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PRAGMATIC DEFICITS IN
LEARNING DISABLED CHILDREN

A Thesis

by

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Major Department: Speech Pathology

PRAGMATIC DEFICITS IN
LEARNING DISABLED CHILDREN

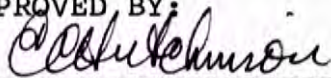
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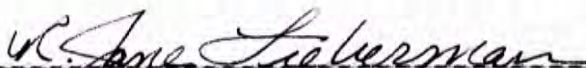
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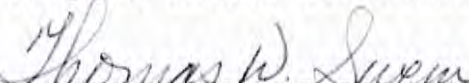
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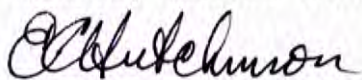
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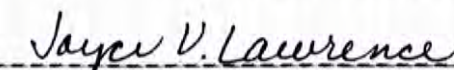
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ABSTRACT
PRAGMATIC DEFICITS IN
LEARNING DISABLED CHILDREN (MAY, 1985)

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The purpose of this study was to determine if referential communication deficits are present in learning disabled boys (LD) with no measurable expressive language impairment, or only those who are learning and language disabled (LLD). Referential skills, also known as descriptive skills, are a component of pragmatics, the use of language in a social context.

Subjects included 10 LD boys, 10 LLD boys, and 10 normal boys ranging in age from 8 years, 6 months to 11 years, 6 months. The study was conducted in two phases. In Phase one, each subject was presented with five ambiguous line drawings (Longhurst, 1974) to describe. The descriptions were audio recorded and transcribed. Three transcribed descriptions from each group, and of each picture were randomly selected for test stimuli for Phase

Two. In Phase Two, the subjects listened to the descriptions and attempted to identify the picture being described.

Results indicate that there is no significant difference in the use of labels, non-labels, and mean length of utterance between the three groups. However, the comparison of listening accuracy scores indicates that the descriptions of the LD group were understood the least by the three groups. Further, as listeners the LLD group had the poorest listening accuracy scores. Although the LLD group did not show referential deficits as predicted, these results suggest a need for further research of the pragmatic skills of LD and LLD boys, as well as other expressive language skills.

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Chapter 1

INTRODUCTION

Many studies have investigated learning disabled (LD) children's use of language in social situations. A typical definition of this area of language known as pragmatics is "the understanding of the rules governing the use of language in social contexts" (Bryan, Donahue & Pearl, 1981, p. 29). Spekman and Roth's (1984) framework includes three aspects of pragmatics: (a) ideas the speaker hopes to convey (illocutionary act); (b) the effect these ideas have on the listener (perlocutionary act); and (c) the social organization of discourse or the ability of each communicator to function in the conversation. They postulated that pragmatic competence is essential for effective communication.

Studies have shown that many LD children have pragmatic deficits. For example, Knight-Arest (1984) found that LD boys used utterances which conveyed little meaning when teaching a game to peers, however, their sentences were grammatically correct. Further, they tended to rely on nonverbal means of demonstration to convey their ideas. In the study on which this project is based, Noel (1980) found that LD boys gave less concise descriptions than

their normal peers when describing pictures (a referential task). Noel further states that a pragmatic deficit such as this could hinder academic and social adjustment. Similarly, Davis (1982) found that LD children had a limited ability to use the self-maintaining strategies that allow monitoring and mediating one's position in relation to others in a social context.

The behavior of LD children has been described as hyperactive, distractible, and exhibiting short attention spans (Bryan, 1974A). These children are often labelled by teachers as behavior problems (Keogh, Tchir & Windeguth-Behn, 1974). Furthermore, several studies indicated that LD children often have difficulty establishing interpersonal relationships with peers and that on sociometric surveys, LD children ranked lower than normal peers (Bryan, 1976; Bruininks, 1978; Scranton & Ryckman, 1979). As Bryan, Donahue, and Pearl (1981) have suggested, LD children may experience interpersonal difficulty as a result of their own communicative deficits.

When the Test of Language Development (Newcomer & Hammill, 1977) was administered to LD children, Hessler and Kitchen (1980) found that there were differences in the language abilities among the subjects. Twenty-eight percent of the subjects had total language quotients within normal limits. Of those whose overall language performance was below normal, most scored significantly poorer on the

expressive language subtests than on the receptive language subtests. These results indicated that expressive language deficits which are manifested by difficulty with "formulation, retrieval, and expression of semantic, syntactic and morphological properties of language" (Hessler & Kitchen, 1980, p. 38) were common among LD children.

Statement of the Problem

Studies have shown that the linguistic abilities of the LD population vary. Hessler and Kitchen (1980) found that many LD children had expressive language deficiencies whereas others did not. Some LD boys exhibit difficulties with pragmatics, specifically referential skills (Noel, 1980). It is the purpose of this study to determine if poor referential skills are characteristic of LD boys with no other demonstrable language problems, or if they are specific to those LD boys with expressive language deficiencies (LLD).

Limitations of the Study

As this study is based on Noel's (1980) study, the subjects were all boys. Therefore:

1. The groups were small in size, and the subjects were not matched by age and IQ as the sample population was drawn from a school system with a limited number of LD boys.

2. Information about identifying criteria, such as Full Scale Intelligence Quotient, grade level, and age was collected by the resource teachers from the school records.

Assumption

It was assumed the examiner was qualified to administer and interpret the diagnostic tools used in this study.

Hypotheses

Ho. 1.1 There is no significant difference in the descriptions using labels between LD and LLD groups of boys.

Ho. 1.2 There is no significant difference in the descriptions using labels between LD and normal groups of boys.

Ho. 1.3 There is no significant difference in the descriptions using labels between LLD and normal groups of boys.

Ho. 2.1 There is no significant difference in the descriptions using non-labels between LD and LLD groups of boys.

Ho. 2.2 There is no significant difference in the descriptions using non-labels between LD and normal groups of boys.

Ho. 2.3 There is no significant difference in the descriptions using non-labels between LLD and normal groups of boys.

Ho. 3.1 There is no significant difference in the mean length of utterance of descriptions between LD and LLD groups.

Ho. 3.2 There is no significant difference in the mean length of utterance of descriptions between LD and normal groups.

Ho. 3.3 There is no significant difference in the mean length of utterance of descriptions between LLD and normal groups.

