production Efficiency Errors (i.e., pauses, fillers, word(s) repetition in a single comment), 3) Grammar Error (e.g., "He goed."), 4) Semantic Errors (i.e., word substitution or vague reference) and 5) Unfinished Comment Errors (i.e., an incomplete statement made by the speaker not due to interruptions from another).

The sample used to obtain normative data was "...collected on a population which included 528 normal children aged 8 to 14 years. A comparison group of 64 language-learning-disordered youngsters ages 8 to 14 years was also tested" (Blagden and McConnell, 1985, p.8). The sample was from a large metropolitan area that included suburban subjects consisting of 264 males, 264 females which equated to 79% caucasian, 13% black and 8% Hispanic and other.

All data collected are frequency based and then recalculated in terms of percent of the total number of

comments each category is observed. Comparative data are provided in both terms of percentile norms and standard scores.

Reliability of such an instrument is somewhat effected by the nature of the test since what is evaluated is measured against spontaneous speech. The instrument clearly denotes that experienced practioners or teachers may reasonably expect to match those reliability scores of .80 to .87 of Language Categories and of .69 to .74 for Negations, .67 to .68 for Circle Checks (i.e., comments denoting sarcasm) and .75 to .83 of Errored Comments.

Validity of percent of occurrence (of profile similarity) across ages by ages ranges from .46 to .83. Between normal and language-learning-disabled a correlation of .49 was achieved. It was suggested by the authors that, although adequate validity is met, "...future studies will help to further establish validity of this procedure" (Blagden and McConnell, 1985, p. 49).

Procedures

A school district located in the central county of Delaware (Kent) was requested to take part in this study. Districts in Kent County depict rural/suburban communities characterized by a population representing a broad range of social and economic status.

Six elementary schools serving LD students in grades three through six represented the total population of 62 from which a sample size of 36 was obtained. Thirty-six

students accounted for approximately 75 hours of administration and assessment time of the CELF-R with an additional 75 hours for the ILSA.

Initially, all records of the total LD male population were reviewed for possible sample inclusion in accordance with the following criteria: 1) male LD students who had 2) been classified in accordance with Delaware LD eligibility criteria, who 3) had been in receipt of at least two month's service in special education programs, consisting of 4) at least 2 1/2 hours of special education services, excluding related services (e.g., speech, counseling, occupational therapy and physical therapy) which were 5) provided outside of the regular classroom by certified special education teachers.

Parents of all students meeting the above five criteria (62), were forwarded a letter requesting permission for their child to take part in the study (see Appendix D). An explanation of the purpose of the study and potential outcomes was provided. A total of 30 requests were returned granting permission. Two parents did not wish to take part in the study.

A second mailing (Appendix E) was forwarded to those parents who had not responded (30). An additional 10 parental permissions forms were received. No responses were received denying permission. A final total of 40 students represented the study sample.

At the conclusion of the study, all teachers and

administrators, and parents responding to the request for permission to be included in the study were forwarded:

- 1) a letter of appreciation, 2) an explanation of why their child was, or was not, included in the study and
- 3) a brief summary of the results.

For purposes of the sample population description, the full scale I.Q. scores, available from previously administered evaluations, were collected. In addition, chronological age, race, and names of the teacher(s) instructing the students were documented, as were notations of language services. These data were obtained from student folders located within each school of attendance.

Coding of students, schools and teachers took place for purposes of confidentiality in order to avoid data which are personally identifiable.

The special education classroom teacher(s) serving each child of the sample was asked to complete the T-CRS which provides ratings on a five point scale of classroom behaviors. Scores on the subscales of Acting Out, Shy/Anxious and Learning ranged from zero to thirty. Scores on the Frustration Tolerance, Assertive Social Skills, Task Orientation and Peer Social Skills ranges from zero to twenty-five.

Each child rating took approximately five minutes to complete and was returned to the examiner by the conclusion of testing of the school sample. All teachers

requested to complete the T-CRS received an orientation and instructions for filling out the behavior rating scale. Where two or more teachers served an individual student, an average of ratings was made and this score represented the final score for analysis for that child. Additionally, all teachers (15) who completed the T-CRS were required to have worked with the student for at least two months.

As noted, the T-CRS is divided into two parts with ratings under both sections ranging from one to five. However, the score values of Part I and Part II are in opposite directions. In order to establish consistency in meaning between each subsection, scores under Part II were reversed so that 1) higher scores across the T-CRS represented greater problem ratings on each measurement and 2) lower scores represented fewer problem ratings.

Each member of the sample was first administered the Expressive Language subsection of the CELF-R by this examiner. This portion of the CELF-R provided an overall composite score and three subscale scores of expressive language skills. Administration of the CELF-R, Expressive Language section required about 30 minutes to complete with approximately an additional 30-40 minutes for analysis. Scores of each subtest ranged as follows: 1) Formulated Sentences ranged from zero to sixty, Sentence Assembly ranged from zero to twenty-two and 3) Recalling Sentences ranged from zero to seventy-eight.

On the same day of administration of the CELF-R, and in groups of three and four, all members of the sample took part in playing the game "Sorry" for between 15 and 20 minutes which was recorded on tape. "Sorry" is a board game requiring the rolling of a die and reading of cards for determining movement around the board.

A requisite for determining group membership for playing this game required that students know each other on a social basis. No groups were comprised of students unfamiliar with each other, and were constructed by the examiner so as to avoid membership where exclusion of another member(s) might occur. For example, two best friends were not included in any play group so that group membership would not circumvent the inclusion of another member(s) during game activities.

Both the game and time variance were used as they were the basis for establishment of the normative data found in the ILSA. An additional 45 to 55 minutes was necessary for coding and recording each of the taped sessions. Since all subscales of the ILSA were frequency based, the range of subscale scores was infinite.

All testing was conducted during the month of April, 1992. Testing schedules were determined after first contacting each school in order to avoid conflicts with other scheduled events. Further adjustments were made on site, based on specific classroom schedules and student activities. Accommodations were made to insure that

testing of students did not take place during activities in which they wished to participate.

Test settings were dependent on availability of rooms and varied from storage rooms to full size classrooms. Variations in settings did not impede on testing procedures.

Intercorrelations of each of the three instruments used in the study are found in Appendices A, B and C.

CHAPTER IV

Results

Results of the study are presented in this chapter, beginning with sample descriptive statistics followed by correlational data. Descriptive statistics include: 1) description of the sample including analysis by race and and 2) results of tests administered. Findings related to the research hypotheses are then presented with results from multiple regression analyses.

Sample

Although forty permission forms were received, three members of the sample were lost to transfers to other districts and one was removed from special education programming. Table 1 provides descriptive statistics of the sample (n=36). Thirteen children were black and 23 were Caucasian. The mean age and I.Q. were 10.70 and 91.97, respectively, with no significant differences found between races.

