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**ASSESSING THE PRAGMATIC SKILLS OF ADOLESCENTS  
WITH AND WITHOUT LEARNING DISABILITIES  
ON A DRAMATIZATION TASK**

by

**Amy L. Juergens**

**A Thesis  
Submitted to the  
Faculty of The Graduate College  
in partial fulfillment of the  
requirements for the  
Degree of Master of Arts  
Department of Speech Pathology and Audiology**

**Western Michigan University  
Kalamazoo, Michigan  
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1997

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Amy L. Juergens

# **ASSESSING THE PRAGMATIC SKILLS OF ADOLESCENTS WITH AND WITHOUT LEARNING DISABILITIES ON A DRAMATIZATION TASK**

**Amy L. Juergens, M.A.**

**Western Michigan University, 1997**

This study was designed to compare the pragmatic skills of adolescents with and without learning disabilities as measured by a dramatization task. Seventeen high school students with learning disabilities and 17 normal-achieving high school students participated in this study. Twenty scenes were presented verbally to the participants who were instructed to act out the part of a character in each scene, making up the dialogue to fit the scene. The responses were scored for their pragmatic appropriateness and linguistic quality. Task reliability and validity analyses indicated that the dramatization task was an effective measure of key aspects of pragmatic skills.

Students with learning disabilities scored significantly lower for each of three pragmatic scores (comprehension of the key concept, linguistic completeness, and paralinguistic and nonlinguistic appropriateness), while taking significantly longer to complete the task. With regard to linguistic quality, no significant differences were found between the two groups' for the three linguistic quality measures, mean length of utterance, number of different words, and total number of words.

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## CHAPTER I

### INTRODUCTION

Social skills deficits are lifelong, and they affect all aspects of the lives of the people who have them. Such deficits have often been linked with the presence of a language or learning disability, but agreement about a link is not universal. Bryan (1997) cited estimates of 34 percent to 59 percent (or 78,000 to 1,182,000) of students with learning disabilities as being at risk for social skills deficits. The aspect of language affected by social skills deficits is called "pragmatics."

Pragmatics is the ability to use language appropriately within a social context (Prutting, 1982; Lapadat, 1991; Bruckdorfer, 1995). A knowledge of pragmatics is evidenced by the ability to take the perspective of communicative partners, to interpret partners' informational needs, to impart information in a clear and meaningful manner, and to select appropriate linguistic forms to suit the situation, all while maintaining the rapid flow of normal conversation (Prutting, 1982; Spekman, 1984; Lapadat, 1991).

Nippold (1993) asserted, "Pragmatic competence, the ability to use language proficiently in social situations, greatly affects the self-esteem, pride, and happiness of adolescents" (p. 25). The interaction between self-esteem and pragmatic competence often results in social isolation for children and adolescents with pragmatic deficits. In addition, it has been asserted that the academic problems experienced by students with

learning disabilities are related to their pragmatic language abilities (Lapadat, 1991). These students may be less willing to participate in classroom discussion, have difficulty interacting with other students for group projects, and/or avoid requesting help from their teachers or peers when it is needed.

## Statement of the Problem

### Pragmatic Problems and Learning Disabilities

Studies conflict with regard to the pragmatic skills of adolescents with learning disabilities. Many studies have found social and pragmatic skill deficits related to the presence of a learning disability. Bryan and her colleagues have investigated the relationship between pragmatic abilities and social acceptance of students with learning disabilities extensively. Bryan and Bryan (1978) determined that learning disabled children expressed and received more rejecting statements than their peers. Bryan, Donahue, and Pearl (1981) found that learning disabled children were not as effective in persuading others as their peers. Donahue and Bryan (1983) found that the boys they studied who had learning disabilities had more difficulty in conversation. The broader conclusion is that youth with learning disabilities are consistently less adept in a variety of pragmatic skills than their normal-achieving peers.

Other investigators have found that adolescents with learning disabilities often hear the literal meaning of words being spoken to them, but are oblivious to paralinguistic cues that accompany the words, and therefore arrive at inaccurate interpretations of

messages being sent to them (Lapadat, 1991). In an investigation of this type of perceptual deficit, Wiig and Harris (1974) found 17 adolescents with learning disabilities to perform significantly poorer than their normal-achieving peers on a task that required them to interpret emotional displays. Deshler (1978) viewed the trouble with interpreting social situations as a secondary result of learning disabilities. It has not been proven, however, if social awareness deficits occur concomitantly with learning disabilities, are caused by learning disabilities, or are to be considered a subtype of learning disabilities (Gresham & Elliott, 1989).

Other investigators have disputed correlations between social/pragmatic deficits and learning disabilities. Dudley-Marling (1985) concluded that there was little evidence in the 19 studies he reviewed to support the idea that children with learning disabilities were more likely to have pragmatic deficits. Schumaker, Wildgen, & Sherman (1982) found more similarities than differences in the social abilities of junior high school students with learning disabilities and their peers.

Bryan (1997) agreed that not all students with learning disabilities encounter social difficulties. However, Bryan went on to state the following:

The number of students with learning disabilities at risk for problems, and the potential academic, vocational, and social consequences across the life span of such problems, justify an assessment of the personal and social status as part of an overall evaluation (p. 64).

### The Current Study

Some researchers have proposed that such conflicting reports are the result of a lack of psychometrically-sound, standardized instruments for measuring pragmatic skills (Schumaker & Hazel, 1984a; Gresham & Elliott, 1989). The current project was designed to test some aspects of the validity and reliability of an assessment tool intended for this purpose. The investigation was also designed to provide information about the pragmatic skills of adolescents with learning disabilities as measured by this task.

The assessment tool was a subtest of the research edition of a new instrument, currently titled the Test of Integrated Cognitive Linguistic Skills (TICLS) (Nelson, Helm-Estabrooks, & Hotz, 1996). The experimental task, which uses a "Writing a TV Show" format, places the students in the role of both writer and actor. The task commences with the presentation of a short scene. Communicative contexts are set up in scene with a description of a character and a situation that character is in. The participants are then asked what the character would say. The instructions given to each of the students emphasizes that how the character would say the line is just as important as what the character would say. Character identities are adjusted to reflect the sex of each subject (i.e., female participants are given all female characters to act out, male participants are given all male characters to act out). An example item is as follows: "Linda/Larry wants to convince her/his big brother to help her/him build a tree house. What do you think Linda/Larry would say?" The task required the participant to understand the situation and the vocabulary and syntax that describe it, to take the perspective of the character, and



to formulate responses using internalized knowledge of the language and paralinguistic cues necessary to depict adequately the traits and feelings of the character.

The responses were scored on a three-point rating scale for their pragmatic skill, and then transcribed and analyzed by the Systematic Analysis of Language Transcripts (SALT) (Miller & Chapman, 1993) software program. The responses were analyzed for Mean Length of Utterance (MLU), number of different words, maze words, and total words. It was hypothesized that adolescents with learning disabilities would exhibit pragmatic deficits compared with normal-learning peers as measured by this task and supported by the subsequent language analyses of their responses. The investigation was also intended to measure the validity and reliability of the assessment tool.

The Adolescent Language Screening Test (ALST) (Morgan & Guilford, 1984) was administered to all of the participants in order to screen for expressive and receptive language deficits, and to use as a reference test for assessing the validity of the experimental task. The ALST consists of seven subtests: (1) pragmatics, (2) receptive vocabulary, (3) concepts, (4) expressive vocabulary, (5) sentence formulation, (6) morphology, and (7) phonology. Administration of the language screening tool took less than 15 minutes for all seven subtests.

### Statement of Experimental Questions

This investigation was designed to answer questions about the validity and reliability of the "Writing a TV Show" subtest from the Test of Integrated Cognitive Linguistic Skills (TICLS) (Nelson, Helm-Estabrooks, & Hotz, 1996). Pending positive

findings, it was intended to address additional questions about the pragmatic skills of adolescents with learning disabilities.

Specifically, regarding reliability:

1. Can inter-rater reliability be shown for the proposed scoring system?
2. Does the task exhibit a high split-half reliability? That is, do individuals' scores for even items correlate highly with their scores for odd items?

Specifically, regarding validity:

1. Does the task exhibit characteristics of concurrent validity? In this case, concurrent validity means that individuals' scores on the task correlate significantly with their scores on the Pragmatic subtest of the ALST.

2. Does the task exhibit predictive validity? In this investigation predictive validity means that scores on the task discriminate adolescents with learning disabilities from the control group.

3. Does the test demonstrate construct validity by detecting pragmatic differences between the groups or more purely linguistic differences?

Although questions one and two had to be answered first, a third set of questions served as the primary focus of the research. That is:

1. Do adolescents with learning disabilities perform differently on this task from adolescents without learning disabilities, as measured by the pragmatic and linguistic (e.g., MLU, total words) aspects of the task?

2. Is there a pragmatic subgroup of learning disabilities? That is, do students with social skills goals on their IEPs score significantly lower on the experimental task than those with no such goals?

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Definition of Learning Disability

A question remains whether the pragmatic abilities of adolescents with learning disabilities are impaired as compared to the pragmatic abilities of their normal-achieving peers. Federal legislation, specifically P.L. 94-142, currently defines "specific learning disability" as:

A severe discrepancy between achievement and intellectual ability in one or more of the following areas: (1) oral expression; (2) listening comprehension; (3) written expression; (4) basic reading skill; (5) reading comprehension; (6) mathematics calculation; or (7) mathematic reasoning. The child may not be identified as having a specific learning disability if the discrepancy between ability and achievement is primarily the result of: (1) a visual, learning, or motor handicap; (2) mental retardation; (3) emotional disturbance; or (4) environment, cultural, or economic disadvantage (United States Office of Education (USOE), 1977, p. 1082).

The definition of the National Joint Committee on Learning Disabilities (NJCLD) corresponds closely to the federal definition, but it adds specific conceptual difficulties (i.e., difficulty in reasoning) to the list of academic and language problems (Doris, 1993).

The NJCLD definition is as follows:

Learning disabilities is a general term that refers to a heterogeneous group of disorders manifest by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous system dysfunction, and may occur across the life

span. Problems in self-regulatory behaviors, social perception, and social interaction may exist with learning disabilities but do not, by themselves, constitute a learning disability. Although learning disabilities may occur concomitantly with other disabilities (for example, sensory impairment, mental retardation, serious emotional disturbance), or with extrinsic influences (such as cultural differences, insufficient or inappropriate instruction), they are not the result of those conditions or influences (National Joint Committee on Learning Disabilities, 1996).

## Pertinent Research

### Positive Correlation Studies

As noted in Chapter I, many studies have found social and pragmatic skill deficits related to the presence of a learning disability (Bryan, 1977; Deshler, 1978; Donahue & Bryan, 1984; Gerber & Zinkgraf, 1982; Hall & Richmond, 1985; Jackson, Enright, & Murdock, 1987; McConaughy, 1986; Saloner & Gettinger, 1985). After analyzing 33 studies of students with language and/or learning disabilities, Lapadat (1991) stated that, "It is clear that children with learning disabilities, language-learning disabilities, and language disorders do, in fact, demonstrate persistent and pervasive pragmatic difficulties relative to classmates learning language normally" (p. 157).

