A COMPARISON OF THE LINGUISTIC COMPETENCE OF LEARNING DISABLED AND EMOTIONALLY DISTURBED PUPILS

Dissertation

Presented to the Graduate Council of the North Texas State University in Partial Fulfillment of the Requirements

For the Degree of

Doctor of Philosophy

By

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June, 1981

The problem of this investigation was to compare the linguistic competence of learning disabled and emotionally disturbed pupils by means of two performance tasks. Sixty subjects, seven-and-eight-year old monolingual public and private school pupils, were assigned to three groups of twenty subjects each, learning disabled, emotionally disturbed and normally achieving children. The majority of those in the learning disabled and the normally achieving groups were from middle-class families, with the majority of fathers owners of small businesses. A majority (17) of the emotionally disturbed group attended the public schools. The two tasks administered involved (a) judgments of syntactic and semantic correctness of selected sentences, and the revision of those judged to be incorrect on an Evaluation and Revision Task, and (b) skill in language production on a Structured Elicitation Task which sought to elicit specific increasingly complex syntactic structures according to a developmental hierarchy. Both tasks were administered to all subjects. Mean error scores for each syntactic variable were compared across all groups by means
of a multivariate analysis of variance with a post hoc Tukey's HSD test to determine where significance lies. Results revealed that emotionally disturbed pupils made significantly more errors than normals on an evaluation of syntactically incorrect sentences. The learning disabled group did not make more errors than either the emotionally disturbed group or the normally achieving group on a task in which language-impaired children of the same age made significantly more errors than did normally achieving children. It is concluded that learning disabled pupils do not exhibit linguistic deficits as do language-impaired pupils on a similar task.

It is recommended that further investigation into learning disabilities should concentrate on questions of specific linguistic deficits, rather than considering an overall language impairment to be an integral part of learning disabilities. This study has not shown that such impairment is a significant factor in learning disabilities or in mild emotional disturbance.
TABLE OF CONTENTS

LIST OF TABLES ........................................ v

Chapter

I. INTRODUCTION ................................... 1

Statement of the Problem
Purposes of the Study
Hypotheses
Significance of the Study
Definition of Terms
Instruments
Limitations

II. REVIEW OF THE LITERATURE ................. 15

Learning Disabilities
Language and Learning Disabilities
Language and Emotional Disturbance
Commonalities Among Learning
Disability and Emotionally Disturbed
Pupils
Linguistic Competence
Summary

III. PROCEDURES FOR COLLECTION AND ANALYSIS
OF DATA ............................................. 33

Selection of the Sample
Research Design
Treatment
Scoring Procedures
Procedures for Analysis of Data

IV. RESULTS AND INTERPRETATION .............. 42

Task I, Evaluation and Revision Task
Task II, Structured and Elicitation Task
Hypotheses Testing
V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS . . . 53

Summary
Conclusions
Recommendations

APPENDIX . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 59

BIBLIOGRAPHY . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 81
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Groups by Sex, Age and I.Q.</td>
<td>42</td>
</tr>
<tr>
<td>II. Error Means and Standard Deviations for Evaluation and Revision Task I</td>
<td>43</td>
</tr>
<tr>
<td>III. Multivariate Analysis of Variance for Task I</td>
<td>44</td>
</tr>
<tr>
<td>IV. Univariate Analysis of Variance for Task I</td>
<td>45</td>
</tr>
<tr>
<td>V. Univariate Analysis of Variance for Task I by Sex</td>
<td>46</td>
</tr>
<tr>
<td>VI. Error Means and Standard Deviations for Structured Elicitation Task II</td>
<td>49</td>
</tr>
<tr>
<td>VII. Univariate Analysis of Variance for Task II</td>
<td>50</td>
</tr>
<tr>
<td>VIII. One-Way Analysis of Variance for Variable VP by Groups</td>
<td>50</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Language difficulties are considered to be central to the academic problems encountered by learning disabled (LD) pupils (14). Most of the current research in learning disabilities involves studies relating specific learning disabilities to language deficits (4, 8, 10, 13, 18, 21, 22, 24, 25). Wong and Roadhouse (25) found that the main differences between the language ability of normal readers, reading disabled and language delayed children lies in syntactic ability. Vellutino (23) suggests that there is a relationship between the specific disability of reading problems and dysfunction in the semantic, syntactic, or phonological aspects of language.

Similarly, language difficulties have been ascribed to emotionally disturbed (ED) pupils. Authors who discuss emotional disturbance invariably include language deficits as a concomitant problem (1, 3, 5, 9, 11, 19). Paul and Epanchin (16) have stated that, due to a high level of anxiety, emotionally disturbed children are often prevented from communicating effectively in their environment.

Although language deficits are considered an integral concomitant problem to both learning disabled and
emotionally disturbed pupils, no empirical research exists to show which specific components of language may be deficient in both language disabled and emotionally disturbed children, thus forming a possible linguistic-deficit link between them. This study investigated whether linguistic competence, as expressed by two aspects of linguistic performance, language comprehension and production, was deficient in learning disabled and emotionally disturbed school-aged pupils, in order to further clarify any similarities or differences in linguistic skills between these two categories of exceptionality.

Statement of the Problem

The problem of this study was to compare the linguistic competence of learning disabled and emotionally disturbed school-age pupils, by means of two performance tasks, an Evaluation and Revision Task, and a Structured Elicitation Task.

Purposes of the Study

The purposes of this study were to investigate linguistic competence by

I. comparing the comprehension skills of learning disabled and emotionally disturbed pupils on an Evaluation and Revision Task, which involved judgments of syntactic and semantic correctness of selected sentences, and the revision of those judged to be incorrect;
II. comparing the language production skills of learning disabled and emotionally disturbed pupils on a Structured Elicitation Task, which involved the use of progressively more complex syntactic structures in relating a story;

III. comparing the comprehension skills of learning disabled and normally achieving pupils on an Evaluation and Revision Task, which involved judgments of syntactic and semantic correctness of selected sentences, and the revision of those judged to be incorrect;

IV. comparing the comprehension skills of emotionally disturbed and normally achieving pupils on an Evaluation and Revision Task, which involved judgments of syntactic and semantic correctness of selected sentences, and the revision of those judged to be incorrect;

V. comparing the language production skills of learning disabled and normally achieving pupils on a Structured Elicitation Task, which involved the use of progressively more complex syntactic structures in relating a story;

VI. comparing the language production skills of emotionally disturbed and normally achieving pupils on a Structured Elicitation Task, which involved the use of progressively more complex syntactic structures in relating a story.
Hypotheses

The following hypotheses were tested.

Hypothesis 1. The learning disabled group will make significantly more errors than the emotionally disturbed group in comprehension as measured by the Evaluation and Revision Task.

Hypothesis 2. The learning disabled group will make significantly more errors than the emotionally disturbed group in language production as measured by the Structured Elicitation Task.

Hypothesis 3. The learning disabled group will make significantly more errors than the normally achieving group in language comprehension as measured by the Evaluation and Revision Task.

Hypothesis 4. The emotionally disturbed group will make significantly more errors than the normally achieving group in language comprehension as measured by the Evaluation and Revision Task.

Hypothesis 5. The learning disabled group will make significantly more errors than the normally achieving group in language production as measured by the Structured Elicitation Task.