Table 1
Means, Standard Deviations and Ranges
for Age and I.Q. by Race

	<u>AGE</u>			<u>I.Q.</u>		
	Black (n=13)	Caucasian (n=23)	Total (N=36)	Black (n=13)	Caucasian (n=23)	Total (N=36)
Mean	10.85	10.62	10.70	89.31	93.40	91.97
SD	1.41	1.26	1.30	13.00	10.99	12.32
Range	9-13.25	9-13.16	9-13.25	79-118	74-112	74-118

Grade distribution was as follows: 1) 19 were in grade three, 2) three were in grade four, 3) seven were in grade five and 4) ten were in grade six. Of the sample, three students were receiving speech therapy (e.g., problems with articulation); none were recommended for, nor found to be, receiving language therapy (i.e., development of language, use of language, skills of communication).

Results of Tests Administered

The means, standard deviations and ranges of scores on the CELF-R, ILSA and T-CRS are found in Table 2, Table 3 and Table 4, respectively.

Table 2

Means, Standard Deviations and Ranges of the CELF-R

<u>CELF-R</u> <u>Subscales</u>	<u>Mean</u>	<u>Standard</u> <u>Deviation</u>	<u>Range</u>
Sentence Formulation	36.25	8.54	19 - 51
Recalling Sentences	49.89	12.81	15 - 72
Sentence Assembly	6.89	3.99	0 - 14
Verbal Expression Score	93.03	22.75	36 - 133

Table 3

Means, Standard Deviations and Ranges of the ILSA

<u>ILSA</u> <u>Subscales</u>	<u>Mean</u>	<u>Standard</u> <u>Deviation</u>	<u>Range</u>
Advising	7.14	6.37	0 - 25
Commanding	9.03	7.42	0 - 27
Commenting	31.22	15.97	13 - 80
Criticizing	9.92	6.71	0 - 27
Informing	19.06	10.22	0 - 47
Justifying	2.89	4.07	0 - 19
Requesting	16.14	10.49	2 - 46
Supporting	4.78	4.34	0 - 15
Total # of Comments	47.25	22.55	4 - 92
Negation	7.22	5.24	0 - 24
Sarcasm	7.56	8.86	0 - 31
Errored	9.67	10.92	0 - 38

Table 4

Means, Standard Deviations and Ranges of the T-CRS

<u>T-CRS</u> <u>Subscales</u>	<u>Mean</u>	<u>Standard</u> <u>Deviation</u>	<u>Range</u>
Acting Out	12.48	5.17	6 - 24
Shy	9.22	3.69	6 - 20
Learning	15.55	4.63	6 - 25.5
Frustration	17.13	3.95	7 - 23
Assertive	13.95	3.80	8 - 23
Task	16.29	3.74	8.5 - 23.5
Peer	12.50	4.50	5 - 24.5

Findings Related to the Study Hypotheses and Questions

This section will address the two hypotheses of the study, followed by a discussion of questions numbers three and four. Each hypothesis was tested using correlational analyses, followed by multiple regression analyses of the subscales of the independent variables, verbal expression and pragmatics (CELF-R and ILSA) and each subscale of the dependent variable, classrooms behaviors (T-CRS).

Hypothesis One

Hypothesis one predicted a positive relation between verbal expression (CELF-R) and classroom behaviors (T-CRS) of students with learning disabilities. Table 5 shows the

correlations between the subscale of these two variables.

Table 5
Correlations Between Subscales
of the CELF-R and the T-CRS

	<u>CELF-R Subscales</u>			
	Formulating Sentences	Recalling Sentences	Sentence Assembly	Full Verbal Expression Score
<u>T-CRS Subscales</u>				
Acting Out	-.33*	-.09	-.05	-.19
Shy/Anxious	-.08	.11	-.17	.01
Learning Skills	-.10	.06	-.06	-.01
Frustration Tolerance	-.18	-.26	.05	-.21
Assertive Skills	-.11	-.03	-.20	-.10
Task Orientation	-.36*	-.19	-.31	-.30
Peer Social Skills	-.32	-.09	-.34*	-.23

* $p < .05$

As noted in Chapter III, the T-CRS is divided into two parts, with ratings under both sections ranging from one to five. However, the score values of Part I and Part II are in opposite directions. In order to establish consistency in meaning between each subsection, scores

under Part II were reversed so that 1) higher scores across the T-CRS represented greater problem ratings on each measurement and 2) lower scores represented fewer problem ratings.

Correlations between the subscales of the CELF-R and the subscales of the T-CRS revealed that only three correlations reached a level of significance at the .05 level. Formulating Sentences correlated with both Acting Out and Task Orientation, in a negative direction, indicating that students with higher scores on Formulating Sentences were rated by teachers as exhibiting fewer Acting Out and more Task Orientation behaviors. Sentence Assembly correlated negatively with Peer Social Skills demonstrating that students with higher abilities of assembling sentences were rated with fewer deficits of peer social skills.

In addition to these findings three other issues should be noted. First, a correlation between Formulating Sentences and Peer Social Skills approached significance, indicating that students whose skills in formulating sentences were high, tended to be rated by teachers as having fewer deficits on peer social skills.

Second, Formulating Sentences surfaced as the subscale of the CELF-R with the greatest number of correlations reaching significance with subscales of the T-CRS. Two correlations, that of Acting Out and Task Orientation, achieved significance, while a third

subscale, Peer Social Skills, approached significance.

Third, only four correlations were found to be in a positive direction including Recalling Sentences with Shy/Anxious and Learning Skills, Sentence Assembly with Frustration Tolerance and Shy/Anxious with the Full Verbal Expression Score. The remaining 25 correlations were observed to be in a negative direction. Although the majority of the correlations were not significant, indications are that, generally, students with higher skills of verbal expression tended to be rated by teachers as having fewer deficits in measures of classroom behaviors.

Multiple regression analyses on the subscales of the CELF-R and each of the T-CRS subscales resulted in no full regressions reaching a level of significance at the .05 level. Table 6 shows the R-Squared, F values, and probability levels of each of the separate regressions.

Table 6
Multiple Regression Analyses of the CELF-R and
Subscales of the T-CRS:
R-Squared, F-Ratio and Probability Level

<u>T-CRS Subscales</u>	<u>R-Squared</u>	<u>F-Ratio</u>	<u>Probability Level</u>
Acting Out	.2326	1.82	.14
Shy/Anxious	.1040	.70	.63
Learning Skills	.0477	.30	.91
Frustration Tolerance	.1659	1.19	.34
Assertive Social Skills	.0606	.39	.86
Task Orientation	.1608	1.15	.34
Peer Social Skills	.1854	1.37	.27

Only when Acting Out was placed in the regression equation did a subscale of the CELF-R, that of Formulating Sentences, obtain a standardized beta (-.89), reaching a level of significance at the $< .01$ level. This finding, supported in the correlational analysis, indicates some

predictive value of Acting Out behaviors. The direction is negative, indicating that when all skills of verbal expression are placed in the equation, students with higher skills in Formulating Sentences have been rated as showing fewer acting out behaviors.