Ho. 4.1 There is no significant difference in listening accuracy scores between LD and LLD groups when listening to descriptions of normal speakers.

Ho. 4.2 There is no significant difference in listening accuracy scores between LD and normal groups when listening to descriptions of normal speakers.

Ho. 4.3 There is no significant difference in listening accuracy scores between LLD and normal groups when listening to descriptions of normal speakers.

Ho. 5.1 There is no significant difference in the listening accuracy scores between LD and LLD groups when listening to descriptions of LD speakers.

Ho. 5.2 There is no significant difference in the listening accuracy scores between LD and normal groups when listening to descriptions of LD speakers.

Ho. 5.3 There is no significant difference in the listening accuracy scores between LLD and normal groups when listening to LD speakers.

Ho. 6.1 There is no significant difference in the listening accuracy scores between LD and LLD groups when listening to the descriptions of LLD speakers.

Ho. 6.2 There is no significant difference in the listening accuracy scores between LD and normal groups when listening to the descriptions of LLD speakers.

Ho. 6.3 There is no significant difference in the listening accuracy scores between LLD and normal groups when listening to the descriptions of LLD speakers.

Ho. 7.1 There is no significant difference in the listening accuracy scores of the LD group when listening to descriptions of LD and normal speakers.

Ho. 7.2 There is no significant difference in the listening accuracy scores of the LD group when listening to descriptions of LLD and normal speakers.

Ho. 7.3 There is no significant difference in the listening accuracy scores of the LD group when listening to descriptions of LD and LLD speakers.

Ho. 8.1 There is no significant difference in the listening accuracy scores of the LLD group when listening to descriptions of LD and normal speakers.

Ho. 8.2 There is no significant difference in the listening accuracy scores of the LLD group when listening to the descriptions of LLD and normal speakers.

Ho. 8.3 There is no significant difference in the listening accuracy scores of the LLD group when listening to descriptions of LD and LLD speakers.

Ho. 9.1 There is no significant difference in the listening accuracy scores of the normal group when listening to the descriptions of LD and normal speakers.

Ho. 9.2 There is no significant difference in the listening accuracy scores of the normal group when listening to descriptions of LLD and normal speakers.

Ho. 9.3 There is no significant differences in listening accuracy scores of the normal group when listening to descriptions of the LD and LLD speakers. All null hypotheses were tested at the .05 level of confidence.

Chapter 2

REVIEW OF RELATED LITERATURE

Pragmatics

Bryan, Donahue & Pearl (1981) defined pragmatics as the rules governing the use of language in a social context. This area of language requires the integration of linguistic, cognitive, and social abilities (Spekman, 1981). To communicate effectively, a child must master these rules and abilities.

Spekman and Roth (1984) have presented an organizational framework which divides pragmatics into three major areas: communicative intentions, presupposition, and organization of discourse. Communicative intentions are what the child hopes to convey (illocutionary act) and the effect these intentions have on the listener (perlocutionary act). These communicative intentions can be conveyed through body movement, intonation of speech, and the choice of words and sentences. To illustrate, they cited the example, "May I have some salt?". This question may be used to ask permission or it may be used to direct the behavior of another. For the above question to be communicatively effective, both the speaker and listener must understand

its intention, whether permission or request. Pragmatic presupposition is the ability of the speaker to take the perspective of the listener. Spekman and Roth (1984) compared this to role-taking skills which are inferred from the linguistic modification a child makes when communicating to different partners for different situations. For example, the child may shorten sentences when speaking to a younger child. Social organization of discourse is the ability to function in and contribute to an ongoing stream of conversation. Spekman (1981) defined this as appropriate turn-taking behaviors in both speaker and listener roles. Some of the necessary skills involved in turn-taking are initiating and maintaining a topic, and clarifying the topic.

Pragmatic Competence of LD Children

LD children appear to have deficits in pragmatics in various social situations. Bryan, Wheeler, Felcan and Henck (1976) compared the conversations of LD children and their normal classmates. They found that the LD children used more competitive utterances and less friendly utterances. A partial replication of Shatz and Gelman's (1973) study showed that even four year olds used shorter and less complex utterances when speaking to a younger listener. Bryan and Pflaum (1978) observed that 4th and 5th grade LD children were unable to simplify their utterances in accordance with their listener's ability. In

a study assessing LD children's understanding of nonverbal communication (Bryan, 1977), it was found that the LD subjects had difficulty interpreting and responding to both visual and aural cues, such as tone of voice and body posture.

Bryan, Donahue, and Pearl (1981) examined LD children's understanding of conversational rules for repairing a communicative breakdown during a referential communication task. After hearing informative clues, they were unable to select the correct referent, but they were also less likely to request additional information when a message was unclear. In other words, the LD children failed to fulfill conversational obligations that were necessary for effective communication. Another study showed that LD children were less likely to initiate and maintain conversation when engaged in a "TV Talk Show" format (Bryan, Donahue, Pearl, & Strum, 1981). They asked fewer questions when serving as the "host", and the questions they did ask were generally constraining, rather than open-ended and facilitating.

When teaching a game of checkers to a listener, Knight-Arest (1984) noted that LD boys used short, but grammatical sentences, however, their utterances relayed less information than those of normal boys. The LD boys appeared more comfortable teaching the listener through

nonverbal means, and often seemed to lose sight of the presence of someone else in the room.

Spekman (1981) stated that LD boys had greater difficulty in dyadic verbal communication tasks than normal boys. This study involved a dyad (two boys), with one serving as the speaker and the other as the listener. Divided by a barrier, the speaker instructed the listener to arrange a set of geometric shaped blocks in a certain design. As speakers, the LD boys gave more nonproductive messages causing little information to be exchanged. As listeners, they asked fewer questions to gain new, task relevant information. In a similar study, Noel (1980) compared LD boys' referential skills, or describing ability, to that of normal boys. In Noel's study, the subjects acted as either speakers or listeners. Each speaker's descriptions of a series of six black and white line drawings were recorded on audio tape which was played later for the listeners. Analysis of the descriptive skills of the speakers showed that the LD boys tended to refer to the shape of the object rather than providing a concise idea of what it might be. For example, "It looks like a tree" is more descriptive than "It's pointed". In general, the normal subjects gave more concise descriptions which allowed for more correct identifications. There was no significant difference in accuracy between the LD and normal listeners. Testing prior to the study revealed that

none of the LD subjects were deficient in receptive language, but performance in the study indicated that they had expressive language difficulty. The major difference in expressive language between the LD and normal groups was that the LD subjects did not label or attach names to the drawings. These results showed difficulty in referential communication, a small, but important component of pragmatics. Noel (1980) concluded that any significant deficit in pragmatics could affect academic or social adjustment.