Bryan and Bryan (1978) studied 25 fourth and fifth graders with learning disabilities. The 25 participants included seven white males, seven white females, six African-American males, and five African-American females from a suburban Chicago school district. A control group was selected to match the experimental group for age, sex, and race. The researchers developed a procedure involving two observers. One recorded all of a participant's utterances, while the other simultaneously recorded all of

the utterances made to the individual by peers. The transcriptions were made for periods of five minutes during classes that allow for peer interaction (e.g., art, physical education). Each of the subjects from both groups was observed for a total of 30 minutes. The recorded utterances were coded as one of seven communication categories: (1) rejection statements, (2) requests for information, (3) helping/cooperation/giving materials, (4) positive reinforcement/social/consideration, (5) self-image, (6) egocentric/self comments (not recorded for the control subjects), or (7) reactivity. According to the researchers, the scores resulting from this system, and similar procedures used in previous studies, are "meaningfully correlated with everyday classroom behaviors of the child," (p. 37). The researchers calculated proportions of occurrence of each communication category for each subject. The proportions then represented the frequency with which participants made or received a statement in each communication category. The results indicated that the subjects with learning disabilities voiced more hostile statements to peers than the students without learning disabilities. The students with learning disabilities were also more likely to receive rejection statements from peers than the control group. The researchers also determined that the students with learning disabilities were more likely not to respond to their peers or to engage in rejection statements than the subjects without learning disabilities; however, these results were not statistically significant. The results suggested that, at least at this age, students with learning disabilities are involved in a higher number of hostile interactions and are more likely to ignore their peers' initiations. This results in less frequent social interactions, thus reducing opportunities to

learn appropriate social behaviors. When they do interact, it is more likely to be a negative experience.

Bryan (1977) pointed to a deficit in the comprehension of nonverbal communication as a potential cause of some of the social maladjustment problems experienced by learning disabled students. Bryan's subjects were 23 third through fourth graders labeled as having learning disabilities by their school district. The criteria for inclusion in the study included IQ's above 80, low reading scores, and no emotional or sensory impairment. Eleven control subjects participated who were receiving no special education services and having no academic or behavioral problems. The procedure for this study was an abbreviated version of a test of nonverbal communication developed for children, in which students watch a silent film with 40 scenes of a woman expressing positive and negative emotions in either a dominant or submissive role. Each scene was two seconds in length and was followed by a five-second interval during which the subjects chose one of two items that best reflected the emotion portrayed by the woman in the film (e.g., "Jane is mad at her friend for being late" or "Jane's best friend moved away" (p. 38)). An audiotape of the woman's voice was played along with the film; however, the tape was altered so that the words the woman was speaking were unintelligible and only the tone was detectable. Students with learning disabilities had lower accuracy scores on both the audio and video portions of the test than control subjects, suggesting they had more difficulty interpreting nonverbal communication and paralinguistic intonation features than their peers. Bryan (1977) suggested that this lack of comprehension "may be a specific aspect of social relationships which affects both the attitudes of others toward LD

children as well as the behavioral interactions which discriminate LD and normal children" (p. 40).

Bryan, Donahue, and Pearl (1981) concentrated on the social skills performance of children in grades three to eight on a task that required them to interact with two other children. The experimental group consisted of 54 children who met the following criteria: (a) low teacher ratings; (b) scores greater than 90 on the Peabody Picture Vocabulary Test (PPVT); and (c) low reading scores on the Woodcock-Johnson Psycho-Educational Test Battery. The control group consisted of 46 randomly selected peers who matched the experimental group for sex, age, and PPVT scores above 90. These subjects received high teacher ratings and higher reading scores than the learning disabled group. In addition to these two groups, two children of the same grade and sex were randomly chosen for each subject to form a triad. To investigate the hypothesis that students with learning disabilities fail in social situations because they do not use their skills at the appropriate times, half of each group of subjects received a "pep talk." During the pep talk, the children were told that they were really good at decision-making and should persuade the rest of the group to choose their decisions. Each triad was brought in separately and told that the researchers were going to donate a gift to their class. The children were each given a list of fifteen choices and instructed to independently rank order them. Then the triads were given one list and one pencil, and instructed to rank the fifteen choices together. The interactions were videotaped, transcribed, and coded for their communicative content. They were then analyzed on four parameters: persuasion; discourse strategies; conversational housekeeping (i.e., turn taking, progress monitoring,



holding floor, and off-task behaviors); and affect. The affective quality of the interaction was coded for five verbal behaviors: (1) positive statements, (2) negative statements, (3) laugh—target alone, (4) laugh—others, and (5) laugh—total. In addition, two research assistants rated the quality of children's affect (on a scale of one to five) for intensity, affect toward self, affect toward other, and task involvement.

Bryan, Donahue, and Pearl's (1981) results showed that while the learning disabled students participated equally in the task in terms of number of turns and number of suggestions made, they were less persuasive than their nondisabled peers. The results also suggested that the reasons that they were not able to convince their group members to select their original gift choices was that the students with learning disabilities were more likely to agree with others' suggestions and less likely to disagree or argue against their suggestions. Likewise they did not take leadership roles and were not assertive in conversational housekeeping. The researchers also found that the students with learning disabilities were not more effective after being given the pep talk which encouraged them to be dominant participants due to their special decision-making skills. In addition, affect ratings discriminated learning disabled subjects from nondisabled subjects, although, the researchers claimed that the basis for this discrimination was unclear. The learning disabled group was more likely to be acquiescent, but not more aggressive, as Bryan and Bryan's (1978) study had previously indicated.

Bryan, Donahue, Pearl, and Sturm (1981) studied the pragmatic skills of students with learning disabilities based on their conversational skills. This study placed 20 students with learning disabilities in the role of a talk show host on television, a format

similar to the one used in the experimental task of the current study. A control group consisting of sex- and age-matched peers was also selected to take the talk show host role. The procedure matched one subject (learning disabled or control) with a peer without a learning disability who was to be the talk show guest in the scenario. Each participant in the dyad (i.e., both groups of hosts and guests) was instructed to take a dominant role in the conversation. The videotaped interactions were then transcribed and coded for turn taking, intent of utterances, and discomfort levels based upon nonverbal behaviors associated with anxiety (e.g., head scratching). The researchers found the students with learning disabilities less likely to be the dominant conversational partner. They exhibited difficulty initiating and maintaining conversations with their guests. The control group had a greater proportion of process questions, which demand more of conversational partners. The guests of the hosts with learning disabilities also produced more choice questions, less demanding questions, and few elaborated responses, which may suggest their lack of confidence in the ability of their partners who have learning disabilities to respond. The researchers concluded that placing learning disabled children in a dominant conversational role did not improve their ability to initiate and maintain conversation, suggesting social and pragmatic skill deficits.

Selman, Beardslee, Schultz, Krupa, and Podorefsky (1986) measured the negotiation skills of average-achieving adolescents with another task that was similar to the experimental task in the current study. Three groups of 30 participants each were included in the study. The groups were: younger adolescents (11-13 years); middle adolescents (14-16 years); and older adolescents (17-19 years). Each student was

presented with eight dilemmas and asked to explain how he/she would resolve them. All of the dilemmas involved a protagonist and significant other. The protagonist always wanted something, or had to react to the wants of the significant other. The task required the participants to take the perspective of the protagonist or the other person involved in the dilemma. Due to the design of the study, negotiation strategies were required. For example, one dilemma was: "Dan and his girlfriend are out on a date together. Dan wants to start going out with other girls but he doesn't think his girlfriend would like that," (p. 459). The subjects' responses were given a score (on a scale of zero to three) for four categories: definition of the problem; action taken; justification of strategy; and complexity of feelings. These data were then analyzed to determine the relationship between age, sex, IQ, and score. An additional analysis considered the composition of each dilemma, asking: Was the protagonist in a situation with a peer or an authority figure? Was the protagonist the initiator or recipient of the dilemma? What was the relationship between the protagonist and the significant other?

The results of the study confirmed the hypotheses set forth by Selman et al. (1986). The younger and middle adolescents were less empathetic to the perspectives of each of the participants in the dilemmas than the older adolescents. They also tended to focus on short-term, rather than long-term, solutions. The older adolescents were more successful at justifying their responses, and defined the dilemma in terms of the feelings of both the protagonist and the significant other, unlike the younger and middle adolescents, whose concern tended to be directed toward the protagonist only. Girls also proved to be more adept at negotiating, as measured by this task. The second analysis,

of the internal structure of the dilemmas, showed a systematic variation across contexts, with all participants performing better in dilemmas that involved peers and personal relationships than in those involving authority figures and work relationships. The results of this study are of concern to professionals who work with adolescents with learning disabilities, because these adolescents are often characterized as behaving pragmatically as a younger language-matched peer would (Lapadat, 1991), suggesting that they may experience the same types of negotiation and relation problems as those exhibited by the younger and middle adolescents in the Selman et al study.

Deshler (1978) also identified poor social perception as a significant problem of adolescents with learning disabilities. In Deshler's estimation, social perception deficits manifest themselves in many ways, including: difficulty generalizing from one circumstance to another, extreme sensitivity to others' reactions, inflexibility, difficulty interpreting verbal and nonverbal communication, and difficulty predicting and understanding that one's own actions may affect others. Deshler viewed the trouble with interpreting social situations as a secondary result of learning disabilities.

### Studies Showing No Correlation

Other investigators have disputed the correlation between social and pragmatic deficits and learning disabilities (Glosser & Koppell, 1987; Schumaker, Wildgen, & Sherman, 1982). Dudley-Marling (1985) concluded that there was little evidence in the 19 studies he reviewed, including eight studies conducted by Bryan and her colleagues, to support the opinion that children with learning disabilities are "pragmatically

incompetent." He stated that while many studies showed a link between learning disabilities and pragmatic deficits, only a few have been replicated, and those yielded different findings. Dudley-Marling questioned the methods used by the researchers of previous positive correlation studies. He also asserted that the results of these studies, which primarily used elementary school-aged children, should not be generalized to adolescents with learning disabilities.

Schumaker, Wildgen, & Sherman (1982) found more similarities than differences in the social abilities of junior high school students with learning disabilities and their peers. They utilized a continuous recording system to observe and analyze the social interactions of forty-seven pairs of students. Each pair consisted of one student who had a learning disability and a normal-achieving peer. Observers were each assigned a pair of students to watch. They did not know which member of their student pair had the learning disability, and the students did not know if they were being observed. Sixty-five behaviors were observed and recorded in three categories: social behaviors (e.g., statement to peer/teacher, laughing, requesting help/feedback from teacher, facial expression), study behaviors, and classroom conduct behaviors. The observers recorded every target behavior as it occurred in 10-second intervals. The students were observed alternately for five minute periods, with no less than 40 minutes of observation time for each student. The results of this study indicated no significant difference in any of the social behaviors between the learning disabled students and their peers; however, the researchers reported that assessments of the quality of interactions were not possible, due to the fact that the observers were unable to hear the conversations among the students.

Glosser and Koppell (1987) studied children with learning disabilities who had impairments associated with right hemisphere functions to see if they would be more likely to have inappropriate social behaviors than children with learning disabilities who had cognitive impairments associated with left hemisphere functions. The purpose of this study was to investigate the existence of a subgroup of learning disabled children with social deficits. The records of 67 children between the ages of seven and ten who had been evaluated at the Learning Problems Clinic at the University of Massachusetts Medical Center between 1979 and 1983 were included in the study. The records included educational, psychological, and medical evaluations, as well as questionnaires that were completed by the teachers and parents of the children. The educational records included the analysis of word-finding, articulation, and fluency assessed within the context of a structured conversation. The emotional-behavioral characteristics of the subjects were evaluated with regard to behavioral checklists that were completed by parents, teachers, and the evaluators. Four categories of emotional-behavioral characteristics were considered: (1) the depression-anxiety category, which included social withdrawal; (2) the aggression category; (3) the attention disorder category; and (4) the somatization category. The researchers found that certain emotional-behavioral characteristics were more common among subgroups of children with learning disabilities with differentially lateralized cognitive deficits; however, they found no homogeneity with regard to the social abilities of learning disabled children with or without lateralized cognitive impairments.