Formulating Sentences did not achieve a Beta at a level of significance in the regression equation with Task Orientation or Peer Social Skills. Additionally, Sentence Assembly failed to reach a Beta at a level of significance in the regression equation with Peer Social Skills as the dependent variable.

Hypothesis Two

To address hypothesis two, which predicted a positive relation between pragmatic skills (ILSA) and classroom behaviors (T-CRS), a correlational analysis was first conducted. In contrast with the explanation of correlations with verbal expression (CELF-R), a positive correlation between the ILSA and T-CRS indicates that the greater number of statements found under each subscale of the ILSA corresponds to teachers rating students with greater deficits on the subscales of the T-CRS. Table 7 shows the results of this analysis.

Table 7

Correlations Between Subscales of the ILSA and the T-CRS

			T-CRS Subscales				
	Acting Out	Shy/ Anxious	Learning Skills	Frustration Tolerance	Assertive Social Skills	Task Orientation	Peer Social Skills
ILSA Subscales							
Advising	.16	-.37*	-.06	.06	-.25	-.06	-.04
Command	.05	-.49**	-.07	<-.01	-.38*	-.06	-.12
Comment	-.36*	.35*	<-.01	-.24	.37*	-.14	-.06
Criticize	-.06	.17	-.15	-.09	-.29	-.14	-.05
Inform	.41**	-.15	.15	.32	-.22	.12	.12
Justify	.14	.24	.08	.11	.17	.12	.38*
Request	<.01	.03	.09	.02	.33*	.28	.08
Support	.02	-.02	-.19	<.01	-.33*	-.15	-.23
Total # Comments	.35*	-.36*	-.08	.29	-.42*	<-.01	.10
Negation	.24	-.32	-.19	.10	-.57**	-.16	-.22
Sarcasm	.19	.14	.10	.35*	-.25	-.11	.06
Errored	.28	-.34	-.05	.17	-.31	.01	.03

* $p \leq .05$ ** $p \leq .01$

Table 7 shows that 14 correlations reached a level of significance. The range of significant correlations on ILSA subscales with T-CRS subscales extended from one ILSA subscale with Frustration Tolerance (Scarcasm) and Peer Social Skills (Justifying) to six ILSA subscales with Assertive Social Skills (Commanding, Commenting, Requesting, Supporting, Total Number of Comments and Negation).

The ILSA subscales of Commenting and Total Number of Comments both correlated significantly with three subscales of the T-CRS including Acting Out, Shy/Anxious and Assertive Social Skills.

Separate multiple regression analyses were conducted with all measures of the ILSA against each subscale of the T-CRS. Only in the full regression equation, with Shy/Anxious behaviors as the dependent variable, was a level of significance reached ($F, 2.33, P = .04$). Results of the regressions are shown in Table 8.

Table 8

Multiple Regression Analysis of the ILSA
and Subscales of the T-CRS:
R-Squared, F-Ratio and Probability Level

<u>T-CRS Subscales</u>	<u>R-Squared</u>	<u>F-Ratio</u>	<u>Probability Level</u>
Acting Out	.4291	1.44	.22
Shy/Anxious	.5481	2.33	.04
Learning Skills	.2117	.51	.88
Frustration Tolerance	.4007	1.28	.29
Assertive Social Skills	.5271	1.89	.09
Task Orientation	.2250	.66	.77
Peer Social Skills	.3510	1.04	.45

Table 9 presents a more detailed description of the subscales on the ILSA and the T-CRS subscale on Shy/Anxious Behaviors found in the regression analysis.

Table 9
Regression Analysis of the ILSA and Shy/Anxious Behaviors

<u>ILSA Subscales</u>	<u>Standardized Beta</u>	<u>t-Value</u>	<u>Probability Level</u>
Advising	1.87	1.72	.10
Commanding	1.94	1.69	.11
Commenting	4.73	1.86	.08
Criticizing	2.21	2.10	.05
Informing	3.09	1.93	.07
Justifying	1.35	2.16	.04
Requesting	3.05	1.83	.08
Supporting	1.18	1.71	.10
Total # of Comments	-.17	-.59	.60
Negation	-.23	-1.23	.23
Sarcasm	.21	1.06	.30
Errored	-.23	-.80	.43

$F = 2.33$, $P = .04$, $R^2 = .58$

Probability levels of the Betas ranged from .04 for Justifying to .60 for the subscale, Total Number of Comments. Two of the ILSA subscales reached a level of significance including Criticizing at the .05 level and Justifying at the .04 level, in a positive direction.

The subscale of Informing approached significance at the .07 level, also in a positive direction.

Question One

To address question one which asked if there is a relation between verbal expression and pragmatic skills of students with learning disabilities, a correlational analysis was conducted. In analyzing the resulting correlations between the CELF-R and the ILSA, Table 10 reveals that only three correlations reached a level of significance ($p \leq .05$).

Of these, Advising correlated positively with both Formulating Sentences (.37) and with the Verbal Expression Score (.35). A negative correlation (-.37) between Recalling Sentences and Requesting was found. The remaining correlations, ranging from .01 to -.32, failed to achieve a level of significance at the .05 level.

Table 10
Correlations Between
CELF-R and ILSA

		<u>CELF-R</u>		
	Formulating Sentences	Recalling Sentences	Sentence Assembly	Verbal Expression
<u>ILSA</u>				
Advising	.37*	.30	.23	.35*
Commanding	-.05	-.24	-.08	-.17
Commenting	-.07	.12	-.05	.03
Criticizing	<.01	.01	-.10	-.01
Informing	.17	.21	.26	.23
Justifying	.10	.03	-.04	.05
Requesting	-.19	-.37*	-.22	-.32
Supporting	-.19	-.14	-.07	-.16
Total # of Comments	.03	.12	.01	.08
Negation	.09	-.01	.23	.07
Sarcasm	-.04	-.02	-.18	-.06
Errored	-.22	-.08	-.11	-.15

* $p \leq .05$

Question Two

The last question asked if there is a relation between

verbal expression, pragmatics and classroom behaviors. Multiple regression analyses of the independent variables against each subscale of the T-CRS revealed no regression equations reaching a level of significance.

T-tests were performed on each of the independent and dependent variables to determine sample differences by race. Three subscales of the ILSA were found to be significantly different ($p \leq .05$) between the two races, Commenting ($p = .04$), Justifying ($p < .01$) and Errored ($p < .01$) statements surfaced as statistically different by race. Table 11 presents those differences.