Social Behavior

LD childrens' behavior has been the concern of several studies. Kirk and Gallagher (1983) stated that the behavioral characteristics associated with LD are hyperactivity, distractibility, short attention span, and perceptual handicap. In a study comparing classroom behaviors of LD children to their classmates, Bryan (1974) concluded that they spent less time attending to subjects and often had somewhat difficult interactions with teachers and peers. For example, Bryan also noted that since LD children attended less to class instruction, they tended to ask the teacher what to do and then were ignored. Poor social skills, such as impoliteness, sometimes caused them to be ignored by peers, as well. When asked about their perceptions of the behaviors of LD students and students suspected of having learning disabilities, teachers

generally named aggressiveness, disruptive behaviors, and hyperactivity (Keogh, Tchir, & Windeguth-Behn, 1974).

LD children often have difficulty in their interpersonal relationships. In an extensive sociometric study of LD children in third through fifth grade, it was determined that they received significantly more votes on a social rejection scale and fewer votes on a scale of social attraction than normal children (Bryan, 1974). In a replication of this study, Bryan (1976) found that friendship and affection patterns were the same. Similarly, other studies have noted that LD children ranked lower in peer status than normal children; however, they perceived themselves as higher in peer status than the actual status awarded them by children of the same sex (Bruininks, 1978; Siperstien, Bopp, & Bak, 1978).

Scranton and Ryckman (1979) noted LD girls to be ranked lower than LD boys and normal children in a sociometric status survey. They suggested that this may be caused by differential sex expectations; that is, girls generally achieved faster than boys and when a girl was not achieving at grade level and was more active than others, she might be rejected for deviating from expectation. In a study involving group discussions, LD children were less persuasive than normal children and were less likely to disagree (Bryan, Donahue, & Pearl, 1981). An analysis of this discourse showed that the LD children tended to agree

with others to avoid a confrontation. It was suggested that this reticence was indicative of how unsure they were of their linguistic and communicative abilities.

Social behavior problems are often associated with LD children. They have difficulty gaining acceptance with peers and often are rejected. Some studies suggested that they compensated by aggressive behavior (Keogh, Tchir, & Windeguth-Behn, 1974) or withdrawal from discourse (Bryan, Donahue, & Pearl, 1981).

Expressive Language Deficits in LD Children

Children with learning disabilities have been said to have expressive language difficulty. A study examining the linguistic abilities of dyslexic children showed more difficulty with all aspects of expressive language (Levi, Musatti, Piredda, & Sechi, 1984). Similarly, Hessler and Kitchen (1980) administered the Test of Language Development (Newcomer & Hammill, 1977) to 25 elementary LD children. The results indicated that 28 percent had total language quotients within normal limits. Twenty-five percent scored below normal on both receptive and expressive subtests. The remaining 47 percent scored within normal limits on the subtests measuring receptive language, but tested poorly on the expressive language subtests. This indicates that expressive language difficulty predominates in this sample. It was interesting to note that those who were not within normal limits on

receptive subtests, also failed the expressive subtests; however, the reverse was not true.

Summary

In summary, many LD children exhibit expressive language difficulty, including pragmatic problems, whereas other LD children do not. This may affect social relationships, school performance, and communication in general. This raises the question, do all LD children have pragmatic difficulty, or is it specific to those with expressive language deficiencies (LLD)?

Chapter 3

METHODS

Subjects

The subjects consisted of 30 male students enrolled in the Caldwell County School System who were divided in three groups: 10 LD, 10 LLD, and 10 normally achieving.

The subjects' ages ranged from 8 years 6 months to 11 years 5 months, with a mean of 10 years 6 months. Prior to subject selection, letters were sent to parents requesting permission to include their children for participation in the study (Appendix A). The subjects were selected from those with parental permission by the resource teachers, who reported that all were from "middle class" homes.

Learning disabled group(LD)

The LD subjects were selected from those receiving resource room services in eight elementary schools in Caldwell County. Each had been identified as having learning disabilities by a school based committee and was functioning at least two years below grade level in reading as measured by the Wide Range Achievement Test (Jastak, Jastak, & Bijou, 1976) or the Peabody Individual Achievement Test (Dunn & Markwardt, 1970). In addition, the subjects had a full scale IQ above 85, with a mean of

94.7, as reported in Table 1. None of the subjects had visual, auditory, or emotional handicaps; as determined by the school based committee. Each LD subject was given the Test of Language Development-Intermediate (Hammill & Newcomer, 1982) and received a Spoken Language Quotient of at least 81 which is considered to be within normal limits by the experimenter. Subject characteristics are shown in Table 1.

Learning and language disabled group(LLD)

The LLD subjects were also selected by the resource teachers. Each had been previously identified as having learning disabilities by a school based committee. All had at least a Full Scale IQ Score of 85 as determined by the Wechsler Intelligence Scale for Children-Revised (Wechsler, 1974) or the Stanford-Binet (Terman & Merrill, 1973). As reported in Table 2, the mean Full Scale Score for this group was 88.4. In addition, their confidential school files revealed that each was functioning at least two years below grade level as measured by the Peabody Individual Achievement Test (Dunn & Markwardt, 1970) or the Wide Range Achievement Test (Jastak, Jastak, & Bijou, 1976). The subjects in this group had a Spoken Language Quotient lower than 81 on the Test of Language Development-Intermediate (Hammill & Newcomer, 1982).