Markoski (1983) designed a study intended to replicate three of the studies conducted by Bryan and her colleagues, including Bryan and Bryan (1978) and Bryan, Donahue, and Pearl (1981), but failed to replicate the findings of those studies. Markoski's subjects were 15 first through fifth graders with learning disabilities and 15 nondisabled age- and sex-matched peers. The subjects were paired into dyads consisting of one learning disabled child and one nondisabled child who participated in a decision making task and a cooperative task. For the decision making task each child was instructed to individually rate his or her top three choices from a list of ten items which they would construct from Legos. Then, the dyads were given a list and instructed to decide together which were their top three choices. They were told to talk together about their choices and which ones were better than others. Analogous to the study by Bryan, Donahue, and Pearl (1981), the subjects' persuasiveness scores were based on how many of their independent choices corresponded with their mutually agreed upon choices. The cooperative task involved building the Lego item they selected as their first choice. The researchers transcribed all of the statements made by the children during these tasks and then coded the statements for their communicative intent. The categories were based on those used by Bryan and Bryan (1978) and included eight intents: (1) requests, (2) cooperative remarks, (3) positive remarks, (4) competitive remarks, (5) intrusive remarks, (6) rejection remarks, (7) self-image remarks, and (8) neutral remarks. Markoski found no significant difference between the two groups in terms of their persuasiveness score, total number of utterances, or frequency of statements coded as one of the eight categories. Only one difference was significant. The learning disabled group produced a

higher percentage of requests compared to their total statements than the nondisabled group. The researcher suggested that this difference may be due to a lack of knowledge on the part of the learning disabled group or a lower level of self-assurance that leaves the learning disabled child with a need to request advice from their peers. Another rationale given for these results was that the language or social deficits of the learning disabled group may have prohibited them from answering their peers' questions adequately. This occurrence might have discouraged the nondisabled group from asking questions.

### Semantic-Pragmatic Disorder

One view, which classifies the pragmatic deficits that may be associated with learning disabilities and other language disorders as a subtype of learning disabilities, has received considerable attention in Great Britain (Mogford-Bevan & Sadler, 1989). Pragmatic disability, also known as semantic-pragmatic disorder, is a diagnosis that was generated when early researchers attempted to distinguish children with pragmatic deficits among children diagnosed with a specific language impairment from those whose difficulties were in the area of language form (Mogford-Bevan & Sadler, 1989). Symptoms of semantic-pragmatic disorder include: (a) inability to formulate or answer wh-questions; (b) production of fluent but non-communicative language; (c) difficulty taking the perspective of their communication partners; and (d) a tendency to focus on individual words or phrases, rather than considering the meaning of the entire message being communicated (Nelson, 1993).



### Need for Additional Research

The conflicting data regarding the relationship between learning disabilities and pragmatics warrants further investigation into this relationship (Jackson, Enright, & Murdock, 1987; Gresham & Elliot, 1989; Price, Johnson, & Evelo, 1994). While Lapadat (1991) asserted that pragmatic deficits are consistently evident across types of skills, ages, settings, and experimental designs. She stated that future research is warranted due to the lack of comprehensive reports of quantitative data. For example, research studies typically report the mean data of the groups studied. The reader is left to speculate whether all of the learning disabled adolescents performed lower than all of the control group, or if a number of learning disabled adolescents actually performed the given skill successfully, but a certain number scored so low that the mean was reduced to a level below that of the control group (Schumaker & Hazel, 1984a).

### Assessment Tools

Some propose that the conflicting reports of researchers in this area result from a lack of psychometrically sound, standardized instruments for measuring pragmatic skills (Schumaker & Hazel, 1984a; Gresham & Elliott, 1989). A limited number of tests have been developed in the last two decades that purport to measure pragmatic skills in adolescents. The Adolescent Language Screening Test (ALST) (Morgan & Guilford, 1984) consists of seven subtests: (1) pragmatics, (2) receptive vocabulary, (3) concepts, (4) expressive vocabulary, (5) sentence formulation, (6) morphology, and (7) phonology.

The ALST takes less than 15 minutes to administer and purports to be useful in identifying adolescents who may require a more in-depth assessment; however, it is unlikely that the administrator will gain much insight into the difficulties the adolescent is experiencing through the utilization of this instrument alone.

In addition to the ALST, a relatively small number of comprehensive language assessment tools include pragmatic subtests. Other assessment tools that attempt to measure pragmatic skills include: (a) tests for differential diagnosis of learning disabilities which include pragmatic tasks; (b) rating scales; and (c) tests with the sole purpose of identifying delayed social skills and pragmatic deficits. An example of a comprehensive language assessment tool for adolescent language that includes pragmatic tasks is The Test of Language Competence—Expanded Edition (TLC-Expanded) (Wiig & Secord, 1989). The TLC-Expanded includes subtests of listening comprehension (making inferences), figurative language, and oral expression (recreating speech acts).

An inventory of the pragmatic skills of adolescents that is currently available is the Let's Talk Inventory for Adolescents (LTI-A) (Bray & Wiig, 1982). The LTI-A aids in the identification of pragmatic deficits by requiring the adolescent to formulate speech acts to accompany pictured situations. The stimuli depict interaction with peers and adults for the functions of ritualizing, informing, controlling, and feeling. The Speech and Language Evaluation Scale (SLES) (Fressola & Hoerchler, 1989) includes scales that can be used for screening, referral, and follow-up for articulation, voice, fluency, form, content, and pragmatic difficulties.

An informal diagnostic battery that purports to measure pragmatic skills is Simon's (1986) Evaluating Communicative Competence: A Functional Pragmatic Procedure. It assesses certain communication skills of 9-17 year olds including: language processing, metalinguistics, and pragmatics.

## Theories of Social Skill Development

### Biological Theory

Bigler (1982) asserted that research has shown that learning disabilities and social-emotional deficits share common neurological manifestations. In fact, Bigler has stated that a learning disability often evidences immature brain development, which in turn hinders emotional growth. The "brain-behavior" research that Bigler cited suggests a correlation between learning disabilities and social-emotional deficits. Two studies cited by Bigler involved students with dyslexia. One study investigated the electrical activity of the brains of boys with dyslexia using a sophisticated electroencephalography (EEG) analysis. The results of this study indicated abnormal brain function in areas other than those thought to be language areas. Bigler stated that these abnormalities, which were found primarily in the frontal and right parietal regions, would have likely effects on social maturation and self- and social-perception, as well as on emotional regulation and impulse inhibition. Another study that Bigler cited examined the brains of children with dyslexia who died in an accident or from an illness unrelated to the neurological system. This study found abnormalities in regions thought to be nonlanguage areas. Bigler stated that it is

possible that the abnormalities found in the development of the brains of children with learning disabilities are in areas critical to both language and emotional function.

### Social Learning Theory

According to Social Learning Theory (SLT), social skills deficits are the result of decreased opportunity to learn such skills due to lack of exposure to models of them (Gresham & Elliot, 1989). Social deficits arise because adolescents have not been exposed to good models. The original problem is then compounded by lack of interactions with peers who could provide good models but do not because of the isolation caused by social deficits. This is the "vicious cycle" that develops and leaves adolescents with learning disabilities farther and farther behind their peers in social skill development. This theory has implications for intervention. That is, if SLT proves sound, good models and opportunities to practice social skills in an intervention program may enhance the social skills of adolescents who lack them.

## Intervention

### Intervention for Students With Learning Disabilities

Bigler (1982) has recommended that intervention for students with learning disabilities take into account the emotional problems that often coexist with their language-learning and academic problems. Specifically, Bigler suggested: (a) focusing on strengths rather than weaknesses; (b) emphasizing effort over specific achievement;

(c) expanding upon existing skills to build self-confidence before setting more demanding goals; (d) providing tangible rewards for successes in areas other than those affected by the disability; (e) fostering an identity beyond the disability; (f) providing an outlet for the expression of emotional problems; and (g) teaching strategies for dealing with stress. Bigler recommended videotaping a role playing activity as one method to assist students with learning disabilities to improve their social skills.

Deshler, Alley, Warner, and Schumaker (1981) asserted that stringent, structured instructional procedures were needed for severely learning disabled adolescents to be able to learn and apply learning strategies. Their reasoning behind this assertion was that instructional time is limited with these students, confounding the fact that they have already experienced difficulty with traditional teaching methods. If this were not reason enough, adolescents are expected to apply a vast amount of knowledge across a variety of contexts. Therefore, generalization activities must be intentionally included in an intervention program.

### Intervention Programs for Adolescents With Social/Pragmatic Deficits

A number of programs have been designed to assess and provide intervention to learning disabled adolescents who lack social and pragmatic skills. Donahue and Bryan (1984) stressed that careful attention should be paid to the following questions before instituting such a program:

Will the acquisition of these skills allow students to meet peer as well as adult norms for appropriate communicative style? Will this training program enable students to discern how and when to use their newly

acquired skills in naturalistic settings? Will use of these communicative skills enhance the adolescent's social acceptance with peers and adults? (p. 19).

Schumaker and Hazel (1984b) described modeling procedures, descriptive procedures, role play procedures, and feedback procedures to be used with students who have social and pragmatic deficits. Descriptive procedures target skill acquisition through teacher description of the skill. The descriptions may include a definition, reason for using the skill, and examples of situations where the skill can be used appropriately. Schumacher and Hazel determined that intervention procedures utilized for improving the social skills of students with learning disabilities typically fall into one of three categories: (1) instructional procedures (e.g., modeling and roleplay procedures, and rehearsal and practicing procedures); (2) manipulation of antecedent and consequent events; and (3) self-control procedures. They also acknowledged the need for procedures to promote generalized social skills usage.

### Modeling and Roleplay Procedures

Modeling procedures entail illustration of a skill through demonstration. The person who is doing the modeling (clinician or peer) may "think aloud" while modeling the skill in order to reveal the thought processes involved in the skill. Another instructional procedure that is utilized by some intervention programs is rehearsal, which may include verbal repetition to memorize the sequence of steps in a given skill, followed by structured roleplay. Feedback is typically used in conjunction with rehearsal. As the student uses rehearsal feedback is provided.

Modeling and roleplay were the major components of an intervention program for adolescents with learning disabilities implemented and studied by Hess, Wagner, Dewald and Conn (1993). The FACE to FACE (Facilitating Adolescent Conversation Experiences) program used videotaped peer conversations to model conversational behaviors. Four groups of adolescents with learning disabilities were involved over two years. One group of normal-achieving control participants was employed for the pre- and post-test sessions during the second year to investigate the efficacy of the program. The participants with learning disabilities attended twelve weekly intervention sessions. During the sessions, (a) the speech language pathologist (SLP) introduced a conversational concept; (b) the SLP provided a videotaped model of good use of the conversational concept; (c) the students analyzed the model conversation; (d) the SLP presented a videotaped model of a poor conversation, which was also analyzed by the students; (e) the students suggested ways to improve the poor conversation; (f) the students role-played conversations, which were videotaped for analysis; and (g) the students analyzed their own videotaped conversations providing feedback to one another regarding the good aspects of their conversations and suggestions for future improvement.

To investigate the effectiveness of the FACE to FACE program (earlier called Model, Analyze, Practice), Hess and her colleagues (1993) videotaped the adolescents with learning disabilities and the control group during a four-minute conversation with an average-achieving peer before intervention began, and then again after the 12 week program concluded. The middle two minutes of the conversations were transcribed and analyzed for frequency of conversation initiation, topic initiation, contingent comments,

questions, answers to questions, mean number of utterances per turn, and mean number of turns. The researchers found a significant difference in the pre- and post-test conversations for all of the adolescents with learning disabilities for each of the characteristics analyzed. This suggests that the adolescents used better conversational skills after treatment. No significant differences were found between the pre- and post-test performance of the control subjects. In addition, although no statistical data were collected, participants reported better social interactions between themselves and their peers and teachers six months after the program ended.