Table 11

T-Test Results Reaching Significance on the ILSA by
Race: Commenting, Justifying and Errored Statements

<u>ILSA Subscales</u>	<u>Race</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>F-Ratio</u>	<u>Level of Significance</u>
Commenting				2.39	.04
	Black	36.46	19.88		
	Caucasian	28.26	12.84		
Justifying				9.12	<.01
	Black	1.08	1.50		
	Caucasian	3.91	.98		
Errored				5.36	<.01
	Black	18.46	12.71		
	Caucasian	4.70	5.49		

Chapter V

Conclusions, Discussion and Implications

Four questions were postured and were the basis of this study. From these, two hypotheses were proposed. The hypotheses and two questions are discussed in this chapter. Conclusions are presented followed by discussion of each. Finally, implications relating to theory, practitioners and further research are examined.

Before proceeding, it is necessary to restate that negative correlations with subscales on the T-CRS signify a positive relation. Lower scores on the T-CRS indicate that teachers rated students with greater proficiencies on each subscale.

Conclusions and Discussion

Hypothesis One

The first hypothesis predicted a positive relation between verbal expression and classroom behaviors of students with learning disabilities.

From the results of this study it can be concluded that there is minimal support for a relation between verbal expression and classroom behaviors of students with learning disabilities.

First, results from correlational analysis found that Formulating Sentences correlated significantly with behaviors of Acting Out and Task Orientation. This relation was also maintained in the regression analysis with Acting Out.

It is apparent that students who show greater abilities in Formulating Sentences, given one or two word cues, are less likely to act out and more likely to attend to instructional tasks. It is also possible that students who have the ability to use language more proficiently are better able to concentrate on classroom assignments and have less need to disrupt classroom activities. In essence, due to language proficiency, instructional settings are less demanding. As such, students have fewer reasons for acting out and are able to attend to instructional activities.

Second, a significant correlation was found between Sentence Assembly and Peer Social Skills. Sentence Assembly is a verbal expression task involving the reordering of words and phrases into the correct sequence. Whereas Formulating Sentences is based on formulating sentences from verbal prompts only, Sentence Assembly is based on both verbal and visual prompts. The correlation between Sentence Assembly and Peer Social Skills suggests that students who are able to use multiple cues are rated as having higher Peer Social Skills. Given that social situations require a focus on multiple cues for social comprehension, one might expect a relation between this skill and successful social interaction.

Third, of the 28 correlations between subscales of the CELF-R and T-CRS, all but four were found to be in a negative direction. Although only three correlations

reached significance, the direction of these correlations would suggest that higher skills of verbal expression tend to correlate with teacher ratings of positive classroom behaviors. In other words, skills in verbal expression tend to relate positively with a student's ability to exhibit positive classroom behaviors.

Hypothesis Two

Hypothesis two predicted a positive relation between pragmatic skills and classroom behaviors of students with learning disabilities.

From the results of this study, it can be concluded that there is no support for a relation between pragmatics and classroom behaviors of students with learning disabilities except for Shy/Anxious behaviors.

From the T-CRS, the subscale, Shy/Anxious, was found to be predictive of subscales on the ILSA. Furthermore, measures of Justifying and Criticizing are the strongest predictors of the subscale Shy/Anxious. These subscales are indicative of defensive posturing behaviors. In contrast to socially assertive behaviors, the former might be assumed to be problematic of students who feel discomfort in social environments. Pragmatic statements of this nature, made by students with learning disabilities, are predictive of Shy/Anxious behaviors.

It should not be assumed that such conclusions infer a causal relation. Because both classroom behaviors and pragmatics are observable during social interaction, it is

difficult to determine the direction of influence. It may be that a cyclical relation between social antecedents, as well as social consequences of both classroom behaviors and measures of pragmatics exist in an interactive state. As such, these variables mutually influence and are influenced by each other. Results of this study are not sufficient to address the direction of this influence; however, they do suggest that an interactive relation may exist.

Question One

Question one asked whether there is a relation between verbal expression and pragmatic skills of students with learning disabilities.

From results of this study, it can be concluded that there is not a relation between verbal expression and pragmatic skills of students with learning disabilities.

This conclusion is based on the small number of correlations reaching significance, the varying direction of these correlations, and the lack of explanation found through regression analyses.

This finding is not surprising, since measures of verbal expression and pragmatics may address different skills. This very issue was the basis for distinction between language acquisition theory, which had primarily focused on assessment of language skills independent of usage outside the clinical setting, and that of pragmatics (Prutting, 1982).

This was further illustrated when Prutting (1982) discussed the shift from the speech-language pathologist's assessment of semantic and syntactic rules (i.e., measurements of singular components of language or competence in grammatical structures) to that of a speech act theory referencing the focus of study of the relationship of linguistic rules with the application and use of language skills in a functional role (i.e., within the context of a social setting).

Findings from this study were insufficient to clarify the issue posed by Prutting and Kirchner of "whether one [should] view syntax as central and regulative to the language system or whether one [should] view pragmatics as a framework from which to understand syntax and semantics" (1983, p.30).

Whereas verbal expression is measured in a clinical and structured environment, pragmatics is assessed in a social and, therefore, interactive setting, suggesting that variables not measured in clinical (e.g., individual) evaluation enter into and influence the later situation.

Question Two

Question two asked if there is relation among verbal expression and pragmatic skills to classroom behaviors.

From the results of this study, it can be concluded that there is no predictive relation among verbal expression among pragmatics to classroom behaviors of students with learning disabilities.

Although results demonstrate that some significant correlations were found among these variables, regression analyses revealed that no classroom behavior could be explained by skills of verbal expression and pragmatics when placed in the full equation. This would be expected, given that hypotheses one was partially supported, that hypothesis two was found only in support of the variable of Shy/Anxious behaviors and that no support was found for question one. Evidence was not found explaining a relation among these three variables.

It is possible that the results obtained in the regression analyses are not due to a lack of relation or prediction, but, rather, due to the very number of variables included in the regression equation with the small sample size. This issue is discussed further under the heading Further Research.

Racial Differences

Although race was not a factor to be investigated in this research, racial differences were found on subscales of the ILSA. Specifically, types of responses measured by the ILSA revealed that Commenting, Justifying and Errored statements differed between the races.

It was observed that errors in grammar were more pronounced by blacks than Caucasian students on the Errored subscale. Additionally, these students were found to make a higher number of statements of Commenting and Justifying.

Statements classified as Commenting represent remarks that are non-interactive, depicting neither active nor reactive postures. In fact, these statements may, or may not, be related to the activity at hand. In essence, such statements rarely result in response behaviors by other participants. That is, they are not types of statements relevant to the social activity and, therefore, are not a stimulus for social interaction.

Black students were also observed to explain their behaviors (as measured on the subscale, Justifying), at a higher rate than Caucasian students. That is, black students more often took a defensive stance during these play activities, explaining and defending their behaviors during the game. The issues not addressed in this study are the prompts provided by other students that might have warranted this posturing by black students.