Table 1

Characteristics of Learning Disabled Subjects

I.D. #	Age	WISC-R Full Scale IQ	Reading Discrepancy (in years)	TOLD-I SLQ
1	11.0	87	-3	95
2	11.1	100	-3	105
3	11.2	102	-2	83
4	11.5	108	-2	92
5	9.8	98	-2	86
6	10.3	96	-2	98
7	11.3	87	-2	84
8	9.1	86	-2	81
9	10.3	86	-2	83
10	11.4	97	-2	82
Range	9.1-11.5	86-108	2-3	81-105
Mean	10.7	94.7	2.2	88.9

Table 2

Characteristics of Learning and
Language Disabled Subjects

I.D. #	Age	WISC-R Full Scale IQ	Reading Discrepancy (in years)	TOLD-I SLQ
11	10.4	87	-2	58
12	10.4	90	-2	58
13	10.4	92	-2	67
14	8.6	88	-2	55
15	9.1	85	-2	64
16	11.0	85	-2	55
17	8.6	96	-2	70
18	10.1	85	-2	56
19	8.8	85	-2	55
20	8.6	91	-2	55
Range	8.6-11	85-96	-2	55-67
Mean	9.6	88.4	-2	59.3

Normal group

The 10 subjects were selected by their classroom teachers. The average IQ score for this group was 111, as determined by the block design of the Wechsler Intelligence Scale for Children-Revised (Wechsler, 1974). The block design subtest has a substantial correlation ($r = .60$ to $.80$) (Best, 1981) with the Full Scale and Performance Scales on the WISC-R (Appendix B). Also, the normal subjects scored at or above the 45th percentile for their grade level on all subtests of the California Achievement Test (Clark & Tiegs, 1970) as reported by their teachers. Pertinent subject characteristics of the normal children are reported in Table 3.

Materials

Two series of five black and white line drawings of novel and ambiguous figures were used as the testing materials (Longhurst, 1974) and are shown in Figure 1. Practice cards were used consisting of line drawings of common objects, such as farm animals or vegetables. A portable cassette tape recorder (Toshiba KT-P22) was used to record all test responses. In the listening phase, each subject was given a numbered answer sheet on which to record his responses.

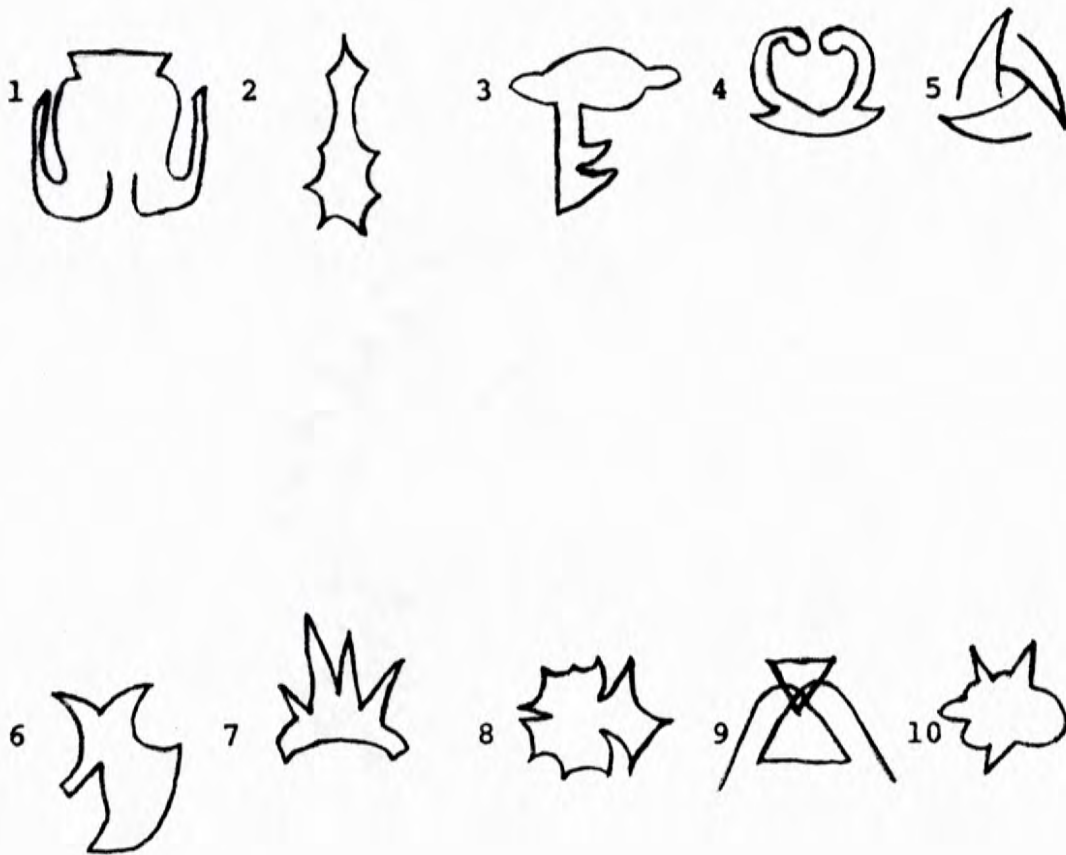
Table 3

Characteristics of Normal Subjects

ID #	Age	WISC-R
21	9.5	11
22	9.0	10
23	9.1	11
24	10.3	11
25	9.11	10
26	11.3	12
27	9.1	11
28	11.4	12
29	8.8	11
30	8.6	12
Range	8.6-11.4	10-12
Mean	9.6	11.1

Figure 1

Ambiguous Test Pictures



Procedures:

All subjects participated in the two phases of this study. Phase One was the speaking phase and Phase Two, the listening phase.

Phase One

To control for familiarity of the stimulus materials, each of the groups was divided in half. One half described the series of drawings, numbered one through five, and the other half described drawings six through ten. Subjects were seen individually. Each boy was seated before a stack of drawings on cards which was faced down. Prior to the presentation of these cards, the following instructions were given.

You will be shown some cards with pictures on them. You will be shown only one card at a time. When you are shown a card, I want you to describe it to me. Make sure that it is a good description.

Because your descriptions are being taped, it is very important that you do not ask any questions or talk about anything but the pictures while the recorder is on. If you have a question, raise your hand so I can turn off the recorder. We will do some practice pictures first.

Following the practice sessions, the cards were presented one at a time with a maximum amount of time of 90 seconds allowed for each card when the recorder was on. When a speaker was hesitant, the recorder was turned off and the examiner prompted him by saying, "tell anything about the picture." This was necessary with two subjects.

A broad transcription of the descriptions was made from the tape for each subject's descriptions. The subjects yielded a total of 150 descriptions. From these, three descriptions for each picture from each of the three groups were randomly selected to be used for testing listening accuracy, as seen in Appendix C and D. This selection contained 45 descriptions (nine for each of the five pictures). In addition, three practice descriptions were selected from the tape to present before the testing began.