#### Rehearsal and Practice Procedures

Another instructional procedure that is utilized by some intervention programs is rehearsal. It may include verbal repetition to memorize the sequence of steps in a given skill, followed by structured practice. Wiig and McCracken (1992) developed a program utilizing these procedures. Their method, which has a format similar to that utilized in the current investigation, involves using social drama to teach social communication strategies. This program requires students to participate in observing, brainstorming, writing, role-playing, and processing. The students make up and perform short skits about daily dilemmas experienced by students with special needs. For example, one of the dilemmas in the program involves a student with learning disabilities who has to answer questions in class. According to Wiig and McCracken, "Students with these difficulties generally find answering questions aloud in class problematic and a cause for anxiety and frustration" (p. 54). After being presented with the background of the dilemma, the



students are given a short dialogue and then asked a series of processing and coping questions about how the dialogue could be modified to solve the protagonist's dilemma. In addition to the problem solving and divergent thinking practice provided by the dilemmas, this program includes many social and pragmatic goals, such as: empathy, understanding the impact of communication, self-monitoring, repairing conversation, using nonverbal communication, using appropriate social behaviors, and following pragmatic conventions.

An intervention program designed by Deshler, Alley, Warner, and Schumaker (1981) included six steps in the acquisition phase, using techniques such as descriptions, modeling, and rehearsal. The steps were: (1) analyze current learning habit; (2) describe the new strategy; (3) model the strategy; (4) rehearse the strategy steps; (5) practice in controlled materials; and (6) practice with classroom materials. A generalization phase followed the mastery of the sixth step. The generalization phase comprised the following: (1) teach the students to get reinforcement from others; (2) use adequate and variant examples; (3) train the skill "loosely" (exert little to no control over the stimuli or responses); (4) vary the partners and environment; (5) use delayed and intermittently scheduled reinforcement; and (6) tell the students to generalize.

### Manipulation of Environmental Events

The manipulation of environmental events can be used to target increased use of appropriate social behaviors and decreased use of inappropriate behaviors (Schumaker & Hazel, 1984b, p. 493). For example, peers may be instructed to engage in social

interaction with the learning disabled student, increasing the opportunities for that student to perform positive social behaviors. Bryan, Cosden, and Pearl (1982) modified the environment in their study of the effects of cooperative goal setting on learning disabled students. In this study, 26 of the 108 seventh and eighth grade subjects were classified as learning disabled by their school district. The researchers paired the students with same-sex partners. These dyads were of two types: (1) a learning disabled subject with a nondisabled subject; or (2) two nondisabled subjects. The dyads were then assigned to one of three conditions: (1) individual study; (2) cooperative study; or (3) cooperative training. A story was presented to the dyads via videotape, and the researcher left the room to videotape the study sessions. The results revealed that cooperative goal setting did increase the number of positive social behaviors exhibited by subjects with learning disabilities. The researchers did not find a significant difference between the cooperative studying and the cooperative training conditions; however, the small difference did lend credence to the notion that modeling and training of cooperative goal setting may improve the study behavior of learning disabled students.

### Self-control Procedures

The use of self-control procedures involves reducing inappropriate social behaviors by training self-control. These methods include self-recording and self-evaluation as means for teaching children that they can control their personal behaviors (Schumaker & Hazel, 1984b, p. 494). Broden, Hall, and Mitts (1971) conducted a study of the effects of self-recording on the behavior of junior high school students. The

researchers studied two individuals. The first was an eighth grade girl who was having difficulty in school and had expressed a desire to increase her study behaviors. The other participant, an eighth grade boy, was not motivated to decrease his inappropriate classroom behavior (i.e., speaking out in class). The participants made tally marks on a piece of paper each time the behavior to be changed occurred. For both participants, the most drastic increase/decrease in behavior occurred during the session when they were self-recording. The lower rate of inappropriate behaviors for the male participant was not upheld when he was not self-recording. The researchers concluded, "These studies indicated that it is possible to use self-recording procedures to modify behaviors of pupils in secondary-level public school classrooms," (p. 197).

### Generalization Procedures

Research has indicated that social skills taught formally do not typically carry over into social interactions in the natural environment (Schumaker & Hazel, 1984b). Therefore, generalization procedures are necessary if intervention is to be effective and functional. Stokes and Baer (1977) described nine methods for achieving generalization of newly acquired skills based on their research:

- (1) Train and hope; (2) sequential modification; (3) introduce to natural maintaining contingencies; (4) train sufficient exemplars; (5) train loosely; (6) use indiscriminable contingencies; (7) program common stimuli; (8) mediate generalization; and (9) train "to generalize." (pp. 363-364)

Their opinion was that if the student continues to receive reinforcement in a natural setting, the skill will carryover. The authors stated that this technique works particularly

well with students when training social skills. "Train and hope," the most commonly used method, involves a passive expectation for generalization. The interventionist trains a skill, but no effort is put forth to achieve generalization. "Sequential modification" was typically used when train and hope failed. Sequential modification involves a systematic approach to modifying the response or environmental conditions to achieve generalization. The "natural maintaining contingencies" technique involves the utilization of naturally occurring reinforcers in the student's environment to promote quick generalization. "Training sufficient exemplars" is another method that has been used quite often with children; however, it is the most time consuming method. Subsequent to acquiring the new skill in one situation, training is extended to every possible situation until generalization occurs. With the "train loosely" approach, the interventionist places very little control over the stimuli and response facilitating generalization. In the technique called "indiscriminable contingencies," the student is given intermittent reinforcement. Without a set schedule of reinforcement, the students do not know when to expect reinforcement, and therefore they are not as likely to distinguish between environments where reinforcement occurs and environments where it does not. The "common stimuli" approach, often used in learning disability research, incorporates people or things from the natural setting to the clinical setting (e.g., using a peer to reinforce the skill). Stokes and Baer described "mediated generalization" as, "...establishing a response as part of the new learning that is likely to be utilized in other problems as well, and will constitute sufficient commonality between original learning and the new problem to result in generalization," (p. 361). Mediated generalization encompasses the self-recording

described in the research section of this literature review. The last technique described by Stokes and Baer, "train to generalize," meant to provide reinforcement when generalization is exhibited. In this way, the student is conditioned to apply the skill to varying situations.

Many intervention programs include all of the procedures noted above. A social skills intervention program created specifically for children with behavioral disorders, which often co-occur with learning disabilities, is called "skill-streaming" (McGinnis, Sauerbry, & Nichols, 1985). Skill-streaming involves five steps: (1) specific steps are provided, and examples are modeled, to reach mastery of a social skill; (2) the student role plays the steps in simulated dilemmas; (3) the student is given feedback; (4) the student practices in real-life situations; and (5) the student is reinforced for using the skill appropriately. After moving through all five phases of the skill-streaming model, the students are reminded to use the steps taught to them by their classroom teachers and aids. These reminders take the student's focus off what not to do and put it on what to do. According to the authors this facilitates more positive interactions between teachers and their students, less frustration, and generalization.

### Summary

This chapter has reviewed literature concerning a definition of learning disabilities and the possible correlation between learning disabilities and social and pragmatic deficits. Instruments for assessing pragmatic skills and intervention procedures for learning disabled children and for teaching social and pragmatic skills have also been addressed.

Many questions remain regarding the relationship between learning disabilities and social/pragmatic deficits. The current study is designed to provide needed information about assessing pragmatic skills, and the relationship of those skills to learning disabilities.

## CHAPTER III

### METHOD

#### Subjects

Thirty-four high school students, 24 males and 10 females, participated in this study. Eight of the students (four students with learning disabilities; four control participants) attended a high school in an upper-middle class suburban district in Indiana. The other 26 students (13 students with learning disabilities; 13 control participants) attended a middle-to-lower class urban high school in Michigan. Seventeen of the subjects had been identified by their school systems as learning disabled. This group of students was matched for age, race, and gender with a group of peers who had not been identified as having a learning disability. In order to participate, the following criteria had to be met by all participants: (a) English as the first (primary) language; (b) cognitive ability within normal limits for chronological age; and (c) hearing acuity within normal limits.

#### Students With Learning Disabilities

The experimental group consisted of 17 ninth through twelfth grade students, aged 15 years, 2 months to 18 years, 6 months. The mean age for the students in this group was 16 years, 6 months. The group comprised eight White males, three African-American males, one Hispanic male, three White females, and two African-American

females. Each of these students had been diagnosed as having a learning disability by the special education departments of their respective school districts, according to local and state criteria.

### Students Without Learning Disabilities

The control group for this study consisted of 17 ninth through twelfth grade students aged 15 years, 1 month to 18 years, 6 months. The mean age for the students in this group was 16 years, 8 months. Each of these students was matched to a student with learning disabilities for age, race (11 White students; 5 African-American students; and 1 Hispanic student), sex (12 males; 5 females), and school (4 from Indiana; 13 from Michigan). In addition, the control students had not received any special education services for any reason, with the exception of one who had received speech therapy at age nine for remediation of the /r/ phoneme. The researcher did not disqualify this subject from participation in the study due to the nature of the special education services (limited to articulation therapy), as well as their length (less than one school year). Information regarding both groups of students is shown in Table 1.

### Recruitment Procedures

In each of the schools, one of the teachers of students with learning disabilities was asked to identify students who would be willing to participate in the project. One of the schools allowed the researcher to visit study hall classes for students with learning



Table 1  
Identifying Information for LD and NL Groups

Group	No.	$\bar{x}$ CA	Description
LD	17	16;6	Diagnosed with a learning disability according to the criteria set forth by their school system
NLD	17	16;8	Not identified as learning disabled; no history of special education services, behavioral or emotional problems, ADHD, cognitive or hearing impairments

Note: LD=students with learning disability; NLD=students with no disability.

disabilities to answer questions and encourage participation. The teachers gave the students information regarding the project, including consent forms.

The control group was recruited through two special education teachers and two regular education teachers. The teachers were asked to contact students who were considered average learners and who fit the criteria set forth by the researcher.

### Consent and Assent

Each potential subject read and signed an assent form stating that he/she agreed to be part of the study (see Appendix C). The parent(s) or legal guardian(s) of each adolescent read and signed a consent form giving permission to include their adolescent in the study. Both the assent and consent forms complied with the standards set forth by the Human Subjects Institutional Review Board of Western Michigan University. The

forms included a brief description of the project and informed the subjects and their parents that their participation would involve one or two sessions (as determined appropriate by school administrators) for a total of 30-35 minutes. These forms stated that the adolescents could withdraw from the study at any time without penalty, and that all data gathered before, during, and after the study would be kept confidential. In addition, the consent form requested permission to review the students' personal files at school in order to identify any special education services received, and review the students' Individualized Education Plan (IEP) goals (see Appendix B).

### Questionnaire

Subsequent to the adolescents' participation, their parents or legal guardians were sent a brief questionnaire to provide information about the adolescents' educational and medical histories and the parents' education and occupational histories. Three of the 34 questionnaires were returned within a month after the date of participation. An additional mailing, two months after subjects' participation, yielded the return of one additional completed questionnaire. The low return rate made it impossible to use this information.

## Instruments and Procedure

### Hearing Screening

In order to rule out the effect of a hearing impairment on the results of the testing, each participant passed a hearing screening first. The following tones were presented at

20 dB: 500 Hz, 1000 Hz, 2000 Hz, 4000 Hz, and 6000 Hz with a Beltone Model 120 portable audiometer. Each subject was instructed to: "Raise your right hand when you hear a tone in your right ear. Raise your left hand when you hear a tone in your left ear." Each response was recorded on a form which documented only pass or fail at each frequency for each ear. All frequencies had to be passed in order to participate in this study. The only exception to this criterion for participation was made for three potential participants who passed every frequency except 500 Hz at 20 dB. When presented at 25 dB, two of the three subjects responded to the 500 Hz signal. The third subject responded reliably at 30 dB. Due to the excessive low frequency ambient noise in the testing rooms, these responses were considered passing.