Implications

Theory

Two theoretical perspectives of different disciplines formed the basis from which a relation between verbal expression, pragmatics and classroom behaviors were studied. The first, the social information processing model of competence posed by Dodge, described a process model of competence wherein successful social behaviors are dependent upon the proficiency of the individual's "motoric skills". In this study, skills of verbal expression represented the motoric skills while classroom

behaviors represented measures of behaviors in classroom settings.

Results of this study only partially supported the relation between the motoric skills of verbal expression and classroom behaviors. Although general trends of negative correlations were found among these variables, strong correlations were not found. Additionally, no explanation or prediction of classroom behaviors from measures of verbal expression were observed.

Findings in this study provide partial support for a relation between verbal expression and classroom behaviors (as observed by the negative trend of the correlations); however, they could not provide support for an explanation of classroom behaviors from measures of the motoric skills of verbal expression, as posed by Dodge.

This seems to suggest that models remain paradigms which suggest explanations, but which are inherently limited in application. Dodge's model of social competence embraced the relation between motoric skill level and the resulting degree of success of social behaviors. Results of this study provided only partial support for the relation as suggested by Dodge. Perhaps a universal issue rests with the generic structure of models being broad based and with the corresponding difficulty of testing of specific application of the model in research design. It should be noted that, at present, there are no other models applicable to this area of research.

Pragmatics, the second theoretical framework, was derived from language theory and based on assessment of language in social settings. Results of this study provided little support for a relation between verbal expression and pragmatics.

Such findings continue to promote the question, posed in the sixties and initiating the study of pragmatics, which sought to determine whether language should be interpreted from measures of syntax and semantics, or whether pragmatics is the framework from which to understand syntax and semantics. Instead of clarifying, study results suggest that the dilemma remains an issue.

This study did, however, find support for a relation between measures of pragmatics and classroom behaviors and for explanation of classroom behaviors from pragmatic measures. As a result, evidence was found supporting the theoretical framework suggesting that social development is related to linguistic behavior as measured by pragmatics.

Investigation into the relation between pragmatics and social competence should continue. As to the issue from which perspective (syntax and semantics or pragmatics) language should be addressed in the understanding of communication, the answer remains unclear.

Implications for Practitioners

An important question to be answered is whether

these findings may be used in the field of special education. Although direction and degree of the relations under study varied, findings of this study should not be dismissed as inconclusive. Implications from this study directly involve two types of professionals.

First, results from this study indicate that those individuals involved in the assessment of students who may qualify as learning disabled may continue to use traditional assessment for purposes of evaluation. However, evaluators should not discount the relevancy of the findings suggestive of a negative correlation between verbal expression and classroom behaviors.

Nor should pragmatics be dismissed as a variable unrelated to and predictive of classroom behaviors. Instead, evaluators are apprised that results of this study imply that the variables of verbal expression and pragmatics may relate to classroom behaviors of students with learning disabilities. Indeed, future research may find stronger relations among these variables.

Teachers, although not always involved in formal assessment, may also find from the results of this study, insight into other variables influencing classroom behaviors of students with learning disabilities. Recognizing that there is insufficient evidence found in this study to warrant major changes in interventions or teaching strategies, teachers are provided with some support for consideration of language as a factor to be

further examined as it relates to classroom behaviors.

The potential usefulness in focusing on skills of verbal expression and pragmatics, in terms of assessment and in modifying classroom behaviors, remains a question for further study.

Further Research

There are four issues to be considered in the design of future studies. The greatest limitation to be overcome is the need for a larger sample size. It is quite possible that results of this study were impacted by the sample size. Furthermore, regression analyses are greatly subject to outliers. Compounding this with a small sample size, results are likely to be distorted and may explain the limited strength of the regression equations found. In this study, outliers were not consistent across variables or specific to individual students. Variations of outliers were dependent on the regression under study. This strongly supports earlier discussion that iterated that as a group, students with learning disabilities are not homogenous in nature. In this study, the diversity of outliers existed in as many perspectives as were measured.

The second concern rests with the number of subscales of the variables under investigation. This, too, points to the need for a larger sample size. By reducing the number of variables to those with significant correlations and increasing the sample size, findings of future studies

might be more substantial and strengthen conclusions drawn from the results obtained.

The third issue to be addressed is that of the methodology employed when recording and coding student statements. Although normative data on the ILSA were based on tape recordings, distinctions between student voices was difficult and, therefore, did not allow for adequate assessment of student responses. Additionally, measures of interrater reliability were not conducted in the coding of pragmatics, as the tape recordings were inadequately clear which greatly impeded the testing of reliability.

A different format for recording verbal interactions is highly recommended. Video recording would have facilitated testing for interrater reliability and could take place without two observers present during the interactive activity, reducing observer influence on student behavior.

Finally, research findings indicated the existence of a racial difference between the pragmatic measures of Commenting, Justifying and Errored statements. This deserves further investigation examining why black students present more Commenting and Justifying statements and greater errors in rules of grammar.

Given the above recommendations, replication of this study is suggested before attempts to change testing instruments takes place. It is important to address the

noted concerns in order to determine first, if findings from this study may be repeated. Additionally, it is important to ascertain whether replication of the study results in a strengthening of correlations and regression equations or whether no differences are found. Following analysis of the results, further determination may be made as to whether instrumentation changes are necessary in order to address valid measures of assessing those variables under study.

Further investigation into the relation among verbal expression, pragmatics and classroom behaviors of students with learning disabilities appears to remain worthwhile. In light of the number of correlations among the variables and the observed regression analysis reaching significance within the small sample, further exploration researching the original study questions, heeding those concerns raised in this study, remains warranted.

Appendix A

Intercorrelation of the Subtests of the Clinical Evaluation of Language Fundamentals-Revised (CELF-R)

Verbal Expression Subtest

	Recalling Sentences	Sentence Assembly	Verbal Expression Score
Formulated Sentences	.70**	.75**	.90**
Recalling Sentences	--	.59**	.93**
Sentence Assembly		--	.79**

** $p < .01$

Cronbach's Alpha .87

Appendix B

Intercorrelation of the Interpersonal Language Skills Assessment (ILSA) Subscales

	Command	Comment	Criticize	Inform- ative	Justifi- cation	Request	Support	Total	Negation	Scarcasm	Errored
Advise	.04	-.36*	.30	.21	.13	-.32*	.18	.31	.32	-.04	-.04
Command	--	-.51**	.01	.06	-.15	-.12	.18	.41**	.31	.06	.49**
Comment		--	-.28	-.52**	-.13	.02	-.43**	.54**	-.52**	-.24	-.23
Criticize			--	-.03	.13	-.38*	.53**	.18	.41**	.49**	.19
Informative				--	-.12	-.37*	.15	.46**	.26	-.06	.04
Justification					--	-.10	-.13	.22	-.04	.38**	-.21
Request						--	-.24	.52**	-.24	-.19	-.14
Support							--	.17	.32**	.27	.04
Total								--	.35*	.35*	.47**
Negation									--	.09	.29
Scarcasm										--	.20