Phase Two

This phase was conducted by grouping four to five subjects in a quiet room at their schools. The stimulus pictures were mounted before them on the blackboard and numbered. The subjects which described pictures one through five were shown pictures and listened to live voice recorded descriptions of pictures six through ten. Those who described six through ten were shown pictures one through five. This was to control for familiarity of the test items. The subjects were told that they were going to participate in a study and were given the following instructions:

In front of you, there are five funny drawings. Each one has a number under it. I'm going to read the descriptions that other children made of these drawings. I want you to listen carefully and then write down, on your answer sheet, the number of the picture that you think is being described. Some of the descriptions may not tell you enough about the pictures to let you know exactly which is being described. If that happens, I want you

to make your best guess. Remember not to leave any spaces blank. Let's listen to three samples and then I will tell you when to begin.

The subjects listened to 45 descriptions which were read by the examiner. They recorded their answers on the numbered answer sheets given to them prior to the instructions.

Measurement

The broad transcriptions of all descriptions were evaluated and analyzed to determine the number of categories used according to standards developed by Noel (1980). These categories of specific attributes included in the descriptions were recorded. Each category was recorded only once regardless of the number of instances which may have appeared in a description. The five categories are:

- | | | |
|----|-------------|---|
| 1. | Label | Names the object. "It's a hat", or uses a label or name to compare or describe, "It looks like a tree." |
| 2. | Shape | Refers to an object directly by shape, "It's pointed". This did not refer to use of shape as a nominal adjective. |
| 3. | Size | Fat, small, tall, big |
| 4. | Function | Describes the object in terms of what it could do or what one could do with it, "It looks like it could hurt". |
| 5. | Major Parts | Delineates the parts of the object, "It has points sticking up from it." |

McCarthy (Johnson, Darley, Spriesterbach, 1963) explains that an utterance that is not grammatically correct may still be considered to be functionally

complete. Adult conversation is often composed of phrases and other groups of words that are not strictly sentences, but the message they carry is understood. Descriptions containing names (labels) are more easily understood, and to McCarthy, a more functionally complete message.

Chapter 4

RESULTS AND ANALYSIS

Results

Description

The three groups yielded 50 descriptions each. The number of labels, non-labels, and the mean length of utterance for the three groups are reported in Tables 4, 5, and 6.

The use of labels by the LD group ranged from 0 to 5, (mean = 2.8) and a standard deviation of 1.93. For the LLD group, use of labels ranged from 0 to 5, (mean = 3.2), and a standard deviation of 1.87. Finally, the range for the normal group was 0 to 5, (mean = 3.9), and a standard deviation of 1.85.

The use of non-labels by the LD group ranged from 0 to 5, (mean = 2.2), and a standard deviation of 1.93. The range of non-labels used by the LLD group was from 0 to 5, (mean = 1.8), and a standard deviation of 1.87. The normal group used non-labels with a range from 0 to 5, (mean = 1.1), and a standard deviation of 1.85.

The mean length of utterance of the LD group ranged from 1.0 to 9.8, (mean = 7.39), and a standard deviation of 3. The mean length of utterance for the LLD group ranged

Table 4

Descriptions of LD Subjects

I.D. #	MLU	Labels	Non-labels
1	9.8	4	1
2	1.0	4	1
3	9.1	1	4
4	11.0	0	5
5	6.0	0	5
6	4.4	4	1
7	8.6	5	0
8	6.2	3	2
9	9.0	5	0
10	8.8	2	3
Range	6.0-9.8	0-5	0-5
Mean	7.39	2.8	2.2
<u>SD</u>	3	1.93	1.93

Table 5

Descriptions of LLD Subjects

I.D. #	MLU	Labels	Non-labels
11	4.2	4	1
12	6.2	4	1
13	5.6	5	0
14	6.0	3	2
15	4.8	3	2
16	6.1	0	5
17	6.0	3	2
18	2.0	5	0
19	4.5	5	0
20	6.2	0	5
Range	2.0-6.2	0-5	0-5
Mean	5.16	3.2	1.8
<u>SD</u>	1.34	1.87	1.87

Table 6

Descriptions of Normal Subjects

I.D. #	MLU	Labels	Non-labels
21	6.2	4	1
22	5.0	1	4
23	6.1	5	0
24	5.2	5	0
25	3.4	0	5
26	6.4	5	0
27	6.5	5	0
28	6.1	5	0
29	5.2	5	0
30	5.1	4	1
Range	3.4-6.5	0-5	0-5
Mean	5.3	3.9	1.1
<u>SD</u>	1.02	1.85	1.85

from 2.0 to 6.2, (mean = 5.16), and a standard deviation of 1.34. The normal group had a mean length of utterance ranging from 3.4 to 6.5, (mean = 5.3), and a standard deviation of 1.02.

Listening

The listening accuracy scores for the three groups are presented in Tables 7, 8, and 9. There was a possible high score of 15 for each subject when listening to the descriptions of a particular group. When listening to descriptions by the LD group, the listening accuracy score for LD listeners ranged from 4 to 11 (mean = 6.8). The range of listening accuracy for the LLD group was from 1 to 10 (mean = 9.1) and from 4 to 9 (mean = 12.5) for the normal group. When listening to the descriptions of the LLD group, the LD group's scores ranged from 3 to 13 (mean = 6.8), the LLD listener's scores ranged from 4 to 14 (mean = 7.0), and from 4 to 13 (mean = 7.8) for the normal group.

Restatement of the Hypotheses

To facilitate the analysis of the data, the hypotheses were stated in the null form and tested at the .05 level of confidence.

1. There is no significant difference in the descriptions using labels among LD, LLD, and normal groups of boys.

Table 7

LD Subjects' Listening Accuracy Scores

LD LISTENERS	SPEAKERS		
	I.D. #	LD	LLD
1	9	9	14
2	9	8	15
3	8	9	14
4	4	8	14
5	4	10	11
6	11	10	9
7	9	3	10
8	5	9	13
9	4	13	9
10	5	12	14
Range	4-11	3-13	9-15
Mean	6.8	9.1	12.3

Table 8

LLD Subjects' Listening Accuracy Scores

LLD LISTENERS		SPEAKERS		
I.D. #	LD	LLD	Normal	
11	4	6	8	
12	1	7	6	
13	3	5	8	
14	2	5	9	
15	4	10	11	
16	8	6	8	
17	1	4	6	
18	1	4	6	
19	10	9	13	
20	8	14	13	
Range	1-10	5-10	6-13	
Mean	4.2	7.0	7.8	

Table 9

Normal Subjects' Listening Accuracy Score

NORMAL LISTENERS		SPEAKERS		
I.D. #	LD	LLD	Normal	
21	7	11	14	
22	6	10	12	
23	6	9	13	
24	4	13	14	
25	7	4	11	
26	9	4	13	
27	6	7	12	
28	9	7	12	
29	9	6	11	
30	7	5	13	
Range	4-9	5-13	11-14	
Mean	7.0	7.6	12.5	

2. There is no significant difference in the descriptions using non-labels among LD, LLD, and normal groups of boys.

3. There is no significant difference in the mean length of utterance of descriptions among LD, LLD, and normal groups of boys.