Hypothesis 6. The emotionally disturbed group will make significantly more errors than the normally achieving group in language production as measured by the Structured Elicitation Task.
Significance of the Study

This study focused upon whether an impairment of linguistic competence, as measured by performance tasks, is concomitant with both learning disabilities and emotional disturbance. Magee and Newcomer (14) and Wiig and Semel (24) state that language deficits are basic to all learning disabilities, and can be used as a basis for differential diagnosis. Vellutino (23), however, suggests that specific learning disabilities, e.g., reading, may be attributable to a dysfunction in one or more aspects of linguistic functioning. On the other hand, Hallahan and Kauffman (7) and Kauffman (11) have consistently stated that language impairment will not differentiate learning disabilities from emotional disturbance.

These conflicting viewpoints suggest that further research would be necessary to demonstrate whether specific aspects of linguistic functioning can indeed differentiate learning disabilities from emotional disturbance. This study is significant in that empirical evidence for specific language deficits differentiating emotionally disturbed and learning disabled school-age pupils was not provided, refuting the notion that language deficits may be used in differential diagnosis of learning disabilities.
Definition of Terms

The following terms will have restricted meaning and are thus defined for this study. All terms have been compiled from Nicolosi, Harryman and Kresheck (15).

1. **Emotional disturbance** is a) an inability to learn which cannot be explained by intellectual, sensory or health factors, b) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers, c) inappropriate types of behavior or feelings under normal conditions, d) a general, pervasive mood of unhappiness or depression, and e) a tendency to develop physical symptoms, pains or fears associated with personal or school problems.

2. **Language** is the symbolic formation of ideas according to semantic and grammatic rules.

3. **Language comprehension** is the understanding of spoken utterances, as distinguished from producing utterances.

4. **Language disorder** is a difficulty with the production and/or reception of linguistic units.

5. **Language production** is the ability to communicate via the spoken or written word.

6. **Learning disabilities** is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or
mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other handicapping conditions (e.g., sensory impairment, mental retardation, social and emotional disturbance) or environmental influences (e.g., cultural differences, insufficient-inappropriate instruction, psychogenic factors), it is not the direct result of those conditions or influences.

7. **Linguistic competence** is the knowledge a native speaker of a language must possess to understand and produce any of the infinite number of grammatical sentences of his language.

8. **Linguistic performance** is the overt expression of linguistic competence in the activities of listening, speaking, reading and writing; e.g., the actual use of language.

9. **Linguistics** is the scientific study of the nature and function of language, the scientific investigation of the origin, form, structure, and modifications of language, including phonology, morphology, syntax and semantics.

10. **Speech** is the medium of oral communication which employs a linguistic code (language).
Instruments

Two assessment tasks were constructed, utilizing formats employed by Liles, et al. (12) and Bliss, et al. (2) in evaluating the competence of both normally achieving and language-impaired children. While the types of sentences were similar to those of the researchers, the content of each sentence constructed was original. For purposes of validity, formats and procedures were left unchanged. Both tasks were presented to all subjects.

Task I—Evaluation and Revision Task

This task is based on procedures employed by Liles et al. (12) to make estimates of the linguistic competence of language-impaired and normally achieving children.

The stimuli consist of 38 sentences (Appendix A) which are divided into 3 categories: (a) 15 sentences are syntactically incorrect and semantically correct (SI); (b) 15 sentences are syntactically and semantically incorrect as a result of word-order change (WOI); and (c) 8 sentences are both semantically and syntactically correct (SC). These correct sentences are included as a validity estimator to determine whether the subjects are attending to the task (20).

These specific sentence types were selected according to the results of the study conducted by Liles et al. (12) which demonstrated that the ability to judge the
correctness of sentences which are syntactically incorrect and semantically correct, and sentences which are syntactically and semantically incorrect as a result of word-order change significantly differentiated language disordered and normally speaking children. Sentences which are syntactically correct but semantically incorrect due to the insertion of an inappropriate word, e.g., the baby writes his milk, were not selected for this task since Liles et al. (12) found no difference between the normally speaking and language disordered children in their ability to judge this type of sentence as incorrect.

Task II—Structured Elicitation Task

This task is based on a story-completion approach revised by Bliss et al. (2) from the Story Completion Test devised by Goodglass et al. (6). The purpose of this task is to elicit from the subject the specific syntactic structures of sentence class (declarative and interrogative), verb inflections of voice (active and passive), and tense (present and future).

The stimuli consist of 16 one-sentence stories pictorially represented to elicit the following syntactic structures, combined into 8 conditions from least to most complex, with 2 sentences representing each condition (Appendix B).
Results of the study by Bliss et al. (2) indicated that these structures are produced by children with normal cognitive and language development, according to age-related acquisition from least to most complex as delineated in the above order. This method of evaluating syntactic structures was selected in preference to an analysis of spontaneous language, due to the limitations of effectiveness which are inherent in such an analysis for the purposes of this study. Spontaneous language samples provide minimal structure and context. An analysis of such samples will provide information concerning only those syntactic structures which a child chooses to use. Thus, for any spontaneous language sample, it is not possible to determine the true extent of linguistic competence as revealed by comprehension and production skills that a child has developed. Prather (17) found that children use more
selected syntactic forms in structured elicitation tasks than in spontaneous speech.

Limitations

Generalizations of the results of this study are limited by the fact that the learning disabled subjects were all drawn from one private school in the Dallas area. While all were referred for special help through the public school system, they formed a select demographic group.

The small numbers of subjects utilized to represent the learning disabled and emotionally disturbed groups, while statistically significant, may limit generalization to other samples in the population. A larger sampling would be more valid for generalization purposes.
CHAPTER BIBLIOGRAPHY


CHAPTER II

REVIEW OF THE LITERATURE

Learning Disabilities

The field of learning disabilities has been characterized by rapid and extensive growth since its inception as a discipline in the 1960's. The term learning disabilities was introduced by Samuel Kirk (24) in 1963 and, since that time, a wide variety of terminology reflected the differing points of view about the nature and etiology of learning disabilities. One category reflected an organic etiology in terms such as organic brain disease, organic brain dysfunction, minimal brain damage, minimal brain injury, and minimal cerebral damage. These terms reflect theories of neurological impairment and stemmed from results or studies of mental retardation by Werner and Strauss (39). A second category of terms placed emphasis on behavioral manifestations, using terms such as dyslexia, hyperkinesis, specific reading disability, perceptual handicap, and learning disability. This terminology reflects the thinking of perceptual-motor theorists Ayers (1), Frostig (11) and Kephart (23), who have maintained that early development in visual-spatial-motor abilities is a prerequisite to later, higher levels of learning.
Language and Learning Disabilities

Current theory within the field of learning disabilities suggests that presently the primary areas of inquiry are the interacting roles of language and cognition in academic learning. Mattis (28) reported that, of a particular group studied, 60 percent had language problems while only 10 percent had visual-perceptual problems.

According to Magee and Newcomer (27), there is considerable agreement that language problems are present in a majority of learning-disabled pupils. The definition of learning disabilities in Public Law 94-142 (37) expresses a language deficit component: "... disorder in one or more of the basic psychological processes involved in understanding and--or in using spoken or written language." A more recent definition of learning disabilities formulated by the National Joint Committee for Learning Disabilities retains a hypothesis of language deficit.