* p = .05, ** p = .01

Cronbach's Alpha .53

Appendix C
Intercorrelation of the Subscales of the
Teacher Child Rating-Scale (TCR-S)

	Shy/ Anxious	Learning Skills	Frustration Tolerance	Assertive Social Skills	Task Orientation	Peer Social Skills
Acting Out	<.01	.47**	.66**	.04	.58**	.55**
Shy/ Anxious	--	.41*	.07	.43**	.23	.27
Learning Skills		--	-.01	.45**	.54**	.44**
Frustration Tolerance			--	-.12	.23	.23
Assertive Social Skills				--	.61**	.57**
Task Orientation					--	.82**

*p < .05 **p < .01

Chronbach's Alpha .62

Appendix D

Sample Parent Permission Letter

Dear Parents:

I am writing to parents of children who are receiving special services in grades three through six in the Caesar Rodney School District. I am asking your permission to allow your son to participate in a study to determine how language skills compare to classroom behaviors.

This study is jointly supported by the Caesar Rodney School District, the University of Maryland, where I am a doctoral candidate, and the Delaware State Department of Public Instruction, where I am a State Supervisor.

Your child's participation can make a valuable contribution to this study. I will only spend approximately 40 minutes of class time with your child. During that time we will complete three brief and interesting measures of language skills.

From research such as this, we are learning better ways to help children. In the late spring, when the results have been found, I would be pleased to send you this information and how it may aid us to help other children.

This study will begin during the first week of February, 1992 and end by the last week of May, 1992. It is important for to know that your child's name will not be a part of this study, except to have the permission slip signed by you. Please allow your child to take part in this study by signing and returning this permission slip to your child's teacher by _____.

If you have any questions, please call me during the day at 739-4667. If I am not in, please leave a message and I will return you call. Thank you very much for your assistance.

Sincerely,

Vaughn K. Lauer

My child, _____, may take part in the
(name)
study outlined to me by Mr. Lauer. I may withdraw my permission at any time by calling Mr. Lauer.

(signature)

Appendix E

Sample Follow-up Permission Letter

Dear _____,

About a week ago I sent information to you in which I asked for your permission to let me work with your son, _____ for about 40 minutes. During that time together, your son and I would do three fun activities. But I am just not sure that the first letter reached you.

My hopes are that by having this information from your son and about fifty other children, schools could help more children who have learning problems. So you see, having _____ help me for this short time might really be of help to other children, too.

Please remember that the childrens' names and any test scores will NOT be given to anyone.

So that I know that you have gotten this letter, would you please sign your name and place an X on the line that says that you DO given your permission, OR on the line that says that you have gotten this letter but that you DO NOT give permission.

_____ I give permission for my son to take part in the study as explained in this letter.

Parent Signature

_____ I have read this letter, but do not give permission for my son to take part in the study as explained to me.

Parent Signature

Keep in mind that if you do give your permission, but later change your mind, simply call me at 739-4667 and let me know. If I am not at my office you can leave a message for me.

I have also sent you a copy of the first letter that I sent and an envelope for you to send this letter back to me. Won't you please help by signing and mail this letter to me as soon as you can.

Thank you very much for your time. I really appreciate your help.

Sincerely,

Vaughn K. Lauer

Appendix F

Human Subjects Letter of Permission

Vaughn K. Lauer
P.O. Box 600 RD #3
Fetton, DE

Dec. 13, 1991

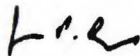
Dear Vaughn,

Because your study is "exempt from human subjects committee review" (exemption #2), only I had to look at it. I would like to approve it pending two small changes:

- (1) You need to include a copy of the behavior checklist (the grad school committee will be looking for this)
- (2) You need to add a line in your consent form "You can withdraw your consent at any time."

Please make these changes and send them to me. When I get them, I will send you one signed copy of the top sheet as your proof of human subjects approval. Thanks.

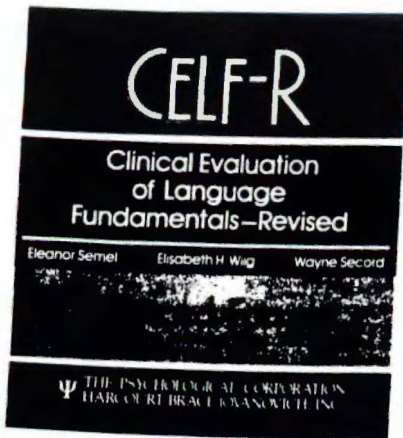
Sincerely,



James P. Byrnes, Ph.D.
Chair, Human Subjects Committee

cc: Bonnie Tyler

Appendix G



Name _____

Address _____

Age _____ Sex _____ Grade _____

School _____

Teacher _____

Examiner _____

	Year	Month	Day
Test Date			
Birth Date			
Chronological Age			

Other Relevant Data

Ages 5-7 Scoring Summary					
Raw Score	Standard Score	Points - or +	Confidence Interval (% Level)	PR	Confidence Interval
Linguistic Concepts			10		10
Sentence Structure			10		10
Oral Directions			10		10
SUM OF 3 STANDARD SCORES					
RECEPTIVE LANGUAGE SCORE					
Word Structure			10		10
Formulated Sentences			10		10
Recalling Sentences			10		10
SUM OF 3 STANDARD SCORES					
EXPRESSIVE LANGUAGE SCORE					
SUM OF 6 STANDARD SCORES					
MEAN OF SUBTESTS (SUM ÷ 6)					
TOTAL LANGUAGE SCORE					
Age Equivalent _____					

Ages 8 and Above Scoring Summary					
Raw Score	Standard Score	Points - or +	Confidence Interval (% Level)	PR	Confidence Interval
Oral Directions			10		10
Word Classes			10		10
Semantic Relationships			10		10
SUM OF 3 STANDARD SCORES					
RECEPTIVE LANGUAGE SCORE					
Formulated Sentences			10		10
Recalling Sentences			10		10
Sentence Assembly			10		10
SUM OF 3 STANDARD SCORES					
EXPRESSIVE LANGUAGE SCORE					
SUM OF 6 STANDARD SCORES					
MEAN OF SUBTESTS (SUM ÷ 6)					
TOTAL LANGUAGE SCORE					
Age Equivalent _____					

Receptive/Expressive Differences			Prevalence	
Higher Score (Receptive or Expressive)	Raw Score Difference	Standard Score Difference	Percentage of Sample	Observed Difference
			1%	± 30
			5%	± 20
			10%	± 16
			15%	± 12
			25%	± 8