### Experimental Task and Procedures

#### Design of the Experimental Task

The experimental task consisted of twenty stimulus items drawn from the "Writing a TV Show" subtest of the research edition of the Test of Integrated Cognitive Linguistic Skills (TICLS) (Nelson, Helm-Estabrooks, and Hotz, 1996). The examiner gave the following instructions to each student:

Today you are going to be an actor in a TV show. I'm going to give you a really short scene from a show, and then I'm going to ask you what a specific character in the scene would say. What I want you to do is tell me what a specific character in the scene would say, and most importantly, how they would say it. Now I need you to really ham it up! Remember that you're the actor! Let's try one. This time I'll do it.

The examiner then presented each adolescent with two examples. The first example was an insufficient response. This example included language that was appropriate for the scene, but lacked the appropriate paralinguistic features (e.g., tone, prosody, intensity, intonation). Participants were then told:

Well, I could do it like that, but I wasn't really being a good actor. If I really wanted to be a good actor, which is what I want you to do, I could do something like this...

The examiner then modeled a good example of a response, including the appropriate paralinguistic features. The student was then told, "Now it's your turn, remember to ham it up! I can help you with this one if you need it," and was given an example. If the subject provided a response without the appropriate paralinguistic cues, he or she was given as many prompts as needed (e.g., "Remember, you're the actor," "Have you ever been/felt/had to \_\_\_\_?") to coach him/her through the example item. If the subject provided an appropriate response, the examiner proceeded to the first stimulus item. When it was necessary, a second example item was given in order to acclimate the subject to the task.

Each of the 20 test items placed the adolescent in the role of both script "writer" and actor. A pilot study was conducted to test the scoring system and provide information about the length of administration time. Six average-achieving adolescents, and one adolescent with a learning disability, participated in the pilot study. The original task was designed to include male and female character names to represent diverse cultural identities, while avoiding cultural stereotypes (Nelson, Helm-Estabrooks, & Hotz, 1996). However, during the pilot study, two of the male participants used a falsetto voice when

responding to the scenes with a female protagonist. Their impersonation of a female tended to be exaggerated, and caused the participants to ignore the subtleties of the concept to be conveyed. To avoid this occurrence during the current study, two distinct protocols were developed to be given to the subjects, one for female and one for male participants. The characters in the male protocol were all males, and in the female protocol, all were females (see Appendices D and E).

Subsequent to being presented with a one to two line description of a scene, the adolescents were asked what the character in the scene would say. An example of one of the stimulus items is as follows, “Lakeisha has to *apologize* for hurting Rose's feelings. What do you think Lakeisha would say?” The italicized word in the example was the key concept to be conveyed. The concepts ranged in complexity and emotionality. For example, one of the concepts that proved easy for the adolescents was “argue.” “Argue” is also an emotional concept. The subjects could have envisioned a time that they argued with a friend and use those emotions to convey the concept. A more subtle, and less emotional, concept was “uses hints.” The most complex concepts included in the protocol were those that used figurative language. One such concept was particularly difficult for all of the participants—“fishes for compliments.”

During administration of the task, the adolescent was given one repetition if requested. If a participant asked for an additional repetition or clarification, he or she was told, “Do the best that you can.” If a participant took more than 30 seconds to attempt a response, a prompt was given. In the case of the “apologize” example, one of the following prompts were used: “Have you ever had to apologize?” “Think about what

apologize means. How would you show your audience that you feel you should apologize?" or "Remember a time you had to apologize? How did that feel?" The prompts for each stimulus item followed the same format. If the subject gave a description of the dialogue rather than acting it out, one of the following prompts was given: "Remember you're the actor"; "Put yourself in his/her shoes"; "I need you to really get into this"; "Who's your favorite actor/actress. Be him/her doing this part." Finally, if the student asked what the key concept meant, he or she was told, "Do your best."

The administration of the experimental task was videotaped and audiotaped in order to allow for subsequent transcription and reliability testing. A Panasonic Model AG-180 VHS camcorder, along with Maxell T-120 VHS videotapes, was used to videotape the sessions. To avoid the possibility of lost data due to video equipment failure, the sessions were also audiotaped with a General Electric VSP cassette recorder.

### Scoring the Experimental Task

The participants' responses were scored on three, three-point scales (2, 1, or 0). The three parameters scored were: (1) comprehension of the key concept, (2) linguistic quality, and (3) paralinguistic and nonlinguistic appropriateness. The first parameter to be scored was comprehension of the key concept.

1. First, in order to earn two points for this parameter, the subject had to show that he/she clearly understood the key concept. If the adolescent did not score a 2, the item was circled and the examiner presented the next item, without scoring other aspects of the response. After all of the items had been administered, the examiner went back to

the circled items (those that did not receive a score of 2 the first time through) and gave the subject a definition of the key concept. The item was then re-presented and the subject was asked to try the item again (see item repetition procedures described subsequently). If the adolescent: (a) was able to provide an appropriate response after the definition was given, 1 point was given for comprehension of the key concept; or (b) did not provide an appropriate response subsequent to being given the definition, 0 points were earned for all three parameters for that item.

2. After the adolescent gave a response that showed understanding of the key concept, either earning a 2 if given without help, or a 1 if given with help, the response was judged for its linguistic quality. The judgment of linguistic quality rested on completeness. A response was scored with: (a) 2 points, if the response was elaborated appropriately; (b) 1 point, if one unelaborated, but sufficient, phrase or clause was given; and (c) 0 points, if the response did not provide enough information or if the response was vague.

3. The final parameter for this task rated the appropriateness of the response, which took into account the paralinguistic and nonlinguistic (gestural) aspects. The response received: (a) 2 points, if appropriate tone, prosody, intensity, intonation, and gestures were exhibited; (b) 1 point, if at least one, but not all, of the former was exhibited; and (c) 0 points, if none of the appropriate paralinguistic or nonlinguistic cues was used.

### Item Repetition Procedures

When the examiner returned to the circled items for which the key concept was not clearly understood, the participant was told, "I'd like to try a couple of these again." The examiner assumed the blame for repetition of the items, explaining to the participant that she may not have gotten the right "gist" across to them. The examiner then pointed out the key concept in the item to be repeated and gave a definition of the concept. The scene itself was then repeated allowing the subject to act it out again, this time with the benefit of a definition of the key concept.

After all of the circled items were re-administered, the examiner noted the number of clarifications that were requested during the administration, and recorded the ending time. The scores were then totaled for each of the three parameters. At a later time, the responses were transcribed using the conventions of the software program, Systematic Analysis of Language Transcripts (SALT) (Miller & Chapman, 1993).

### Analyses of the Experimental Task

The transcriptions of the subjects' responses were analyzed with standard SALT options in order to determine four linguistic measures: (1) Mean Length of Utterance (MLU); (2) number of different words; (3) number of words in mazes; and (4) total number of words. The latter three variables were converted to averages per turn. Each response after presentation of an item was considered one turn. The total turns taken during administration of the test were divided into the number of different words, number



of words in mazes, and total number of words. The resulting, proportional data were used for all statistical analyses.

Three sets of data were generated: (1) the scores for each of the three parameters and the total score of the three parameters combined (TICLS1, TICLS2, TICLS3, TICLSTOT); (2) the total time of administration expressed as minutes; and (3) the linguistic measures of the responses. Data for each of these variables were entered into the Statistical Package for Social Sciences 6.1 (SPSS) for further analysis.

### Adolescent Language Screening Test (ALST)

The Adolescent Language Screening Test (ALST) (Morgan & Guilford, 1984) was administered in order to screen for linguistic deficits and to provide a criterion reference measure. It uses tasks that address each of the following areas: (a) pragmatics; (b) receptive vocabulary; (c) concepts; (d) expressive vocabulary; (e) sentence formulation; (f) morphology; and (g) phonology. The ALST was administered after the experimental task because it was thought that the experimental task would be more interesting to the participants, and this order of administration was expected to maintain their attention and enthusiasm for participating for a longer period of time.

The pragmatics “subtest” was the first subtest of the ALST. It involved two tasks. For the first, students were given a score according to their responses to an indirect request, “Can you write your name and birth date in red ink?” For this study the directions were amended and the word “age” was substituted for name for confidentiality purposes. Each subject was given a score from zero to four using the following criteria: (0) makes

no attempt to obtain writing implement; (1) responds to literal meaning by following direct request and using own writing implement; (2) responds to literal meaning by following direct request and using language to request implement; (3) responds to intended meaning by using own writing implement; or (4) responds to intended meaning by using language to request writing implement. All of the subjects in the current study received either a four (for requesting a red pen) or a three (for writing the information with their own pen). This section accounted for half of the score for the pragmatic subtest. For the second score, up to four points were earned by exhibiting specific conversational behaviors during a brief conversation sample (45-60 seconds). The sample for this analysis was elicited by asking the students about their favorite TV show. The protocol included a checklist that divided twelve observable behaviors into four “function areas” (i.e., topic initiation and maintenance, utterance functions, speaker role and turn-taking, conversational style). For example, the list for area I (topic initiation and maintenance) included three possible behaviors: (1) student initiates conversational topic; (2) student elaborates on topic; (3) student maintains conversational topic. If at least one of the three behaviors was observed at any time during the session, the student received one point for that area.

The next three subtests (II, III, and IV) were designed to assess language content. Subtest II consisted of eight items that addressed receptive vocabulary. The students were presented with four pictures on a page and asked to identify the two pictures that “described” the word given by the examiner. Subtest III targeted basic linguistic concepts. The participants were presented with an oral statement and then asked one or two

questions about the statement to reveal their understanding of the concept in the statement. The concepts consisted of “familial, spatial, temporal-sequential, passive, comparative, figurative, and analogous relationships” (Morgan & Guilford, p. 8). Subtest IV was the expressive vocabulary subtest. It comprised three sections. In the first section, the participants were presented with six pictures and instructed to name them. The second section required the adolescents to name the word being described verbally by the examiner. This section was by far the most difficult for all participants. The third section of subtest IV consisted of six stimulus words. The participants were instructed to formulate a sentence using each stimulus word.

Subtests V and VI assessed language form. For subtest V, the sentences formulated for the third section of subtest IV were analyzed for their grammatical complexity. Subtest VI assessed the students' morphology. They were to complete open-ended sentences with the correct inflected form of a given base word.

The last subtest evaluated the adolescents' ability to articulate consonant clusters. Throughout administration of the other six subtests, these clusters are elicited through the target responses. If a target blend was misarticulated, it was circled on the answer sheet. After administering all of the other six subtests, the examiner returned to those circled blends and presented the student with words to assess stimulability of the target cluster.

The ALST took approximately 10-15 minutes to administer. Each subtest was scored on-line, and later the scores were tabulated. The results included a score for language use (subtest I), language content (subtests II, III, and IV), and language form (subtests V, VI, and VII), and a total score. Each subtest score for each subject, in

addition to the total score, was entered into SPSS (Norusis, 1994) for the special analyses to be used in the current study.

## Reliability

### Inter-scorer Reliability

Two examiners who were previously unfamiliar with the experimental task assisted in computing inter-rater reliability. They were also blind to the identity of the participants as learning disabled or not learning disabled. One was a graduate student and one was a school-based speech language pathologist (SLP) who works with elementary-school-aged clients and holds the American Speech-Language-Hearing Association's Certificate of Clinical Competence and Indiana licensure.

The researcher provided the two examiners with an explanation of the task and the scoring system. The examiners individually attended training sessions lasting approximately an hour. First, in order to orient the examiners to the format of the task, they watched a videotaped session of a regular education student responding to the stimulus items. The researcher then explained administration of the task and the three parameters (e.g., comprehension of the key concept, linguistic completeness, and paralinguistic and nonlinguistic appropriateness) of its scoring system. Following this five to ten minute explanation, the researcher and the examiners reviewed the videotaped session they watched earlier with the researcher's scores in front of them. The researcher then explained the rationale for scoring decisions as the videotaped session progressed.

For the final twenty minutes of the training session, each examiner practiced scoring another participant. The researcher answered questions as they arose.

### Transcription Reliability

The speech-language pathologist who was acting as a reliability examiner transcribed portions of three subjects' responses to the experimental task. The transcripts of the two examiners were compared for agreement and disagreement per word. This comparison resulted in 89 percent agreement.