4. There is no significant difference in the listening accuracy score among LD, LLD, and normal groups when listening to descriptions of LD speakers.

5. There is no significant difference in the listening accuracy score among LD, LLD, and normal groups when listening to descriptions of LLD speakers.

6. There is no significant difference in the listening accuracy score among LD, LLD, and normal groups when listening to descriptions of normal speakers.

7. There is no significant difference in the listening accuracy scores of the LD group when listening to descriptions of LD, LLD, and normal speakers.

8. There is no significant difference in the listening accuracy scores of the LLD group when listening to descriptions of LD, LLD, and normal speakers.

9. There is no significant difference in the listening accuracy scores of the normal group when listening to descriptions of LD, LLD, and normal speakers.

ANALYSIS

Description

To test subhypotheses 1.1 through 1.3, a one way analysis of variance was employed. As indicated in Table 10, there was no significant difference ($F = .87$, $df = 27$, $p > .05$) in the use of labels between the three groups.

A one way analysis of variance was also used to test subhypotheses 2.1 through 2.3. These results, as shown in Table 11, reveal no significant difference ($F = .87$, $df = 27$, $p > .05$), indicating there is little difference in the use of non-labels between the three groups.

Finally, a one way analysis of variance was used to determine if there was a significant difference in the mean length of utterance between the LD, LLD and normal groups (subhypotheses 3.1 through 3.3). As reported in Table 12, there was no significant difference ($F = 3.96$, $df = 27$, $p > .05$), suggesting that the three groups gave descriptions of similar length.

Listening

An a priori comparison was made on the raw data to test subhypotheses 4.1 through 9.3. The results of these tests are reported in Table 13. As is shown, there was a significant difference when testing subhypotheses 4.1 ($t = 3.70$, $p < .05$) and 4.3 ($t = 3.8$, $p < .05$), but not for subhypotheses 4.2 ($t = .164$, $p > .05$). These results indicate that when listening to normal speakers, LLD

Table 10

One-Way ANOVA For the Use of Labeling Between the Three Groups

Source	<u>Sum SQS</u>	<u>DF</u>	<u>Est. Var.</u>
Among	6.2	2	3.1
Within	96.1	27	3.56
Total	102.3		

$$F = .87$$

$$p > .05 = 5.49$$

Table 11

One-Way ANOVA For the Use of Non-Labels Between the Three Groups

Source	Sum SQS	DF	Est. Var.
Among	6.2	2	3.1
Within	96.2	27	3.56
Total	102.4		

F = .87

P >.05 = 5.49

Table 12

One-Way ANOVA for the Mean Length of Utterance Between the Three Groups

Source	<u>Sum SQS</u>	<u>DF</u>	<u>Est. Var.</u>
Among	31.2	2	15.6
Within	106.43	27	3.94
Total	137.64		

$$F = 3.96$$

$$P > .05 = 5.49$$

Table 13

A Priori Comparison Between Two Groups of Listeners
Responding to a Single Group of Speakers

<u>Speaker</u>	<u>Listeners</u>	<u>X</u>	<u>t</u>	<u>Ho.</u>
N	LD	12.3	3.70*	4.1
	LLD	7.8		
N	LD	12.3	.164	4.2
	N	12.5		
N	LLD	7.8	3.87*	4.3
	N	12.5		
LD	LD	6.8	2.14*	5.1
	LLD	4.2		
LD	LLD	6.8	.164	5.2
	N	7.0		
LD	LD	4.2	2.98*	5.3
	N	7.0		
LLD	LD	9.1	1.72	6.1
	LLD	7.0		
LLD	LD	9.1	1.23	6.2
	N	7.6		
LLD	LLD	7.0	.494	6.3
	N	7.6		

* p .05 = 2.02

DF = 54

listeners differed from LD and normal listeners. As reported in Table 14, LLD scores were poorer than the other groups' scores. With a total possible score of 15, the LLD group had a mean accuracy score of 7.8, compared to 12.3 for the LD and 12.5 for normal listeners. On the basis of these results, subhypotheses 4.1 and 4.3 were rejected, but 4.2 was not.

When comparing the listening accuracy scores of the three groups when listening to the descriptions of LD speakers, there was a significant difference ($t = 2.14, p < .05$) between the LD and LLD listeners (subhypothesis 5.1). Also, there was a significant difference in subhypothesis 5.3 between the LLD and normal listeners ($t = 2.98, p < .05$). However, there was no significant difference between the LD and normal groups (subhypothesis 5.2) ($t = .164, p > .05$). With a mean score of 4.2, the LLD group exhibited poorer listening skills than the LD (mean = 6.8) and the normal (mean = 7.0). On the basis of these results, subhypotheses 5.1 and 5.3 were rejected but 5.2 was not.

An a priori comparison revealed that there was no significant difference among the three listening groups when listening to LLD speakers. There was no significant difference ($t = 1.72, p > .05$) between the accuracy scores of LD and LLD listeners, between LD and normal listeners' scores ($t = 1.23, p > .05$), or between the scores of LLD and

Table 14

A Priori Comparison Between Two Groups of Speakers as
Judged by a Single Group of Listeners

Listeners	Speaker	x	t	Ho.
	LD	6.8		
LD	N	12.3	4.99*	7.1
	LLD	9.1		
LD	N	12.3	2.90*	7.2
	LD	9.1		
LD	LLD	6.8	2.08*	7.3
	LD	4.2		
LLD	N	7.8	3.26*	8.1
	LLD	7.0		
LLD	N	7.8	.726	8.2
	LD	4.2		
LLD	LLD	7.0	2.54*	8.3
	LD	7.0		
N	N	12.5	4.99*	9.1
	LLD	7.6		
N	N	12.5	4.44*	9.2
	LD	7.0		
N	LLD	7.6	.544	9.3

* Significant difference

p .05 = 2.02

DF = 54

normal listeners ($t = .494, p > .05$). Therefore, subhypothesis 6.1 through 6.3 were not rejected.