Receptive/Expressive Differences			Prevalence	
Higher Score (Receptive or Expressive)	Raw Score Difference	Standard Score Difference	Percentage of Sample	Observed Difference
			1%	± 30
			5%	± 20
			10%	± 16
			15%	± 12
			25%	± 8

Supplementary Subtests					
Raw Score	Standard Score	Points - or +	Confidence Interval (% Level)	PR	Confidence Interval
Listening to Paragraphs			10		10
Word Associations			10		10
Word Classes			10		10
Semantic Relationships			10		10
Sentence Assembly			10		10

Supplementary Subtests					
Raw Score	Standard Score	Points - or +	Confidence Interval (% Level)	PR	Confidence Interval
Listening to Paragraphs			10		10
Word Associations			10		10
Linguistic Concepts			10		10
Sentence Structure			10		10
Word Structure			10		10

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9411241

Formulated Sentences

Ages 5+ Required to compute Expressive Language score and CELF-R Total Language score

Simulus Manual 2

One repetition allowed

4 consecutive zero scores (or no responses)

Write the student's responses verbatim in the space provided.

Refer to Tables 2.1 and 2.2 in Section 2 of the Examiner's Manual for scoring guidelines.

Demonstration: books

Trial: shoes

Score

1. car	3	2	1	0	NR
2. gave	3	2	1	0	NR
3. before	3	2	1	0	NR
4. when	3	2	1	0	NR
5. after	3	2	1	0	NR
6. if	3	2	1	0	NR
7. and	3	2	1	0	NR
8. because	3	2	1	0	NR
9. but	3	2	1	0	NR
10. or	3	2	1	0	NR
11. although	3	2	1	0	NR
12. tall	3	2	1	0	NR
13. either	3	2	1	0	NR
14. neither	3	2	1	0	NR
Before presenting the remaining items, say: "Now I'll give you two words to use in the same sentence. You can use the words in any order you choose, but you must use both words in the same sentence. Here's the next picture."					
15. and because	3	2	1	0	NR
16. whatever until	3	2	1	0	NR
17. and but	3	2	1	0	NR
18. before if	3	2	1	0	NR
19. whenever until	3	2	1	0	NR
20. after unless	3	2	1	0	NR

Sentence Assembly

Ages 5-7 Supplementary subtest
Ages 8+ Required to compute Expressive Language score
and CELF-R Total Language score

Simulus Manual 2

One repetition allowed

4 consecutive zero scores (errors or no responses)

Check the blank next to the student's responses. The student must give 2 of the sentence responses listed for an item to be scored as correct. Circle 1 for a correct response, 0 for an incorrect response, and NR for no response. If the student gives a response not listed, record it in the space provided.

Demonstration: **tall** **the boy** **is**

- a) The boy is tall.
b) Is the boy tall?

Trial 1: **kicked** **the girl** **the boy**

- a) The girl kicked the boy
b) The boy kicked the girl

Trial 2: **is** **in the chair** **the kitten**

- a) The kitten is in the chair
b) Is the kitten in the chair?

Score

1. saw the dog the woman	1	0	NR
a) The woman saw the dog. b) The dog saw the woman.			
2. the man the dog chased by was	1	0	NR
a) The man was chased by the dog. b) The dog was chased by the man. c) Was the man chased by the dog? d) Was the dog chased by the man?			
3. in the box the ball is	1	0	NR
a) The ball is in the box. b) Is the ball in the box?			
4. tall strong the man and is	1	0	NR
a) The man is tall and strong. b) The man is strong and tall. c) Is the man tall and strong? d) Is the man strong and tall?			
5. they watched they ate dinner TV before	1	0	NR
a) They watched TV before they ate dinner. b) They ate dinner before they watched TV. c) Before they ate dinner, they watched TV. d) Before they watched TV, they ate dinner.			
6. the girl the present the man gave	1	0	NR
a) The man gave the girl the present. b) The girl gave the man the present.			
7. the girls the boys walking were with	1	0	NR
a) The boys were walking with the girls. b) The girls were walking with the boys. c) Were the boys walking with the girls? d) Were the girls walking with the boys? e) The girls were with the boys walking. f) The boys were with the girls walking.			
8. the team the girls going to make are	1	0	NR
a) The girls are going to make the team. b) Are the girls going to make the team?			

9. bone lost is the dog's	1	0	NR
a) The dog's bone is lost. b) Is the dog's bone lost?			
10. the boy the race to win going isn't	1	0	NR
a) The boy isn't going to win the race. b) Isn't the boy going to win the race?			
11. the fence to fall off going is the girl	1	0	NR
a) The girl is going to fall off the fence. b) Is the girl going to fall off the fence?			
12. on the table the ball put will you	1	0	NR
a) You will put the ball on the table? b) Will you put the ball on the table? c) Put the ball on the table, will you?			
13. and is running is falling the girl the boy	1	0	NR
a) The girl is running and the boy is falling. b) The boy is running and the girl is falling. c) The boy is falling and the girl is running. d) The girl is falling and the boy is running.			
14. is painting is cutting and the man the girl the grass the house	1	0	NR
a) The man is painting the house, and the girl is cutting the grass. b) The girl is cutting the grass, and the man is painting the house. c) The girl is painting the house, and the man is cutting the grass. d) The man is cutting the grass, and the girl is painting the house.			
15. the car I dad bought that I like	1	0	NR
a) I like the car that Dad bought. b) Dad bought the car that I like. c) The car that I like Dad bought. d) The car that Dad bought I like. e) I like that Dad bought the car.			
16. the lamp the woman the table put didn't on	1	0	NR
a) The woman didn't put the lamp on the table. b) Didn't the woman put the lamp on the table?			

Sentence Assembly *Continued*

Score				
17.	the played sister and and brother the piano the guitar	1	0	NR
____ a) The brother and sister played the piano and the guitar. ____ b) The sister and brother played the piano and the guitar. ____ c) The sister and brother played the guitar and the piano. ____ d) The brother and sister played the guitar and the piano.				
18.	the girl the boy a letter send did	1	0	NR
____ a) The girl did send the boy a letter. ____ b) Did the girl send the boy a letter? ____ c) The boy did send the girl a letter. ____ d) Did the boy send the girl a letter?				
19.	it it I want expensive even though is	1	0	NR
____ a) Even though it is expensive, I want it. ____ b) I want it even though it is expensive.				
20.	the man the boy was lost whose by dog was met	1	0	NR
____ a) The man was met by the boy whose dog was lost. ____ b) The boy was met by the man whose dog was lost. ____ c) The man whose dog was lost was met by the boy. ____ d) The boy whose dog was lost was met by the man.				