Hammill, Leigh, McNutt and Larson wrote:

Learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other handicapping conditions (e.g., sensory impairment, mental retardation, social and emotional disturbance) or environmental influences (e.g., cultural differences, insufficient-inappropriate instruction, psychogenic factors), it is not the direct result of those conditions or influences (16).
Several studies have suggested that there is a significant relationship between oral language and academic achievement. Magee and Newcomer (27) found that semantic and syntactic skills related substantially to academic achievement, while phonological variables did not. Their study, however, did not compare the relationship of language skills and academic achievement of the learning disabled group with that of a group of normally achieving subjects.

Hresko (20), in a comparison of normal and learning disabled children, found that the language of the learning disabled group was both qualitatively and quantitatively different from that of children in regular classes, and was similar to that of younger children. Lyon and Watson (26) identified six homogeneous subgroups of children with a specific reading disability. Of these six groups, two evidenced no language disorder. One group exhibited a normal profile, while the other group revealed a deficit in visuoperceptive capacity with no language-based deficits. They concluded that some learning disabled pupils may exhibit problems due to social, motivational, or academic factors rather than because of some "inherent defect" (p. 260).

Significant correlations were found between measures of oral and written language for groups of both learning disabled and normally achieving children, although the learning disabled group scored significantly lower than
the normally achieving group on the measures. These results reflect support for a view of the interactive nature of oral and written language development, according to Reid and Hresko (32).

Several studies relate reading difficulties with receptive and expressive language deficits. Sawyer and Kosoff (34) found that receptive language levels among dyslexic adolescents was more in keeping with their grade level than previously assumed when evaluating through expressive language skills. These findings corroborate previous studies by Magee and Newcomer (27) showing that receptive language skills are better developed than expressive skills among learning disabled students.

Learning disabled children may exhibit a variety of isolated or combined deficits in receptive or expressive language. According to Wiig and Semel (41), the ability to predict the nature and degree of language deficits in learning disabled children remains limited. Language deficits may occur in any or all aspects of phonology, morphology, syntax, semantics and pragmatics.

In an overview of the literature, Vellutino (38) examined four prevalent explanations for reading failure in children: visual perception, intersensory integration, temporal-order perception, and verbal functioning. Applying findings from his own investigations, and from other research, he argues that a "verbal-deficit hypothesis"
(p. 332) is the most convincing explanation. He suggested that deficits in either semantic, syntactic or phonological processing of language, or any combination of these components, account for the severe reading difficulties experienced by some learning disabled persons.

A descriptive study by Hessler and Kitchen (17) found that a group of young learning disabled students appeared to experience oral rather than aural language difficulties. Receptive language skills were not a major problem for those participating in the study. Conflicting evidence was reported by Semel and Wiig (35) who found that children with learning disabilities exhibited significant quantitative reduction in both comprehension and expression of syntactic structures. These results must be considered ambiguous, since a screening measure, the Northwestern Syntax Screening Test, was used for testing.

While current literature emphasizes the role of language disabilities in learning disabilities, Hessler and Kitchen (17) state that no studies have been able to provide direct evidence that language deficits are an etiological factor in learning disabilities.

Language and Emotional Disturbance

Bower (5) formulated a definition of emotional disturbance which has been incorporated as diagnostic criteria for enrolling school pupils who qualify in special
education classes. He characterizes emotionally handicapped children as exhibiting

. . . one or more of the following characteristics to a marked extent and over a period of time: a) an inability to learn which cannot be explained by intellectual, sensory or health factors; b) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers; c) inappropriate types of behavior or feelings under normal conditions; d) a general, pervasive mood of unhappiness or depression; and e) a tendency to develop physical symptoms, pains or fears associated with personal or school problems (5).

While Bower did not include a language deficit component in his definition, discussions of emotional disturbance-behavioral disorders in the literature invariably include some description of language deficit, disorder, or deviance. Menolascino (30, p. 117) includes in his description of the autistic child: " . . . central language disorders." Kanner's (21) early works on infantile autism list a variety of concomitant speech and language disturbances. Among those mentioned are echolalia, word reversals, absence of communicative speech, affirmation by repetition, and extreme literalness. Autism is considered by some psychologists to be a severe form of emotional disturbance; Balthazar and Stevens (2) and Hewett and Taylor (18) report that a relationship has been established between autism and communication disorders.

An entire chapter in Copel (7), authored by Gens (12) is devoted to the pathologies of speech and language, wherein the problem of differential diagnosis between
emotional disturbance and language disorders is discussed. Developmental aphasia may be misdiagnosed as a severe emotional disturbance, whereas the behavior may actually be a result of reaction to delayed language development. Gens (12) consistently points out the difficulties involved in distinguishing between emotional disturbance and speech-language pathology as cause or effect for each other. Some results of untreated speech-language disorders are manifestations of emotional disorders: insecurity, resentment, withdrawal reactions, hostility, or aggression, all of which are reactions to frustration.

Erickson (10) considers speech and language problems to be "among the more common childhood behavior disorders" (p. 229). Following the psychoanalytic model, Erickson suggests that some speech-language disorders may result from overprotective or demanding parents, or from environmental effects, such as deprivation or overlarge and overnoisy households.

In effect, the available literature reveals that the etiology of speech-language problems includes both organic and psychological factors. Hewett and Taylor (18), Kauffman (22), and Reinert (33) consider language and emotional disturbance to be integrally linked. Paul and Epanchin (31) have placed greater emphasis than previous authors upon the importance of including communication skill development in programs for the emotionally disturbed
child. The results of current research have indicated that language and emotions interact and that this effect must be considered in treatment. Some behavior problems frequently cited as characteristics of emotionally disturbed children are inattentiveness, distractibility, and short attention span. Paul and Epanchin (31) view these problems as related to organic deficit in some children which affects their ability to listen; the most basic language skill necessary for receptive language skills. In other children, the authors suggest that their high levels of anxiety or depression interfere with their ability to listen; there is no organic deficit to explain the resulting language problems, but they are distracted by emotional turmoil. In keeping with the conclusions of Gens (12), Erickson (10) and Reinert (33), Paul and Epanchin (31) suggest that it is often impossible to determine whether a language skill deficit appeared prior to or following the emotional disturbance, since there is such close interaction between language and the emotions.

The types and severity of language problems in emotionally disturbed children may vary to such an extent that individual assessment and treatment often reflect the bias of the evaluator. Hoffman (19) found that some children are diagnosed as elective mutes since they presumably could speak but choose not to, while psychotic children often have severe speech and language problems. Their speech is
often garbled, confused and nonsensical. In the school situation, two educators may see the same child from two different perspectives. When a child with a speech-language problem evidences other psychological problems such as dependency or aggression, one teacher may see the speech problem as symptomatic of emotional problems. Another may believe that the child has learning problems which cause him to become dependent or aggressive.

Commonalities Among Learning Disabled and Emotionally Disturbed Pupils

Hallahan and Kauffman (15) and Kauffman (22) suggest that the greatest problem with formulating a definition for learning disabled children involves the differentiation of children with learning disabilities from children categorized as emotionally disturbed. Many children from both categories display the same psychological characteristics. Some of the more common are unsocialized aggression, immaturity-inadequacy and personality problems. Kauffman (22) states that both learning disabled and emotionally disturbed children exhibit more unsocialized aggressive behavior than either immaturity-inadequacy or personality problems.