To determine if there was a significant difference in the listening accuracy scores of the LD group when listening to the descriptions of LD, LLD, and normal groups, another a priori comparison was made. There was a significant difference ($t = 4.99, p < .05$) when listening to the descriptions of the LD and normal speakers, as well as when the LLD and normal ($t = 2.90, p < .05$), and LD and LLD ($t = 2.08, p < .05$) were speaking. These results indicate there was a significant difference in the LD listening scores depending on which group was speaking. For example, when listening to the descriptions of normal speakers, the LD listeners had a listening accuracy score of 12.3 which is significantly better than they had listening to the descriptions of LLD speakers (mean = 9.1). Listening accuracy scores were the lowest (mean = 6.8) when the LD group was speaking. On the basis of these results, subhypotheses 7.1 through 7.3 were rejected, as is reported in Table 14.

An a priori comparison was used to determine if there was a significant difference between the listening accuracy scores of the LLD group when listening to the descriptions of the other three groups. There was a significant difference (subhypothesis 8.1) when they were listening to the LD and normal speakers, ($t = 3.267, p < .05$), and LD and

LLD speakers (subhypothesis 8.3) ($t = 2.54, p < .05$).

However, there was no significant difference ($t = .726, p > .05$) (subhypothesis 8.2) when the LLD and normal groups were speaking. These results indicate that the LLD group's descriptions were not understood as well as the others by the LLD listeners. The LLD listener's accuracy scores when listening to the descriptions of the normal group were 7.8, when listening to the LLD speakers, 7.0, and when listening to the LD speakers, 4.2. Finally, the a priori comparison revealed that when the normal group was listening to the descriptions of the normal and LD groups, there was a significant difference in their listening accuracy scores ($t = 4.99, p < .05$) (subhypothesis 9.1). There was also a significant difference when listening to the descriptions of the normal and LLD groups ($t = 4.44, p < .05$) (subhypothesis 9.2). However, there was no significant difference in the scores when they were listening to the descriptions of the LD and LLD groups ($t = .544, p > .05$) (subhypothesis 9.3). These results indicate that the normal listeners understood the descriptions of the normal group best, with a mean scores of 12.5. Their mean score when listening to descriptions of the LLD speakers was 7.6 and 7.0 for the LD.

In summary, subhypotheses 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 3.1, 3.2, and 3.3 were not rejected, as there were no significant differences found in the use of labels,

non-labels, and mean length of utterance in the descriptions between the three groups. In addition, subhypotheses 4.2, 5.2, 6.1, 6.2, 6.3, 8.2 and 9.3 were not rejected as there was no significant difference found in the listening accuracy scores. However, subhypotheses 4.1, 4.3, 5.1, 5.3, 7.1, 7.2, 7.3, 8.1, 8.3, 9.1, and 9.2 were rejected as there was a significant difference found in the listening accuracy scores.

Chapter 5

SUMMARY, DISCUSSION AND RECOMMENDATIONS

Summary

The purpose of this study was to determine if pragmatic deficits, specifically referential deficits, are found in LD boys, or if they are specific to LLD boys. Subjects ranged in age from 8 years 6 months to 11 years 5 months. The referential skills of these subjects were assessed in two phases. First, the subjects' descriptions of ambiguous pictures were transcribed word for word, and these transcribed descriptions were then analyzed by determining the number of words in each utterance and the number and type of categories of specific attributes they contained (Noel, 1980). A category was recorded once for each description. Then the use of labeling, which provides the most meaning (Johnson, Darley, & Spriestersbach, 1963) was compared to the other non-labeling categories, which carry less information.

In the second phase, subjects listened to descriptions of other subjects and selected which pictures were being described. This phase was designed to measure the accuracy of the descriptions, or how well they were understood by others. The listening accuracy scores were analyzed across and within the three listener groups to determine which

group generated descriptions that were best understood and to verify which group had better listening skills.

The results of the description analysis indicated that the LD, LLD, and normal groups gave descriptions that were not significantly different.

The results of the analysis of the listening accuracy scores indicated there were significant differences in the performances of the groups. There were no significant differences between listener groups when listening to the descriptions of LLD speakers. There were, however, significant differences between the LLD and normal and LLD and LD groups when listening to LD and normal speakers. Further, there were no significant differences between LD and normal listeners, no matter which group was speaking.

Testing results indicated there was also a significant difference in the listening accuracy scores of the normal group when listening to the descriptions of LD, LLD and normal groups. However, there was no significant difference when the LD group listened to the LLD and normal speakers, or when the LLD listened to LD and LLD speakers.

Raw scores indicated that listeners received lower accuracy scores when listening to the descriptions of LD speakers, as reported in Tables 6 through 9. However, as listeners, the LLD group received the lowest accuracy scores, suggesting they may have poor listening skills, rather than referential deficits.

Discussion

The results of this study did not indicate that the LLD group had poorer referential skills, as measured by the use of labels and non-labels in descriptions, but showed that the LD group's descriptions were understood less often than the other groups. In addition, results indicated that the listening accuracy scores of the LLD group were significantly poorer than the LD and normal groups.

Hessler and Kitchen (1980) concluded that expressive language deficits were more common in LD children than not. When the Test of Language Development (Newcomer & Hammill, 1977) was administered to a group of LD children, it was found that those with language quotients below normal typically had expressive language deficits rather than receptive problems. The results of this study do not support these conclusions. Prior to participation in this study, the Test of Language Development - Intermediate (Newcomer & Hammill, 1982) was administered to the LD and LLD groups. This test indicated that the LD group had no expressive language deficit, but the LLD group did. However, the results of this study indicated that the LD group gave descriptions that were more difficult for the other groups to understand than the LLD group.