### Scoring Reliability

The graduate student examiner individually scored the experimental task responses for six subjects. The clinically certified speech language pathologist scored the experimental task for six subjects and recorded responses on the ALST for the same subjects. Due to the three parameters for scoring of the experimental task, each subject provided for 60 possible agreements or disagreements. In a few cases, the researcher gave a subject a score of 2 for the first parameter (representing clear understanding of the concept), but the reliability examiner did not. In these cases, the videotape did not include a second opportunity to judge the other two parameters, therefore, only one disagreement was tallied.

To compute inter-rater reliability, the number of agreements was divided by the number of opportunities for agreement. Computation of inter-rater reliability for the researcher and the graduate student examiner, using this method, was 90 percent

agreement for the concept parameter, 88 percent for the completeness parameter, and 80 percent agreement for the appropriateness parameter. The appropriateness parameter appeared to be the most subjective judgment of the three. The speech-language pathologist and the researcher reached 94 percent agreement for the concept parameter; 90 percent for the completeness parameter; and 93 percent for the appropriateness parameter.

### Statistical Analysis

The remainder of the experimental questions were answered with a variety of procedures using the SPSS statistical package (Norusis, 1994). The following procedures were used to answer specific research questions:

1. Split-half reliability was measured with a correlation analysis between scores computed with odd items and even items only for question 1.b.
2. Predictive validity was measured by comparing the performance of the two groups by performing a MANOVA to test the null hypothesis of no difference for question 2.a.
3. Concurrent validity was measured by correlating the score of the experimental task with the full ALST and with the pragmatics subtest of the ALST to answer question 2.b.
4. Construct validity was measured by comparing the linguistic measurements of the responses elicited by the experimental task to the scores received for question 2.c.

5. To answer question 3.a. the two groups were compared with a Multivariate Analysis of Variance (MANOVA) for the variables of: (a) MLU: (b) average number of different words per turn; (c) average number of maze words per turn; and (d) average number of total words per turn.

6. To answer question 3.b. a decision was made to determine if there is a subgroup of adolescents with learning disabilities who have pragmatic deficits by doing a MANOVA. The MANOVA will focus on the students who have social skills goals to determine whether they have exaggerated difficulty with the pragmatics subtest on the TICLS and the ALST when compared to the other participants.

## CHAPTER IV

### RESULTS

This study was designed to meet two purposes. The first was to answer four questions about the reliability and the validity of the experimental task. Pending positive answers, the second was to use the task to investigate the pragmatic language skills of adolescents with learning disabilities as compared with normal-achieving peers. The results are presented in two sections. Reliability and Validity results are presented first, followed by results related to Learning Disabilities and Pragmatic Scores. An alpha level of  $p < .05$  was established a priori for rejecting the null hypothesis, but exact probability levels are reported for statistical tests in this chapter.

#### Reliability and Validity

##### Inter-rater Reliability

Analysis of inter-rater reliability revealed acceptably high agreement rates among three examiners. They included the graduate student researcher, another graduate student in speech language pathology, and a practicing speech language pathologist (SLP) who holds a Certificate of Clinical Competence. The graduate student examiner and the researcher reached an agreement level of 87 percent for the total score, 90 percent for the concept parameter, 88 percent for the completeness parameter, and 80 percent for the



appropriateness parameter. The SLP examiner and the researcher reached an agreement level of 92 percent for the total score, 94 percent for the concept parameter, 90 percent for the completeness parameter, and 93 percent for the appropriateness parameter.

### Split-half Reliability

A bivariate correlation analysis using the SPSS (1994) statistical package, with odd scores and even scores as the two factors, was utilized to assess split-half reliability of the test items. Incorporating 15 cases (eight LD and seven NLD) into a Spearman rank order correlation analysis resulted in a correlation coefficient of .815, which was significant at the  $p < .001$  level. This finding supports the hypothesis of internal consistency. This analysis was computed for even and odd scores for all three parameters of the scoring system, as well as for the total score on the experimental task, with similar results. Table 2 reports the results of these analyses.

### Concurrent Validity

Spearman rank-order correlation analyses were performed to determine the correlation between the TICLS scores and the scores on the ALST, which served as the criterion-reference measure. Comparisons were made for the TICLS total score and the ALST total score, the TICLS total score and the pragmatic subtest of the ALST, and the TICLS paralinguistic and nonlinguistic appropriateness parameter and the pragmatic subtest of the ALST. The overall TICLS score was significantly correlated with the ALST total score ( $r = .6797$ ,  $p = .000$ ) and with the ALST pragmatic subtest score ( $r = .5311$ ,

Table 2  
Spearman Correlation Coefficients for LD and NLD Cases

Variable	Coefficient	N	Sig.
Odd/even total scores	.815	15	.000*
Odd/even concept	.845	15	.000*
Odd/even completeness	.743	15	.001*
Odd/even appropriateness	.733	15	.002*

Note: LD=students with learning disabilities; NLD=students with no disability.  
\*Significant at the .005 level.

$p = .001$ ). The TICLS paralinguistic and nonlinguistic “appropriateness” parameter was also significantly correlated with the ALST pragmatic subtest score ( $r = .5748$ ,  $p = .000$ ).

### Predictive Validity

For the current study, predictive validity was measured by running a Multivariate Analysis of Variance (MANOVA) to test the null hypothesis of no difference between the performance of the LD group and the NLD group on the TICLS task. The subsequent section, Group Differences on the Experimental Task, presents the results of these analyses.

## Learning Disabilities and Pragmatic Scores

### Group Differences on the Experimental Task

A question of prime interest to this investigation was whether adolescents with learning disabilities would perform differently on the TICLS task from adolescents without learning disabilities, as measured by their test scores and linguistic measures of their responses. A single factor MANOVA was used to answer this question. TICLS total score, TICLS 1 (comprehension of the key concept), TICLS 2 (linguistic completeness), and TICLS 3 (paralinguistic and nonlinguistic appropriateness), and TICLS time (length of time in minutes to complete the task) were the dependent variables in the MANOVA. Hotelling's test was selected for assessing significance. Using this procedure, significant differences between the two groups were found for all measures ( $F = 10.646$ , 5, 28 df;  $p < .001$ ). Several univariate F-tests (1, 32 df) also showed significant differences between the groups. The results for these tests, including score means and standard deviations are reported in Table 3. To further illustrate the difference in performance between the two groups, see Figure 1 for a summary of total scores for the two groups. Figure 2 depicts the differences between the two groups' task administration time.

Another single factor MANOVA was executed in order to determine if the LD and NLD groups differed in the linguistic quality of their responses. The Hotelling's test was selected for assessing the significance of this analysis as well. The test showed no significant difference ( $F = 1.232$ , 4, 29 df;  $p = .319$ ) in the responses of the two groups for any of the four linguistic measures: (1) MLU; (2) average total words per turn; (3)

Table 3

Overall Univariate Tests, Means and Standard Deviations  
Following MANOVA for TICLS Scores

Variable	Group				F	p
	LD		NLD			
	M	SD	M	SD		
TICLS total score	86.41	19.59	105.47	8.89	11.22	.002**
TICLS 1	31.59	5.57	36.18	3.28	5.47	.027*
TICLS 2	28.06	7.56	34.35	3.97	8.99	.006*
TICLS 3	26.89	8.21	34.95	3.36	12.36	.002**
TICLS time (in min.)	19.65	4.39	11.12	3.52	11.22	.002**

Note: LD = students with learning disabilities; NLD = students with no disability.

\*Significant at the .05 level. \*\*Significant at the .005 level.

average different words per turn; and (4) average maze words per turn. The subsequent univariate tests (1, 32 df) also revealed no significant differences for any of the linguistic measures. The results of these analyses, including means and standard deviations are reported in Table 4.

#### Group Differences on the ALST

A single factor MANOVA was performed to compare the scores of the LD group and the NLD group for the seven subtests of the ALST and the ALST total score. This procedure did not confirm significant group differences between the performance of the LD and NLD group ( $F = 2.033, 8, 25 \text{ df}, p = .084$ ). However, the related univariate F-tests revealed significant differences for ALST subtests I, II, III, and IV, and for the

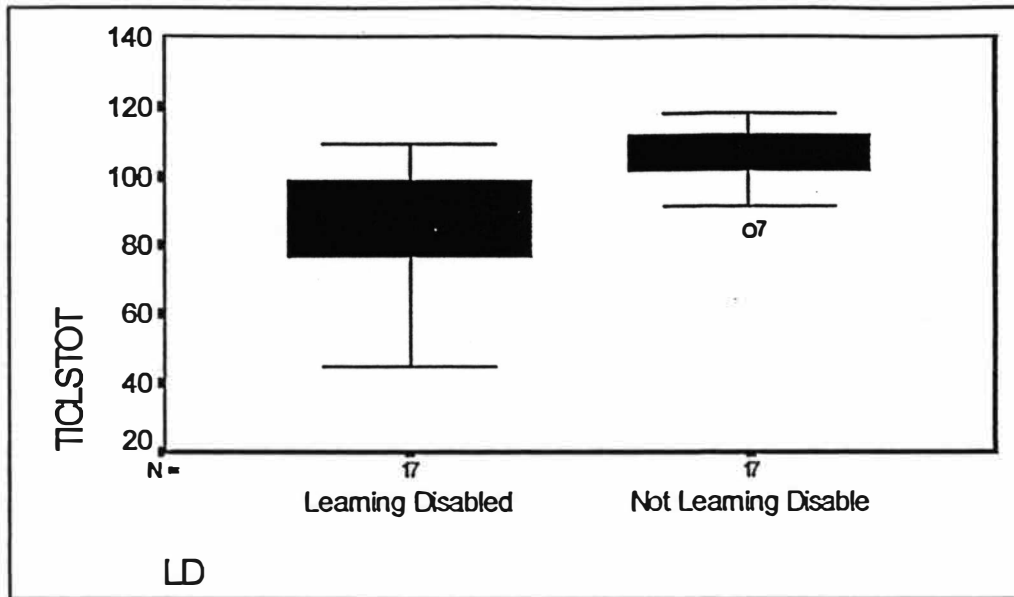


Figure 1. TICLS Total Score Variation and Means for LD and NLD Groups. .

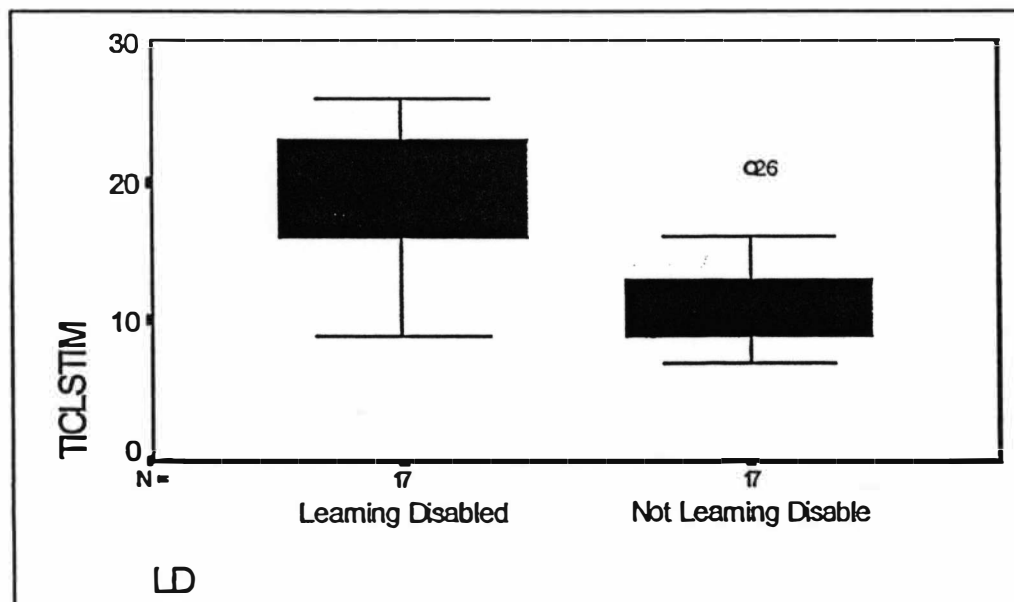


Figure 2. Task Administration Time Variation and Means for LD and NLD Groups.