Etiological factors are similar for both categorizations. Among the causal theories advanced, the most frequently cited for both learning disabled and emotionally
disturbed children are inadequate or pathological environmental experiences. The behaviorist view, as espoused by Kauffman (22) and Kephart (23) is that environmental conditions can result in either emotional disturbance or learning disability.

Another causal theory advanced for both learning disability and emotional disturbance is that of brain injury or presumed brain injury, resulting from the early work of Cruickshank (8) and Strauss and Lehtinen (36).

In addition to similar characteristic behaviors and etiological factors, language deficits or problems have been cited previously as being common to both categories of learning disabilities and emotional disturbance. Kauffman (22) discusses a characteristic common to both emotionally disturbed and learning disabled children which is an inability to learn which cannot be explained by intellectual, sensory or health factors. The question arises as to whether the learning deficit is related to language deficit, and whether the language deficits of emotionally disturbed and learning disabled children are similar.

Linguistic Competence

If language deficits are common to both learning disabilities and emotional disturbance, the question arises as to whether there is a basic impairment of linguistic competence, which underlies both comprehension and
expression of language. A further question is whether specific linguistic deficits can be isolated which are common to both learning disabilities and emotional disturbance. Chomsky and Halle (6) defined competence as the knowledge that a person has of the rule-system of his language, and that accounts for his intuitions about it. McNeill (29) suggested that performance is the actual use made of that knowledge in concrete situations: it is the expression of competence in the form of comprehension and production of language.

According to Chomsky and Halle (6), language competence is present in both children and adults, and can be represented as a system of rules referred to as the grammar of the language. In order to best assess linguistic competence in children, their behavior may be documented in carefully controlled test situations which will tap underlying abilities to use and apply linguistic rules, according to Whiteacre, Luper and Pollio (40). DeVilliers and DeVilliers (9), Hakes, Evans and Tunmer (14) and Liles, Shulman and Bartlett (25) found that, while children may comprehend or produce syntactically correct sentences prior to the age of four, they do not develop capabilities underlying linguistic intuitions until later than the age of four.

Liles et al. (25) found that a group of language-impaired children differed significantly from a group of
normal children in their ability to recognize rule violations of syntactic agreement and word order, but did not differ in the ability to recognize rule violations concerning lexical choices. The language-impaired group was unable to correct some of the errors which they recognized, while the normal group had no such problems. If learning disabled and emotionally disturbed children have similar difficulty in grammatical judgments, it may be postulated that impairment of linguistic competence forms a link between learning disabilities and emotional disturbance.

The results of current research conducted by Liles et al. (25) into the linguistic competence of language-impaired children reveal an impairment of the competence to correctly evaluate linguistic rules.

Current theories of linguistic competence reveal that far greater complexity exists than posited by Chomsky and Halle (6) and McNeill (29). The concept of linguistic competence currently encompasses both linguistic knowledge and pragmatic knowledge, and is only one aspect of communicative competence (13).

Linguistic knowledge includes learning the rules that govern the meaning of language, termed semantics; the structures that represent that semantic intent, termed syntax; and the rules governing a delivery system, either spoken, signing or written language. A "competent" normal language user, then, will have a finely developed set of
semantic, syntactic and phonological categories. The two performance aspects of linguistic competence, comprehension and production of language, reveal the nature of a person's linguistic competence.

Past descriptions of linguistic competence ignored the natural context in which language is used. Gerber and Bryen (13) further develop the concept of linguistic competence to include pragmatic knowledge, which is the contextual knowledge that is necessary for communication to take place. The sender needs to have an awareness of physical and social contexts both from his own point of view and from the point of view of the receiver.

Bloom and Lahey (4) term the integration of content, form and use of language, language competence or knowledge. They further state that current research provides evidence that comprehension and production tasks tap different aspects of children's knowledge about language.

Demonstration of linguistic competence includes production of language using syntactic rules for combining semantic relations. Bliss, Allen and Wrasse (3) administered a story-completion task to children with normal language development in order to establish a hierarchy of acquisition of syntactic structures of increasing complexity. Bliss et al. (3) found that such a structured task was preferable to a task employing spontaneous language samples, since children will not use all the
structures they are capable of uttering in an evaluation of spontaneous speech. The study elicited fourteen grammatic structures from simple imperatives and declaratives to more complex forms such as questions, passives and adjectival noun phrases. The results confirmed a hierarchy of the acquisition of syntactic structures in young children with normally developing language skills.

Summary

A review of the literature reveals several areas of commonality between learning disabled and emotionally disturbed children. There are similarities in both etiology and behavioral characteristics. Further, speech and/or language deficits have been documented as concomitant characteristics for both categories.

Current theories of linguistics encompass complex views of linguistic competence, which may be evaluated through performance measures of comprehension and production of language. Linguistic competence includes both a person's linguistic and pragmatic knowledge about his language. Linguistic knowledge includes semantic intent, and syntactic and phonological rules, while pragmatic knowledge encompasses the communicative intent of language.
CHAPTER BIBLIOGRAPHY


CHAPTER III

PROCEDURES FOR COLLECTION AND
ANALYSIS OF DATA

Selection of the Sample

From a population of learning disabled, emotionally disturbed and normally achieving pupils, twenty subjects were randomly selected to represent each group. The following variables were controlled for all subjects.

1. Chronological age for all subjects was between seven and nine years.

2. Hearing was within normal limits as determined by records of audiometric screening or evaluation at 25 dB (Ansi, 1969).

3. The level of intelligence for all subjects was between 85 and 115 I.Q., as determined by school records. The Full Scale I.Q. score on the WISC-R was used as a reference point. No subject had a discrepancy of more than five points between the verbal and performance I.Q. scores.

4. For all subjects selected, English was the only language spoken in the home.

5. For the normally achieving subjects, school records revealed no academic, language, motor or behavior problems. All subjects selected for this group were from
middle socioeconomic levels, and all were from a private school in Dallas, Texas.

For the learning disabled subjects, school records revealed that all were classified learning disabled as set forth by guidelines approved by the Texas Education Agency. All subjects selected for this group were from middle socioeconomic levels, and all were from a private school serving learning disabled pupils in the Dallas, Texas area.

Criteria for the classification of learning disabled included an I.Q. score within normal limits according to results of the Wechsler Intelligence Scales, and results of tests administered by a qualified psychologist. Instruments utilized to identify reading and language deficits were the Brigance, Woodcock Reading Mastery Tests, California Achievement Test, Test of Written Language, Test of Spelling and the Temple Diagnostic Materials. Identification of deficits in mathematics was made through the use of The Diagnostic Tests and Self-helps in Arithmetic, and the Key Math Diagnostic Arithmetic Test.

Of the twenty subjects selected, seven were from families in the $30,000 to $40,000 yearly income range, six from families in the $20,000 to $30,000 range, three from the $50,000 to $60,000 range, two from the $10,000 to $20,000 range, one from the $40,000 to $50,000 range, and one whose father was unemployed. The fathers of the majority (10) of the subjects owned small businesses, four
were in the middle-management category, four were professional, one was a tradesman, and one was an unemployed unskilled laborer.