Noel (1980) also reached different conclusions than those of this study. She found that the LD boys had poorer referential skills than normal peers, as measured by their

use of labels and non-labels in their descriptions. However, she found no significant difference in the listening scores between the LD and normal group. In contrast, this study found no significant difference between the three groups' descriptions in mean length of utterance, and the use of labels and non-labels. However, the LD group's descriptions were the most difficult to understand of the three groups. Further, Noel found that the LD subjects gave descriptions that were longer than the normal groups, even though they were less concise. Again, the results of this study did not support those findings, as there was no significant difference in the mean length of utterance between the three groups but there was a difference in how well they were understood by others. A possible reason for the discrepancy between the two studies may be that this study was not an absolute replication of Noel's study. First, Noel used the boys' live audio tape recorded descriptions for phase two; however, in this study, the descriptions were read to the listeners by the examiner. Perhaps the examiner used speech patterns, such as intonation and pauses that were different from the original speaker, thus changing the way the listeners perceived the descriptions. There was also a difference in the size of the groups. Noel's groups consisted of 80 subjects each, however, this study's groups had 10 each.

The results of this study did not confirm that referential skills were specific to LLD boys, rather than LD boys with no other expressive problems. The results showed that LLD boys had poorer listening skills than LD and normal boys and that LD boys exhibited referential difficulty. Finally, these results indicated that LD and LLD boys have pragmatic difficulty and that further studies are needed to differentiate between these two groups. Determining what pragmatic deficits these children might have would benefit speech and language pathologists in employing therapy strategies that would help them to grow both academically and socially.

Recommendations

To gain a better understanding of the differences between LD and LLD boy's pragmatic competence, the following studies are recommended:

1. That Noel's study (1980) be replicated in full, but using LD, LLD, and normal groups. Also, using live recordings of the descriptions for one set of subjects and another set listen to descriptions read by the examiner. Then, a comparison of the results be made to determine if different modes of presentation make a difference in the results.
2. That a study be made comparing the listening skills of LD and LLD boys.

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APPENDIX B

WICS-R

Correlation of Block Design
with Verbal, Performance
and Full Scale Score
By Age Group

Test	Chronological Age			
	8-6	9-6	10-6	11-6
Verbal Score	.50	.65	.55	.61
Performance Score	.62	.66	.64	.68
Full Scale Score	.61	.71	.65	.69

The coefficients were computed from scaled scores. All have a positive correlation which is significantly different from zero.

Best (1981)

APPENDIX A

Appalachian State University
Speech Pathology Department
Boone, North Carolina

Dear Parents:

We are involved in a study comparing learning disabled children to their academically achieving peers in a communication ability task. This is an activity that will require each child to describe several objects and to take a brief language test. With your permission, we would like for your child to participate in this study. Please indicate your willingness for your child to participate in the study by completing the form below and returning it to _____ at _____. All information secured will be kept confidential.

Sincerely,

I give my permission for my child, _____, to participate in this study.

Parent or Guardian

Date

APPENDIX C

Descriptions for Pictures 1-5

PRACTICE STIMULI

- a. goes moo
- b. something you eat
- c. has wheels

TEST STIMULI

1. looks like a flower pot (N)
2. looks like a holly leaf (N)
3. looks like the end of a key (N)
4. looks like a clamp (N)
5. shark fins (N)
6. squares (LLD)
7. a hook (LLD)
8. a vase (LLD)
9. a leaf or stick (LLD)
10. a saw (LLD)
11. points on each side of it (LLD)
12. round at the top (LLD)
13. it is round at the top (LLD)
14. shaped like an arrow in the middle (LLD)
15. sharp points on each side (LLD)
16. shape of a U (N)
17. looks like a leaf (N)
18. looks like teeth (N)
19. heart shape (N)
20. four or five triangles (N)
21. an elf's pajamas (LD)
22. a flying saucer (LD)
23. looks like sharks' teeth (LD)
24. a holly leaf (LD)
25. looks like a crown (LD)
26. looks like little marks (LLD)
27. something sharp (LLD)
28. looks like a little curvy road (LLD)
29. something you wear (LLD)
30. like a lip (LLD)
31. a bowl
32. a thorn (N)
33. knife or a blade (N)
34. looks like a round bottom with two sharp points at the top (N)
35. sharp points (N)
36. a key in a door (LLD)

APPENDIX C (Continued)

37. a door knocker (LLD)
38. a pot with two straight lines in the middle (LLD)
39. a leaf without a stem (LLD)
40. sharp leaves piled together (LLD)
41. looks like a jar with two handles (LD)
42. a diabetic necklace (LD)
43. looks like a music note (LD)
44. V's turned everyway (LD)
45. looks like leaves

APPENDIX D

Descriptions for
Pictures 6-10

PRACTICE STIMULI

- a. has a tree and a fence
- b. goes up in the sky
- c. trees

TEST STIMULI

1. round and round at the top (LD)
2. round and round and up and up (LD)
3. starts out with a stick and the bottom has two little ears (LD)
4. starts up and goes around into a tie, and makes a loop (LD)
5. a round circle (LD)
6. a shirt (LLD)
7. points up and around like that (LLD)
8. a hat (LLD)
9. a straight line (LLD)
10. that tree (LLD)
11. looks like sky (N)
12. looks like a crown (N)
13. looks like a leaf (N)
14. looks like an ax (N)
15. looks like a diamond (N)
16. looks like an x (LD)
17. one of those things that count the seconds (LD)
18. looks like the thing on top of the Statue of Liberty's head (LD)
19. a fish (LD)
20. a sunset (N)
21. an elephant (N)
22. a glass (N)
23. a face (N)
24. a leaf, like in the fall (N)
25. a crown (LD)
26. looks like a witch and a chicken (LD)
27. a pig and a shark (LD)
28. looks like shapes (LD)
29. points on it (LLD)
30. points up (LLD)
31. round and curves (LLD)
32. curves on it (LLD)
33. lines (LLD)
34. looks like a holly leaf (N)
35. looks like a crown (N)
36. looks like a banana peel (N)

APPENDIX D (Continued)

37. two rabbits put together (N)
38. looks like a door with a sign (N)
39. looks like half an orange (LLD)
40. looks like part of a sun (LLD)
41. looks like a leaf (LLD)
42. looks like a triangle (LLD)
43. looks like a cat and a chicken's beak (LLD)
44. a leaf (LD)
45. looks like a torn up frisbee (LD)

VITA

Winn Warner Jones was born in Asheville, North Carolina on June 12, 1956. She graduated from the Newfound School in June 1974. In May, 1983 she received a Bachelor of Science degree in Speech Pathology from Appalachian State University. In the fall of 1983 she began study toward a Master of Arts degree at Appalachian State University. This degree was awarded in May, 1985.