Table 4

Overall Univariate Tests, Mens and Standard Deviations Following  
MANOVA for TICLS Linguistic Quality Variables

Variable	Group				F	p
	LD		NLD			
	M	SD	M	SD		
MLU	6.78	1.23	6.83	.93	.318	.577
Ave. Different Words	7.09	1.85	7.83	2.46	.635	.432
Ave. Maze Words	.57	.37	.77	.75	.578	.453
Ave. Total Words	16.32	6.35	17.47	8.32	.080	.780

Note: LD = students with learning disabilities; NLD = students with no disability.

ALST total score. See Table 5 for the results of these tests, including means and standard deviations.

#### Qualitative Differences Between Groups

There were a number of qualitative differences between the performances of the two groups on the TICLS task. The differences to be addressed in this chapter involve the types of errors made by the two groups and the number of times requests for clarification or repetition were made.

#### Comprehension of the Key Concept

While the two key concepts most frequently missed were the same for the two groups (“fishes for compliments” and “sarcastic”), the two groups exhibited very different

Table 5

Overall Univariate Tests, Means and Standard Deviations  
Following MANOVA for ALST Scores

Variable	Group				F	p
	LD		NLD			
	M	SD	M	SD		
ALST total score	71.35	11.69	80.59	6.79	7.93	.008*
ALST I Pragmatics	7.53	.72	7.94	.24	5.03	.032*
ALST II Receptive Vocabulary	12.88	2.32	14.65	1.62	6.64	.015*
ALST III Concepts	8.06	1.82	9.53	.62	9.94	.004**
ALST IV Expressive Vocabulary	11.41	4.80	15.00	3.55	6.14	.019*
ALST V Sentence Formulation	6.59	1.97	7.65	1.77	2.72	.109
ALST VI Morphology	7.18	1.59	7.94	.97	2.87	.100
ALST VII Phonology	17.11	3.16	18.00	.00	1.33	.258

**Note:** LD = students with learning disabilities; NLD = students with no disability.

\*Significant at the .05 level. \*\*Significant at the .005 level.

qualitative error patterns. The four concepts most frequently missed by the LD group after “fishes for compliments” and “sarcastic” were: (1) “uses hints” (nine LD participants missed); (2) “flatters” (nine LD participants missed); (3) “criticizes” (six LD participants missed); and (4) “judges” (six LD participants missed). In contrast one NLD participant missed “uses hints”; three NLD participants missed “flatters”; three NLD

participants missed “criticizes”; and one NLD participant missed “judges.” The key concept most often missed by the NLD group (other than “fishes for compliments” and “sarcastic”) was “nosy person” (six NLD participants missed, only five LD participants missed). No more than three NLD participants missed any other single concept.

### Clarification Requests

The number of requests for clarification or repetition of an item was recorded during administration of the TICLS task. Although the mean number of clarification requests for the LD group was larger (LD mean = 2.88; NLD mean = 1.41), an independent samples t-test revealed no significant difference between the two groups in the number of clarification requests made ( $t = 1.58$ ,  $p = .426$ ).

### Pragmatic Subgroup

To determine if a subgroup of adolescents with learning disabilities who have pragmatic deficits exists, a series of t-tests was run to determine if the students with social goals on their IEPs had exaggerated difficulty with the pragmatics subtest of the ALST or on the TICLS total or subtest scores. These tests involved groups with unequal size because only 4 of the 17 students with learning disabilities had social goals on their IEPs.

Although the mean score for the IEP group was lower on the ALST pragmatics subtest than the mean score for the students with learning disabilities without social goals on their IEPs (NIEP), the t-test showed no significant difference between the performance of the two groups on this subtest ( $t = .88$ ,  $p = .413$ ). Because of the unequal group size



(IEP N = 4; NIEP N=13), a Mann-Whitney U test was run to determine if a rank-order difference was present. The Mann-Whitney U, which is based on the number of times a score from the NIEP group precedes a score from the IEP group, was used to conduct this analysis. The results of this analysis also showed no significant rank-order difference between the two groups ( $U = 20.0$ ,  $p = .422$ ).

There was a significant difference between the performance of the LD and NLD groups on the TICLS task total score, therefore, a series of individualized samples t-tests was executed to determine if the scores earned on the TICLS task could also predict which of the LD students had social goals on their IEPs. The t-tests revealed no significant differences between the performance of the two groups on the experimental task in terms of their total scores ( $t = .36$ ,  $p = .725$ ) or their scores for the three parameters on the task ( $p > .05$ ). See Table 6 for these results, including means and standard deviations.

Table 6

Independent Samples t-Tests for Students With Social IEP Goals and Without

Variable	Group				t	2-Tail Sig.
	IEP (N=4)		NIEP (N=13)			
	M	SD	M	SD		
TICLS total score	83.25	9.81	87.38	21.98	.36	.725
TICLS—Concept	30.50	3.87	31.92	6.08	.44	.669
TICLS—Completeness	25.75	2.63	28.77	8.49	.69	.502
TICLS—Appropriateness	27.00	4.97	26.85	9.15	.03	.975

Note: LD = students with learning disabilities; NLD = students with no disability.

Due to the unequal size of the two groups (IEP = 4, NIEP = 13), a Mann-Whitney U test was also utilized to investigate the relationship between social goals on the students' IEPs and their performance on the TICLS task. These analyses resulted in no significant difference between the groups for the TICLS total score, the concept parameter, the linguistic completeness parameter, or the paralinguistic and nonlinguistic appropriateness parameter at the  $p < .05$  level. See Table 7 for the results of these analyses.

Table 7

Mann-Whitney U Independent Samples Tests for  
Students With Social IEP Goals and Without

Variable	Group				U	2-Tail Sig.
	IEP (N= 4)		NIEP (N=13)			
	MR	Sum of R	MR	Sum of R		
TICLS total score	6.75	27.00	9.69	126.00	17.0	.308
TICLS—Concept	6.88	27.50	9.65	125.50	17.5	.334
TICLS—Completeness	6.25	25.00	9.85	128.00	15.0	.212
TICLS—Appropriateness	8.13	32.50	9.27	120.50	22.5	.692

Note: IEP=students with social goals on IEP; NIEP=students with no social goals. MR=Mean Rank; Sum of R=Sum of Ranks. \*Significant at the .05 level.

To further clarify that the four IEP participants did not have an undue effect on the significant difference found between the LD and NLD groups on the experimental task, a MANOVA was executed that excluded those four participants. The results of the

MANOVA indicated that a significant difference between the LD and NLD group was still evident ( $F = 9.309, 5, 24 \text{ df}, p = .000$ ).

### Summary

The results of this study revealed that the experimental task possessed high inter-rater and split-half reliability. Significant results also indicated that the task exhibited characteristics of concurrent, construct, and predictive validity.

With regard to the differences between the two groups, the LD group had significantly lower scores on the experimental task than the NLD group. However, the linguistic quality measures of the responses, from which the scores were derived, showed no significant difference between the two groups.

With regard to the issue of pragmatic subgroups, no significant difference was found between the IEP and NIEP groups for the pragmatic subtest score on the ALST. The TICLS score also revealed no significant difference between these two groups.

## CHAPTER V

### DISCUSSION

The results of this study support the reliability and validity of the experimental task. They also help to illuminate the relationship between learning disabilities and pragmatic and social skill deficits. Both sets of results, their clinical implications, and suggestions regarding future research are addressed in this chapter.

#### Reliability and Validity

The issue of reliability was addressed first for two reasons: (1) a test can be reliable and not valid, “but a test cannot be valid unless it is reliable” (Peterson & Marquardt, 1994, p. 12); and (2) the reliability and validity of the task must be established before the differences in performance between the LD and NLD group can be addressed.

#### Inter-rater Reliability

Scoring of the experimental task was found to be reliable among three examiners. The agreement level ranged from 87 percent to 92 percent for total scores, 90 percent to 94 percent for the concept parameter, 88 percent to 90 percent for the completeness parameter, and 80 percent to 93 percent for the appropriateness parameter. These findings suggest that if a speech language pathologist were to administer and score the task, it is

likely that the resulting scores would be the same or almost the same as the scores given by another speech language pathologist judging the same set of responses.

### Split-half Reliability

A correlation analysis found a significant correlation between the scores on odd and even numbered items of the task. This indicates that the experimental task possesses internal consistency.

### Concurrent Validity

Concurrent validity is the correlation between one test (in this case the experimental task) and other tests that have already been proven valid (in this case the ALST). To determine if the experimental task had concurrent validity, correlation analyses were run. Statistically significant correlations were found for the two tests. The total score of the experimental task significantly correlated with the ALST total score, and with the pragmatic subtest of the ALST. The appropriateness score, which was designed to measure the paralinguistic features of speech, and was therefore viewed as the most definitive pragmatic score of the task, was also found to correlate highly with the pragmatic subtest of the ALST.

## Construct Validity

The construct of the experimental task was to assess four pragmatic skill areas: (1) variation in social purpose (related to the key concept parameter); (2) informativeness (related to the linguistic completeness parameter); (3) use of paralinguistic and non-linguistic features to fit the context (related to the paralinguistic and nonlinguistic appropriateness parameter); and (4) ability to take the perspective of another person (related to the task as a whole). No single statistical analysis procedure was adequate for accurately determining the construct validity of the experimental task. Peterson and Marquardt quoted Nunnally's (1972) description of the process of demonstrating construct validity as follows:

In essence, construct validation consists of weaving a network of meaningful relations between a new measure and other supposed measures of the same trait. If such relations hold, the new measure then can be trusted in subsequent use. If such relations do not hold, subsequent use of the instrument should be held suspect (p. 33).

In addition, Peterson and Marquardt cite two ways to establish construct validity: (1) factor analysis, in which the weightings of major factors are used to account for the resultant score; and (2) concurrent validity. Concurrent validity was discussed in the previous section.

Characteristics of construct validity were also evident in the results presented in Chapter IV regarding the significant difference between the two groups' TICLS scores and the lack of such difference found in the linguistic quality of the groups' responses.

These results are addressed in more detail in a subsequent section of this chapter titled, “Group Differences on the Experimental Task.”

### Predictive Validity

To determine predictive validity or “criterion-related” validity, performance on the task is correlated with the behavior that is to be expected (Peterson & Marquardt, 1994). The performance of the two groups was compared to determine if group membership could be predicted by the scores earned on the TICLS task and the amount of time taken to complete the task. The LD group earned significantly lower scores, and took significantly more time to complete the task, indicating that this task is likely to predict which participants have a learning disability with concomitant pragmatic deficits, and which do not.

### The Participants’ Opinions of the Task

All 34 participants commented positively on the content of the task. The responses ranged from, “That wasn’t as hard as I thought it would be,” to “We should do this in class.” While all the participants, with the exception of three of the control group members, acknowledged that the task was challenging, they all made a statement to the effect that it was not too stressful, and was a relatively enjoyable experience.

## Learning Disabilities and Pragmatic Scores

### Group Differences on the Experimental Task

Significant differences appeared when the performance of the two groups (LD and NLD) were compared for both the TICLS and the ALST. The differences consistently indicated lower scores by the LD group than the NLD group on the experimental task. The LD group also took longer complete the task. These results are consistent with the majority of previous research studies which found students with learning disabilities to perform poorer on pragmatic tasks (e.g., Donahue & Bryan, 1984; Jackson, Enright, & Murdock, 1987; McConaughy, 1986), and opposed the findings of a few studies that found no difference in the performance of students with learning disabilities and students without learning disabilities on pragmatic tasks (e.g., Dudley-Marling, 1985; Glosser & Koppell, 1987; Schumaker, Wildgen, & Sherman, 1982).