For the emotionally disturbed subjects, school records revealed that all were classified emotionally disturbed as set forth by guidelines approved by the Texas Education Agency. Of the twenty subjects selected for this group, three were confined at Children's Medical Center in Dallas, Texas; two were in the McKinney Independent School District; four were in the Grapevine Independent School District; and eleven were in the Killeen Independent School District. This represented a cross-section of socio-economic levels.

Research Design

Two tasks were administered to all subjects who were divided into three groups of twenty subjects each. Group I consisted of twenty learning disabled pupils (LD), Group II comprised twenty emotionally disturbed pupils (ED), and Group III included twenty normally achieving pupils (NA).

This study compared the total error scores on each task among the three groups, LD, ED, and NA, in order to determine whether LD or ED groups made significantly more errors and whether they made significantly more errors than the NA group.
Treatment

Task I--Evaluation and Revision Task

A trial exercise of four sentences preceded the presentation of the test sentences (Appendix A). When it was apparent that the subject understood the task, the remaining sentences were administered. Some sentences were presented twice when it seemed necessary. All responses were recorded on tape for later confirmation of scoring accuracy.

The subjects were instructed as follows: "You are going to hear some sentences. If a sentence sounds right to you, say 'yes'; if it sounds wrong, say 'no'; then say it the way you think it should be said. Let's try some." The first four sentences presented were the trial sentences. (a) Lunch your eat; (b) Mary is reading a book; (c) He are swimming; and (d) May I book your see?

After each presentation of the trial sentences, if the subject did not recognize a correct or incorrect sentence, the examiner continued to repeat until the child gave an appropriate response. If no correct response was obtained, that subject was eliminated from the study. No subjects were eliminated for this reason.

Task II--Structured Elicitation Task

Each syntactic condition to be tested was represented by two stories (Appendix B), with a drawing illustrating
each sentence presented as an aid in understanding the story (see attachment to Appendix B). Two practice stories were administered in order to train the subject to the task. When it was apparent that the subject understood the task, the test stories were administered.

Each subject was instructed as follows: "I am going to tell you a story that goes with this picture, and I want you to answer my question. Here is an example before we start." The subject was shown an illustration. "This little boy is climbing a tree. What is he doing?" A correct response was expected to contain the three critical features of the first condition—declarative, present and active: He is climbing the tree—He climbs the tree—He is climbing—He climbs.

Any response was scored. All responses were recorded on tape for future analysis and confirmation of scoring accuracy.

Scoring Procedures

Task I—Evaluation and Revision Task

For Task I, Evaluation and Revision Task (Appendix A), total error scores for each subject were obtained for each of four categories: (a) syntactically and semantically correct sentences (SC); (b) syntactically incorrect but semantically correct sentences (SI); (c) syntactically and
semantically incorrect sentences as a result of word-order change (WOI); and (d) revision responses (RR).

Correct responses corresponded to acceptance of a syntactically and semantically correct sentence; rejection of the two types of incorrect sentences; and error-specific changes made to correct these sentences. Correct responses were not tabulated on the score sheet (Appendix A). Since only error comparisons were being made among the three groups for the purposes of this study, only error scores were required for statistical purposes. On the score sheet, error scores correspond to the number of no answers circled for correct sentences (SC); the number of yes answers circled for the two types of incorrect sentences (SI and WOI); and the number of incorrect productions in the revision responses (RR). Total error scores were obtained for each variable for which errors were circled.

Task II—Structured Elicitation Task

For Task II, Structured Elicitation Task (Appendix B, sentences and pictorial representations), each sentence was scored according to three critical features: sentence class, declarative (DS) or interrogative (IS); verb inflection for voice, active (VA) or passive (VP); and for tense, present (TP) or future (TF). This yielded six total scores. Error scores were tabulated on the score sheet (Appendix B). Each critical feature for each condition is
identified in the appropriate column with the numeral 1. An error in each feature was tabulated by circling the appropriate numeral. One error point was scored for each critical feature altered by omissions or additions of words. Total error scores were obtained for each of three critical features of sentence class (declarative or interrogative), verb voice (active or passive), and verb tense (present or future), yielding six total scores for each subject.

Procedures for Analysis of Data

This study was designed to compare the mean error scores of three groups, learning disabled (LD), emotionally disturbed (ED), and normally achieving pupils (NA) on two tasks, an Evaluation and Revision Task, and a Structured Elicitation Task. The following statistical procedures were employed.

Task I--Evaluation and Revision Task

A one-way multivariate analysis of variance (MANOVA) was performed at the .05 level of significance in order to determine whether there were any significant differences among the three groups in their ability to evaluate the correctness of three types of sentences and to correct those which were incorrect. There were three levels of the independent variable, Groups LD, ED, and NA. There were three dependent variables, SC, SI, and WOI.
The procedure used in testing the null hypothesis was the Wilks Lambda (Λ) Criterion (1). Since a table of critical values for lambda was not available, the calculated value was transformed into an F value, using Rao's approximation (1).

The revision responses (RR) were analyzed descriptively. Since there was not expected to be a one-to-one correspondence in the responses, inferential statistical procedures were inappropriate.

**Task II—Structured Elicitation Task**

A one-way univariate analysis of variance was utilized, using the .05 level of significance, with Tukey's multiple comparison HSD Test to determine where significant differences existed. The statistical analysis was computerized at North Texas State University, with results obtained by means of the Statistical Package for Social Sciences - SPSS (2).
CHAPTER BIBLIOGRAPHY


CHAPTER IV

RESULTS AND INTERPRETATION

Group I, the learning disabled group (LD), Group II, the emotionally disturbed group (ED), and Group III, the normally achieving group (NA) were compared for significant differences in performance on two language tasks (Appendices A and B). Table I illustrates the division of subjects by group, sex, age, and I.Q. range.

TABLE I

GROUPS BY SEX, AGE, I.Q.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sex</th>
<th>Age</th>
<th>I.Q. Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>7 Yrs.</td>
</tr>
<tr>
<td>I LD</td>
<td>13</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>II ED</td>
<td>15</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>III NA</td>
<td>10</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
<td>22</td>
<td>20</td>
</tr>
</tbody>
</table>

More males than females were included in groups I (almost 50 per cent more) and II (33 per cent more) than group III, which had an equal number of each sex. These
figures lend support to public school statistics revealing that more males than females exhibit both learning and behavior problems.

With respect to age comparison, 65 per cent of the LD group, 60 per cent of the ED group, and 75 per cent of the NA group fell into the eight-year-old age range.

Task I—Evaluation and Revision Task

For Task I, group error means and standard deviations for each variable, SC, SI and WOI, are listed in Table II.

TABLE II
ERROR MEANS AND STANDARD DEVIATIONS FOR EVALUATION AND REVISION TASK I

<table>
<thead>
<tr>
<th>Groups</th>
<th>SC</th>
<th>S.D.</th>
<th>SI</th>
<th>S.D.</th>
<th>WOI</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I LD</td>
<td>.807</td>
<td>1.598</td>
<td>2.054</td>
<td>1.213</td>
<td>.939</td>
<td>.984</td>
</tr>
<tr>
<td>II ED</td>
<td>.700</td>
<td>1.002</td>
<td>2.400</td>
<td>1.173</td>
<td>.866</td>
<td>1.070</td>
</tr>
<tr>
<td>III NA</td>
<td>.150</td>
<td>.369</td>
<td>1.400</td>
<td>1.054</td>
<td>.450</td>
<td>.687</td>
</tr>
</tbody>
</table>

Inspection of Table II reveals that average LD errors in the variable SC (.807) were greater than those for variable ED (.700) and both were considerably greater than those for variable NA (.150). The ED group averaged more
errors in variable SI (2.4) than did the LD group (2.054), and both averaged considerably more errors than the NA group (1.4). For variable WOI, the LD group averaged more errors (.939) than the ED group (.866), and both averaged twice as many errors as the NA group (.450).