Score				
21.	she left she caught the house the bus after	1	0	NR
____ a) After she left the house, she caught the bus. ____ b) She caught the bus after she left the house.				
22.	was tall her head who the girl bumped	1	0	NR
____ a) The girl who was tall bumped her head. ____ b) The girl who bumped her head was tall.				

Item Analysis for Sentence Assembly

Category	Items			
Declarative, Active	1	3	9	
with coordination	4	13	14	17
with prepositional phrase	7	16		
negative	10	16		
with infinitival phrase	8	10		
with direct and indirect object	6	18		
with subordinate clause	5	19	21	
with relative clause	15	20	22	
Declarative, Passive	2	20		
Imperative	12			
Interrogative	3	9		
passive	2			
with coordination	4			
with prepositional phrase	7	12	16	
with infinitival phrase	8	10	11	
negative	10	16		
with direct and indirect object	18			

Recalling Sentences

Ages 5+ Required to compute Expressive Language score and CELF-R Total Language score

None

None allowed

4 consecutive zero scores (no responses or sentences with 4+ errors)

Circle 3 if the response is repeated exactly, 2 if there is one error, 1 if there are two to three errors, 0 if there are four or more errors, and NR if there is no response. Mark errors on the sentence or write an incorrect response verbatim in the space provided.

Demonstration: Turn left at the mailbox

Trial: The boat sailed across the lake

	OK	1 err	2-3 err	4+ err	No Response
1. The dog chased the cat.	3	2	1	0	NR
2. Did the boy kick the ball?	3	2	1	0	NR
3. The train was followed by the car.	3	2	1	0	NR
4. Was the car followed by the police?	3	2	1	0	NR
5. Didn't the rabbit eat the carrot?	3	2	1	0	NR
6. The boy was not chased by the girl.	3	2	1	0	NR
7. The boy and the girl picked the flowers.	3	2	1	0	NR
8. Wasn't the ice cream bought by the girl?	3	2	1	0	NR
9. Has the mouse been chased by the cat?	3	2	1	0	NR
10. If the hat is too big, the man won't buy it.	3	2	1	0	NR
11. The ball was not thrown by the boy or the girl	3	2	1	0	NR
12. The man who painted the railing was very kind.	3	2	1	0	NR
13. The dog chased the ball, and the cat didn't follow.	3	2	1	0	NR
14. The girl did not like the boy who lived down the street.	3	2	1	0	NR
15. The big, brown dog chased the red ball.	3	2	1	0	NR
16. The man stopped to pick up some milk even though he was late for work.	3	2	1	0	NR
17. The trumpets and violins were played by the musicians.	3	2	1	0	NR
18. If she would have baked some cookies, they would have been eaten.	3	2	1	0	NR
19. The boy sent a letter to the lady who moved away last year.	3	2	1	0	NR
20. The children cut and pasted the pictures and hung them on the wall.	3	2	1	0	NR
21. The woman has read the twelve big, heavy, brown books.	3	2	1	0	NR
22. The man who sits on the bench next to the oak tree is our mayor.	3	2	1	0	NR
23. After the family had finished dinner, they decided to go for a ride in the country.	3	2	1	0	NR
24. The boy who didn't show up for practice wasn't allowed to play on the team until a week later.	3	2	1	0	NR
25. The mailman sorted, labeled, bundled, and delivered the magazines.	3	2	1	0	NR
26. The man in the house next door promised to water our flowers during our vacation.	3	2	1	0	NR

Appendix H

ILSA Subscale Tabulation Form

NAME _____ SCHOOL _____ DATE OF TEST _____

<u>Category</u>	Advise	Command	Comment	Inform	Justify	Request	Support
Non Errored Statements							
Errored Statements							

Appendix I

Teacher-Child Rating Scale (T-CRS)

Child's Name _____ Date _____ Initial _____ Final _____
 (Last) (First) (circle one)
 Student's _____ Teacher _____ School _____
 School ID# _____

I. Please rate this child on the following items by circling the number which corresponds to this scale:

	Not a Problem	Mild	Moderate	Serious	Very Serious Problem
1. Disruptive in class- - - - -	1	2	3	4	5
2. Withdrawn- - - - -	1	2	3	4	5
3. Underachieving (not working to ability)- - -	1	2	3	4	5
4. Fidgety, difficulty sitting still- - - - -	1	2	3	4	5
5. Shy, timid - - - - -	1	2	3	4	5
6. Poor work habits - - - - -	1	2	3	4	5
7. Disturbs others while they are working - -	1	2	3	4	5
8. Anxious, worried - - - - -	1	2	3	4	5
9. Poor concentration, limited attention span	1	2	3	4	5
10. Constantly seeks attention - - - - -	1	2	3	4	5
11. Nervous, frightened, tense - - - - -	1	2	3	4	5
12. Difficulty following directions- - - - -	1	2	3	4	5
13. Overly aggressive to peers (fights)- - - -	1	2	3	4	5
14. Does not express feelings- - - - -	1	2	3	4	5
15. Poorly motivated to achieve- - - - -	1	2	3	4	5
16. Defiant, obstinate, stubborn - - - - -	1	2	3	4	5
17. Unhappy, sad - - - - -	1	2	3	4	5
18. Learning academic subjects - - - - -	1	2	3	4	5

Problem Scale	Act-Out	Shy-Anx	Learn.
Raw Score			

II. Please rate the following items according to how well they describe the child:

Please rate the following items according to how well they describe the child:		Not at All	A Little	Moderately Well	Well	Very Well
1.	Accepts things not going his/her way - - -	1	2	3	4	5
2.	Defends own views under group pressure - -	1	2	3	4	5
3.	Completes work - - - - -	1	2	3	4	5
4.	Has many friends - - - - -	1	2	3	4	5
5.	Ignores teasing- - - - -	1	2	3	4	5
6.	Comfortable as a leader- - - - -	1	2	3	4	5
7.	Well organized - - - - -	1	2	3	4	5
8.	Is friendly toward peers - - - - -	1	2	3	4	5
9.	Accepts imposed limits - - - - -	1	2	3	4	5
10.	Participates in class discussions- - - -	1	2	3	4	5
11.	Functions well even with distractions- - -	1	2	3	4	5
12.	Makes friends easily - - - - -	1	2	3	4	5
13.	Copes well with failure- - - - -	1	2	3	4	5
14.	Expresses ideas willingly- - - - -	1	2	3	4	5
15.	Works well without adult support - - - -	1	2	3	4	5
16.	Classmates wish to sit near this child - -	1	2	3	4	5
17.	Tolerates frustration- - - - -	1	2	3	4	5
18.	Questions rules that seem unfair/unclear -	1	2	3	4	5
19.	A self-starter - - - - -	1	2	3	4	5
20.	Well liked by classmates - - - - -	1	2	3	4	5

Competence Scale	Frust.	Assert.	Task O.	Peer Soc.
Raw Score				

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