In order to test the research hypothesis, a multivariate analysis of variance was performed, utilizing the Statistical Package for the Social Sciences procedure through the North Texas State University Computer System. Results are listed in Table III.

**TABLE III**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Wilks Value</th>
<th>Approx. F</th>
<th>Hypoth. DFx</th>
<th>Error DFx</th>
<th>Sig. of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>I, II, III</td>
<td>.788</td>
<td>2.185</td>
<td>6.000</td>
<td>104</td>
<td>.05</td>
</tr>
</tbody>
</table>

The multivariate analysis of variance for variables SC (sentence correct), SI (sentence syntactically incorrect but semantically correct) and WOI (semantically and syntactically incorrect due to word-order change) was found to be significant ($F = 2.185$, df = 6/104, $p = .05$) by the Wilks' Lambda Criterion (Table III).
A univariate analysis of variance for the variable SI
was found to be significant \((F = 4.226, \text{df} = 2/54, p < .05)\),
as shown in Table IV.

**TABLE IV**

**UNIVARIATE ANALYSIS OF VARIANCE FOR TASK I**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Hypoth. SS</th>
<th>Error SS</th>
<th>Hypoth. MS</th>
<th>Error MS</th>
<th>F</th>
<th>Sig. of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC</td>
<td>4.133</td>
<td>59.976</td>
<td>2.066</td>
<td>1.110</td>
<td>1.860</td>
<td>.165</td>
</tr>
<tr>
<td>SI</td>
<td>11.200</td>
<td>71.545</td>
<td>5.600</td>
<td>1.324</td>
<td>4.226</td>
<td>.020*</td>
</tr>
<tr>
<td>WOI</td>
<td>4.333</td>
<td>53.916</td>
<td>2.216</td>
<td>.998</td>
<td>2.220</td>
<td>.118</td>
</tr>
</tbody>
</table>

*\(p < .05\)*

Tukey's multiple pairwise comparison HSD test was used
to determine where significant differences existed between
the group means for the variable SI \((\text{HSD} = .866)\). No
differences existed between the means of the LD and ED
groups \((.346)\), no differences existed between the LD and
NA groups \((.645)\), and a significant difference existed be-
tween the ED and NA groups \((1.0)\).

A univariate analysis of variance revealed a signifi-
cant difference for the effect of sex for the dependent
variable SI in Task I. Results of this task appear in
Table V.
TABLE V
UNIVARIATE ANALYSIS OF VARIANCE FOR TASK I, BY SEX

<table>
<thead>
<tr>
<th>Variable</th>
<th>Hypoth. SS</th>
<th>Error SS</th>
<th>Hypoth. MS</th>
<th>Error MS</th>
<th>F</th>
<th>Sig. of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC</td>
<td>.676</td>
<td>59.976</td>
<td>.676</td>
<td>1.110</td>
<td>.609</td>
<td>.438</td>
</tr>
<tr>
<td>SI</td>
<td>6.643</td>
<td>71.545</td>
<td>6.643</td>
<td>1.324</td>
<td>5.014</td>
<td>.029*</td>
</tr>
<tr>
<td>WOI</td>
<td>3.528</td>
<td>53.916</td>
<td>3.528</td>
<td>.998</td>
<td>3.533</td>
<td>.066</td>
</tr>
</tbody>
</table>

*p < .05

Significantly more males than females made errors in the SI (syntactically incorrect but semantically correct) variable. Inspection of means reveals that twice as many errors were made in the SI variable as in the WOI (syntactically and semantically incorrect due to word-order change) variable. This effect was confirmed by the Ray-Bargman step-down analysis which revealed $F = .037$ to be significant at the .05 level of confidence for that variable.

Revision Responses

Revision Responses (RR) were analyzed descriptively, since one-to-one correspondence did not obtain for each subject. When a sentence was judged to be incorrect, the subject was asked to correct it, or to "say it right."
For the correct sentences (SC), the following is a summary of those judged to be incorrect.

1. Five per cent of the learning disabled group judged 62.5% of the correct sentences to be incorrect. Three sentences were considered semantically incorrect. *Mary is pushed by John* was corrected to *John is pushed by Mary* "because boys aren't supposed to push girls." *The dog chased the car* was altered to *The car chased the dog,* and *Shut the door* was corrected to *Please shut the door.* Two sentences were corrected syntactically. *Did mother take her to the park?* was corrected to *Will mother take her to the park?*, and *The sun was shining yesterday* was corrected to *The sun shone yesterday.*

2. Eight per cent of the emotionally disturbed group judged 75% of the correct sentences to be incorrect. The same errors were made as in the learning disabled group for *Mary is pushed by John, The dog chased the car, Shut the door,* *Did mother take her to the park?,* with two additional errors, *The children are going to school* was corrected to *The children go to school;* and *What time is it?* totally confused one subject who did not respond at all.

3. Two per cent of the normally achieving group judged 25% of the correct sentences to be incorrect. The *sun was shining yesterday* was corrected to *The sun will shine tomorrow;* and *Mary is pushed by John* again was considered wrong because "boys don't push girls."
For the incorrect sentences, SI and WOI, no subject in any group made errors in correcting a sentence judged to be incorrect. There were no errors of tense, person or number. Of course, when an incorrect sentence was judged to be correct, the subject was not in a position to make a statement, and a dash was recorded on the score sheet. Some variations in corrections did not alter the correction, e.g., They eaten the pie was sometimes corrected to They ate the pie, and sometimes to They have eaten the pie.

Task II—Structured Elicitation Task

For Task II, group error means and standard deviations are listed in Table VI. No errors were made by any group for the variables DS (declarative sentence) and VA (verb, active choice). The LD group averaged more errors than the other two groups on the variable IS (interrogative sentence), and TP (present tense). On the variable VP (passive voice), the NA group averaged significantly more errors than the other two groups. The ED group averaged more errors than the other two groups on the variable TF (future tense).

Results of a univariate analysis of variance for the variables DS, IS, VA, VP, TP and TF are shown in Table VII. Significantly more errors were made on the variable VP (passive voice) than on all other variables. Analysis of
TABLE VI
ERROR MEANS AND STANDARD DEVIATIONS FOR STRUCTURED ELICITATION TASK II

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sentence Structure</th>
<th>DS</th>
<th>IS</th>
<th>VA</th>
<th>VP</th>
<th>TP</th>
<th>TF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Error M</td>
<td>SD</td>
<td>Error M</td>
<td>SD</td>
<td>Error M</td>
<td>SD</td>
<td>Error M</td>
</tr>
<tr>
<td>I LD</td>
<td>0</td>
<td>0</td>
<td>.401</td>
<td>.631</td>
<td>0</td>
<td>0</td>
<td>3.124</td>
</tr>
<tr>
<td>II ED</td>
<td>0</td>
<td>0</td>
<td>.133</td>
<td>.352</td>
<td>0</td>
<td>0</td>
<td>2.633</td>
</tr>
<tr>
<td>III NA</td>
<td>0</td>
<td>0</td>
<td>.100</td>
<td>.316</td>
<td>0</td>
<td>0</td>
<td>3.800</td>
</tr>
</tbody>
</table>
### TABLE VII

**UNIVARIATE ANALYSIS OF VARIANCE FOR TASK II**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Hypoth. SS</th>
<th>Error SS</th>
<th>Hypoth. SS</th>
<th>Error SS</th>
<th>F Value</th>
<th>Sig. of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IS</td>
<td>.833</td>
<td>11.355</td>
<td>.416</td>
<td>.210</td>
<td>1.981</td>
<td>.148</td>
</tr>
<tr>
<td>VA</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>VP</td>
<td>11.033</td>
<td>69.592</td>
<td>5.516</td>
<td>1.288</td>
<td>4.280</td>
<td>.019*</td>
</tr>
<tr>
<td>TP</td>
<td>.700</td>
<td>28.961</td>
<td>.350</td>
<td>.536</td>
<td>.652</td>
<td>.525</td>
</tr>
<tr>
<td>TF</td>
<td>.100</td>
<td>6.854</td>
<td>.050</td>
<td>.126</td>
<td>.393</td>
<td>.676</td>
</tr>
</tbody>
</table>

*p < .05

Variance for the variable VP was performed with the three levels of the variable groups. Results are shown in Table VIII.

### TABLE VIII

**ANALYSIS OF VARIANCE FOR VARIABLE VP BY GROUPS**

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F.</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>11.033</td>
<td>5.516</td>
<td>4.100</td>
<td>.022*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>57</td>
<td>76.699</td>
<td>1.345</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>87.733</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05
Unexpected results of the analysis of variance by Groups for the variable VP (passive voice) revealed that the group NA (normally achieving) made significantly more errors (3.8) than the ED group (2.6) or the LD group (3.1).

Hypothesis Testing

The results of the hypothesis testing revealed the following conclusions.

Hypothesis 1. The learning disabled group did not make significantly more errors than the emotionally disturbed group as measured by a language comprehension task. The research hypothesis was not accepted.

Hypothesis 2. The learning disabled group did not make significantly more errors than the emotionally disturbed group on any of the six variables on the language production task. The research hypothesis was not accepted.

Hypothesis 3. The learning disabled group did not make significantly more errors than the normally achieving group as measured by a language comprehension task. The research hypothesis was not accepted.

Hypothesis 4. The emotionally disturbed group made significantly more errors than the normally achieving group in only one (SI) of three variables as measured by a language comprehension task. The research hypothesis was accepted for that one variable (SI) only.
Hypothesis 5. The learning disabled group did not make significantly more errors than the normally achieving group as measured by a language production task. The research hypothesis was not accepted.

Hypothesis 6. The emotionally disturbed group did not make significantly more errors than the normally achieving group as measured by a language production task. The research hypothesis was not accepted.

Only two areas have statistical significance. First, the emotionally disturbed group made significantly more errors than the normally achieving group on an evaluation of sentences which were syntactically incorrect but semantically correct. The second area of significance was in the use of the passive voice. The normally achieving group made significantly more errors in the use of the passive voice than did the other two groups.
The problem investigated in this study was to determine whether learning disabled and emotionally disturbed pupils exhibited comparable language deficits, and whether they were significantly more deficient in language skills than normally achieving pupils. A review of the literature suggested that language deficits were an integral part of learning disabilities. Current studies also suggest that language deficits are concomitant with emotional disturbance.

In order to attempt to verify the findings of numerous studies which related language deficits to both learning disabilities and to emotional disturbance, two tasks were devised. One task evaluated linguistic competence by means of a judgment and comprehension task, while the other sought to evaluate language production. The purpose of this study was to compare the linguistic competence of learning disabled, emotionally disturbed and normally achieving seven-and-eight-year-old pupils.

Results of the study revealed few and specific differences among the three groups. Significance was found in only one aspect of the evaluation task. The emotionally
disturbed group made significantly more errors than either
the learning disabled or normally achieving groups in
evaluating the correctness of sentences which were syntac-
tically incorrect but semantically correct (SI). Again,
significance was found in only one aspect of the production
task; however, it was in the opposite direction. Unexpect-
edly, the normally achieving group made significantly more
errors in the use of the passive voice.

Conclusions

Since the learning disabled group did not make sig-
ificantly more errors in evaluating linguistic competence
than the other two groups, emotionall y disturbed and nor-
mally achieving pupils, several conclusions may tentatively
be formulated.

1. There is no difference in the linguistic compe-
tence of learning disabled and emotionally disturbed
pupils, as measured by performance tasks, an evaluation
task and a structured elicitation task.

2. Liles, et al. (1) found significant differences
between language impaired and normally achieving children
in their ability to judge the correctness of the same types
of sentences as utilized in this study. The instruments
used in the study have demonstrated the capability of
identifying significant differences in the linguistic
skills of language-impaired and pupils with normal language
development. This study revealed that no such differences existed when these instruments were administered to a group of learning disabled and normally achieving pupils.

3. It may be further concluded that language disability may be specific to some learning disabled pupils, and not necessarily a concomitant component of all learning disabilities. This was not disproved by the present study.

4. Because all the learning disabled subjects were from middle socioeconomic levels, their linguistic competence may be superior to those of learning disabled pupils in the public schools who would represent a greater cross-section of the population.

5. The finding that the normally achieving group made significantly more errors in the use of the passive voice than either the learning disabled or the emotionally disturbed groups may be a result of the fact that the learning disabled group used in this study receive as a matter of course a more intensive language arts curriculum than do pupils in the regular classroom. Fully half the school day is devoted to a language arts curriculum in the school which provided subjects for this study. Given that all three groups have unimpaired linguistic competence, more intensive classroom instruction for a specific group would improve those skills beyond average expectations.
6. The emotionally disturbed group made significantly more errors than the normally achieving group in the evaluation of syntactically incorrect sentences. This finding may be due to the fact that the majority of the subjects in the emotionally disturbed group (seventeen) were from public schools. Recognition of syntactically incorrect sentences involves judgments of "grammatical correctness." What may be "acceptable" for the majority of public school pupils may not be acceptable for pupils from middle or upper socioeconomic levels. It is not very likely that the category of mild emotional disturbance would influence the factor of syntactic correctness. It is more likely that the variation was due to environmental factors.

7. Since no significant differences were found between the learning disabled and normally achieving groups in the evaluation task, it may be concluded that the linguistic competence of the learning disabled group remains unimpaired. Impairment in linguistic performance might have implied impairment in linguistic competence. However, no such impairment was found in comparison with both emotionally disturbed and normally achieving pupils.

8. It may be concluded that the emotionally disturbed group suffers impairment of linguistic competence in the evaluation of the syntactic correctness of sentences. If linguistic performance only were impaired, the subjects would have correctly identified an incorrect sentence, but
would have been unable to correct it. However, the question of "acceptability" again confounds the findings.

Recommendations

The results of this study suggest some implications for future research. With the small sample utilized, language deficits were not a concomitant part of the learning disability exhibited by the subjects. It is recommended that investigation into subcategories of learning disabilities to determine any specific linguistic deficits which may occur would help refine the definition of learning disabilities and permit more specific intervention strategies to allow for individual differences.

Within the limitations of this study, emotional disturbance, as exhibited by public school pupils, is not necessarily concomitant with language deficit. While language disorders are manifested in the more severe emotional disturbances, such as autism, schizophrenia, and psychotic conditions, those emotionally disturbed pupils who exhibit linguistic deficits in the public schools may have a true linguistic deficit which has caused an emotional factor, rather than the emotional factor being the cause of the linguistic deficit.

It is further recommended that future studies investigate the etiology of linguistic deficits as exhibited by emotionally disturbed pupils in the public schools. If,
in fact, true linguistic deficits are present, appropriate therapeutic management should then combine psychotherapy with speech-language therapy.
CHAPTER BIBLIOGRAPHY

APPENDIX
### APPENDIX A

#### TASK I

**EVALUATION AND REVISION TASK**

<table>
<thead>
<tr>
<th>Subject Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject Number</th>
<th>Birthdate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SC** = Syntactically and semantically correct

**SI** = Syntactically incorrect and semantically correct

**WOI** = Syntactically and semantically incorrect as result of word order change

**RR** = Revision response

**E** = Error, **C** = Correct

<table>
<thead>
<tr>
<th>Circle Yes (Y) or No (N) Response</th>
<th>SC</th>
<th>SI</th>
<th>WOI</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stimulus Sentence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Help me flowers some pick.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Go hands your wash.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The children are going to school.</td>
<td>N</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. He are a good boy.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Jack will went to the store.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Why did he tree the climb?</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Why does she says that?</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Door left the John open.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Mary and Jo is playing.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. He will be push by his sister.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. He feed his dog tomorrow.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Please opened the door.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. The sun was shining yesterday.</td>
<td>N</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. What time is it?</td>
<td>N</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. They is eating</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

61
<table>
<thead>
<tr>
<th>Stimulus Sentence</th>
<th>SC</th>
<th>ST</th>
<th>WOI</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. Can you car a drive?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. The wagon pushos the boy.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. The sleeping is baby.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. My four is brother years old.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. The dog chased the car.</td>
<td>N</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Shut the door.</td>
<td>N</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Are you school to going today?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. The boy playing with his dog.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. The ball bounced the girl.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. The bird will fly away yesterday.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. She will waited for mother.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. It's time to dog the feed.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. John will play with his wagon.</td>
<td>N</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. The brown is dog.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. The doll is playing with Mary.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. Can you ran?</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. The pie eats the boy.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. Mary is pushed by John.</td>
<td>N</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. Did mother take her to the park?</td>
<td>N</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. Dad will food some buy.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. Go sat in the swing.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37. She are hit by the ball.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. They eaten the pie.</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL ERROR RESPONSES**

The subject's yes or no answer is circled, and the revision response written in from later analysis of the taped responses. The total number of errors equals the total number of letters circled in the left-hand column of each category.
### APPENDIX B

#### TASK II

**STRUCTURED ELICITATION**

<table>
<thead>
<tr>
<th>Subject Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition</th>
<th>Story</th>
<th>Target Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a.</td>
<td>This boy is pulling a wagon. What is he doing?</td>
<td>He's pulling a wagon.</td>
</tr>
<tr>
<td>1b.</td>
<td>That boy threw his ball in the air and now he is catching it. What is he doing?</td>
<td>He's catching the ball.</td>
</tr>
<tr>
<td>2a.</td>
<td>The girl is sitting on the floor playing with her doll. What will she do?</td>
<td>She will play with her doll.</td>
</tr>
<tr>
<td>2b.</td>
<td>The girl hears her mother calling her. What will she do?</td>
<td>She will run to her mother.</td>
</tr>
<tr>
<td>3a.</td>
<td>John is rubbing his arm because a boy is hitting him. What is happening to John?</td>
<td>He is being hit by a boy.</td>
</tr>
<tr>
<td>3b.</td>
<td>Mary is watering her plant. What is happening to the plant?</td>
<td>It is being watered by Mary.</td>
</tr>
<tr>
<td>4a.</td>
<td>Mary is on the swing but she cannot push herself. When her friend arrives, what will happen to Mary?</td>
<td>She will be pushed by her friend.</td>
</tr>
<tr>
<td>4b.</td>
<td>Mother always feeds the cat. What will happen to the cat whenever she is hungry?</td>
<td>She will be fed by mother.</td>
</tr>
<tr>
<td>5a.</td>
<td>This little boy is getting ready to go to school. His mother wants to know what he is wearing, so she says... what?</td>
<td>What are you wearing?</td>
</tr>
<tr>
<td>5b.</td>
<td>This little boy is sitting by the window. His mother asks him if he is sitting by the window. She says... what?</td>
<td>Are you sitting by the window?</td>
</tr>
<tr>
<td>Condition</td>
<td>Story</td>
<td>Target Response</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
<td>-----------------</td>
</tr>
<tr>
<td>6a.</td>
<td>This dog is trying to catch the stick. Mary wants to know if he will, so she says . . . what?</td>
<td>Will the dog catch the stick?</td>
</tr>
<tr>
<td>6b.</td>
<td>Mom wants to know how long Mary will watch TV, so she says . . . what?</td>
<td>How long will you watch TV?</td>
</tr>
<tr>
<td>7a.</td>
<td>A box fell off the shelf onto Joe. Mom doesn't know if Joe is hurt, so she asks him . . . what?</td>
<td>Are you hurt?</td>
</tr>
<tr>
<td>7b.</td>
<td>Mom thinks Mary is being bitten by the dog, so she asks her . . . what?</td>
<td>Are you being bitten by the dog?</td>
</tr>
<tr>
<td>8a.</td>
<td>Johnny is afraid he won't be given his supper, so he asks his mom . . . what?</td>
<td>Will I be given my supper?</td>
</tr>
<tr>
<td>8b.</td>
<td>Jim forgot to put his toys away. He thinks he will be punished by his father, so he asks mom . . . what?</td>
<td>Will I be punished by Dad?</td>
</tr>
</tbody>
</table>
TASK II
STRUCTURED ELICITATION TASK
SCORE SHEET

Subject Name __________________________ Date __________________
Subject Number _________________________

For each error: Circle appropriate numeral

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sentence Class</th>
<th>Verb Inflection</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Declarative</td>
<td>Interrogative</td>
</tr>
<tr>
<td></td>
<td>Active</td>
<td>Passive</td>
</tr>
<tr>
<td>1a.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1b.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2a.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2b.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3a.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3b.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4a.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4b.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5a.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5b.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6a.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6b.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7a.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7b.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8a.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8b.</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL ERRORS (Number of Circled Numerals)
Condition 1a.
Condition 1b.
Condition 2a.
Condition 2b.
Condition 3a.
Condition 3b.
Condition 4a.
Condition 4b.
Condition 5a.
Condition 5b.
Condition 6a.
Condition 6b.
Condition 7a.
Condition 7b.
Condition 8a.
Condition 8b.
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Books


**Articles**


Werner, H., and Strauss, A. A., "Pathology of the Figure-Background Relation in the Child," *Journal of Abnormal Social Psychology*, XXXVI (February, 1941), 236-248.


**Unpublished Materials**