Further analysis of the linguistic quality of the adolescents' responses revealed no significant difference between the two groups. Therefore, while there was a difference in the pragmatic scores of the task, the linguistic scores of the groups' responses were similar. This suggests that the difference in scores on this task were not the direct result of the deficient syntactic or semantic language skills that are typical of students with learning disabilities, but a reflection of pragmatic skill deficits. This distinction also upholds the construct validity of this task as a measure of pragmatics more than syntax (measured by MLU) or semantic diversity (measured as number of different words per turn). It is possible, however, that other aspects of linguistic quality were deficient, but



were not identified by the linguistic measures computed by SALT. For example, the use of logical connectors, propositional density, and embeddedness effect linguistic quality, but are not detected by standard SALT analyses.

### Group Differences on the ALST

Although no significant difference was found between the two groups' ALST scores using the MANOVA, several differences were revealed by the univariate F-tests. The fact that significant differences were found between the groups' performances on the first four subtests should not be surprising. The content of those subtests (i.e., pragmatics, receptive vocabulary, concepts, and expressive vocabulary) is likely to be difficult for students with learning disabilities. Pragmatic deficits, as discussed in Chapter II, have often been linked with learning disabilities. Receptive and expressive vocabulary and concepts are areas that could be anticipated as difficult for this population due to the fact that 10 of the 17 students with learning disabilities had reading goals on their IEPs, 11 of the 17 had writing goals, and 4 had oral communication goals. Reading, writing, and oral communication are areas that are greatly affected by receptive and expressive vocabulary skills.

The mean scores of the LD group for the final three subtests of the ALST were lower than those of the NLD group, but they were not significantly different. The nature of those three subtests (i.e., sentence formulation, morphology, and phonology), and the error patterns of all the students account for this finding. All of the students, in both groups, scored relatively low on the sentence formulation subtest. The instructions for the

sentence formulation subtest stated, "Take your time and tell me the best sentence or question you can think of (Morgan & Guilford, 1984, p. 20)." However, none of the students appeared to take his or her time in formulating a "best" responses, instead all 34 students responded quickly with primarily simple sentences or questions. The highest score received on this subtest was 11 out of a possible 18 points by NLD participant number 273.

The sixth and seventh subtests were morphology and phonology, respectively. Adolescents would typically be expected to be proficient at following morphological and phonological rules. The mean scores for the both subtests were relatively high for both groups. In fact, the only participants not to earn all of the possible 18 points on the phonology subtest were two LD participants. The students earned fewer points on the morphology subtest, but both groups appeared to make similar errors. For example, the participants were shown a picture of three boats. The examiner instructed them that the smallest boat on the page was large. The students were then required to fill in the ending of this sentence, "This boat is...", for the other two boats. The intended responses were "larger" and "the largest." However, the responses received most often were "big" and "huge." It appeared that all of the students had difficulty identifying the pattern to follow, on this relatively simple stimulus item.

## Qualitative Differences Between Groups

### Comprehension of the Key Concept

As noted in Chapter IV, the two key concepts most often in error, for both groups, were “fishes for compliments” and “sarcastic.” The difficulties exhibited by the adolescents with these two concepts were anticipated by the researchers. “Fishes for compliments” is an example of figurative language. The adolescents were required to recognize nonliteral meanings of the words in order to understand the key concept (Nelson, 1993). For some individuals, this skill is still being acquired in adolescence. The use of sarcasm is also a late developing skill and a subtle concept. Often the participants would explain that they knew what it meant, but they did not know how to convey the concept. This is where the similarity between the errors of the two groups on this parameter ended.

The concepts most frequently in error for the LD group, beyond “fishing for compliments” and “sarcastic,” were: (a) “uses hints”; (b) “flatters”; (c) “criticizes”; and (d) “judges.” The difficulty with “uses hints” may lie in the subtlety of the concept. The responses by these adolescents indicated that they are more likely to communicate directly than to use indirect hints. It is possible that they lack the conversational skill to use indirect hinting tactics in their daily lives.

It is suspected that the other concepts (“flatters,” “criticizes,” and “judges”) were difficult for the LD group not because of the complexity of the concepts per se, but rather because the LD students had difficulty identifying which component of the stimulus was

the key concept to be conveyed. This seemed to be the case even though the three test items were formatted the same as the other stimuli. For example, stimulus 12 on the protocol is, “The talk show host always flatters his/her guests. He/she is interviewing an actress. What do you think the talk show host would say?” The participants who missed this concept often seemed to be focusing on the concept of an interview, rather than identifying “flatter” as the concept to be conveyed. An example response from LD group participant number 169 was, “How long have you been acting?” The responses for the other two concepts followed the same pattern. LD participant number 215 responded to this stimulus, “Rea's father always “criticizes” everything she does. When Rea brings home her report card with two A’s and two B’s, what do you think her father would say?” with, “She did good.” This participant seemed to be responding more to the grades than conveying the concept, “criticize.” In response to, “Eduardo's father always *judges him harshly*. Eduardo places second in a wrestling match. What do you think Eduardo's father would say?” LD participant number 300 said, “Good. Good son,” apparently focusing on the second place finish.

### Clarification Requests

Slightly more requests for clarifications and repetitions were made by the LD group, but this difference was not significant. There are a few possible explanations for the lack of a significant difference. The fact that the LD group made more errors, gave them more second turns, which meant more opportunities to request clarification. Yet, if pragmatic deficits were present, it might have hindered the LD group participants from

requesting help. The scores of the NLD group indicated that they would not have needed as much help as the LD group; however, they were not afraid to ask for clarification if it was needed.

Another possibility for finding no difference between the groups could stem from the low number of clarification requests made by each group. The mean number of clarification requests for the LD group was 2.88, the mean number of requests made by the NLD group was 1.41. Two NLD group participants routinely asked for clarification, thereby raising even the small mean for that group. NLD participant number 311 made seven requests for clarification in 23 turns. NLD participant number 201 made six requests for clarification or repetition in 24 turns. However, the same could be said of the LD group. One LD group participant made 13 requests for clarification or repetition in 25 turns. Clarification request frequency may be viewed as a sign of individual personality difference, not directly related to other aspects of pragmatic behavior.

#### ALST Subtest Errors

There was one remarkable difference between the two groups in the error patterns made on the ALST. This difference involved a single item. Although it did not affect the item's score, it did make an impression upon the examiner. Fifteen of 17 LD participants responded differently than the other 19 participants to this stimulus item: "Janet is shopping with her mother's mother. Is Janet shopping with her mother? Who is Janet shopping with?" After indicating that Janet was not shopping with her mother, these 15 LD students answered the second question with, "Her mother's mother." All but one of

the 15 LD participants who gave this response gave the correct answer (i.e., Grandmother), after being prompted by the examiner, but initially they made the untransformed response. No one in the NLD group responded in this way. Each NLD participant responded with, “Grandmother” or “Grandma,” immediately. This may be due to the way the LD group processed information as compared to the NLD group. This is evidenced by the differences that appeared in the way the LD group processed the TICLS task stimuli. For example, the LD group seemed less adept at identifying the key concept, suggesting that they were less likely to recognize the format of the testing stimuli. The format was designed to facilitate the identification of the key concept to be conveyed. See the previous section titled, “Comprehension of the Key Concept.”

### Pragmatic Subgroups

A series of t-tests was used to determine if a subgroup existed of students with learning disabilities and pragmatic deficits. These analyses showed no significant difference between the ALST scores of the group of students who had social goals on their IEPs when compared to the group of students who did not. Although on the surface this result suggests that a pragmatic subgroup does not exist, such a conclusion can not be reached without question.

A reason to question the conclusion that no pragmatic subgroup exists lies in the construction of the pragmatic subtest of the ALST. This subtest was chosen because it was the only standardized measure of pragmatics that was a part of the current study; however, the subtest is very limited, as might be expected from a screening test. The

pragmatics subtest of the ALST consists of two sections. The first task required to examiner to instruct the student to write his/her name, birthdate, grade, and age in red pen on the back of the ALST protocol. For this study the subjects were asked not to write in their name, as their names were not to be included, for confidentiality reasons, on any part of the data collected, but they were asked to complete the additional information. The pragmatic component of this task was that there was to be no red pen easily available to the student. The student's task was to request the correct instrument.

The second task of this subtest was a simple analysis of the students' language use during a brief conversational sample. Again, the behaviors listed in the checklist were so basic for this age range that all of the students received either three or four points for this section. Therefore, the total pragmatic subtest scores for the subjects ranged from six to eight, with the majority of the subjects ( 27 of 34 subjects) receiving all eight points. Two subjects from the LD group received a score of six and four LD subjects received a score of seven. Only one subject from the NLD group received less than an eight on the pragmatics subtest of the ALST. That subject used his own pen, rather than request a red pen, and received a score of seven for the subtest. The limited nature and scoring system of the subtest, as well as no reported validity data about this subtest, suggest that this correlation may not accurately reflect the pragmatic competence of the subjects. Despite the inadequacies of this task, it did correlate highly with the TICLS results, which identified differences between the groups with and without social goals on their IEPs.

In support of the hypothesis of a social skills subgroup, the mean scores for the group of students with learning disabilities who had social goals on their IEPs were

consistently lower on all but the paralinguistic appropriateness parameter of the TICLS experimental task than the scores given to the students with no social goals. An independent samples t-test, however, found no significant difference between the two groups. This result makes it inappropriate to reject the null hypothesis and suggests that there is no pragmatic subgroup. It is possible that more of the students with learning disabilities should have had social goals on their IEPs, but did not because they had more basic skill goals to master before social skills could be addressed. Alternatively, their social skills problems may have been less severe, not clearly justifying social skills goals on their IEPs, but still making them different than their NLD peers in this area. In addition, the regular education students were not included in the analysis because they do not have IEPs, therefore, it could not be determined whether anyone in this group had an unidentified social skill deficit.

### Conclusions

This study was designed to answer questions regarding the reliability and validity of an experimental test of pragmatic skill, and questions regarding the relationship between pragmatics and learning disabilities. The following conclusions were derived from the statistical analyses used to answer these questions:

1. The experimental task possesses high inter-rater reliability and split-half reliability, as determined by high level of agreements among three examiners and by a high correlation between odd- and even-numbered test items.



2. The experimental task exhibits characteristics of concurrent and construct validity.

3. The experimental task exhibits predictive validity such that students with more severe difficulties on the task were more likely to have learning disabilities.

4. Differences were apparent in the scores of the students with learning disabilities on the experimental task when compared with the scores of students with no disability.

5. No differences were apparent in the linguistic quality of the responses from which the scores were derived, suggesting that a difference in the pragmatic performance scores of the students with learning disabilities when compared to their normal-language peers, represented pragmatic deficits rather than syntactic or semantic deficits.

6. No differences were apparent in the performance of the group of students with learning disabilities who had social skills goals on their IEPs on the ALST pragmatic subtest or the TICLS task when compared to their peers with learning disabilities who had no such goals.

As noted in Chapter I, Gresham and Elliott (1989) suggested three possible relationships between social awareness deficits and learning disabilities: social awareness deficits (1) occur concomitantly with learning disabilities; (2) are caused by learning disabilities; or (3) are to be considered a subtype of learning disabilities. Based on this study, it can be concluded that, social and pragmatic deficits exist concomitantly with learning disabilities, however, the design of this study did not lead to an answer to the question of whether social and pragmatic deficits related causally to learning disabilities. The pragmatic deficits were evident for the group of adolescents with learning disabilities

as a whole, more on a continuum than as a distinguishable subgroup of adolescents with learning disabilities and pragmatic deficits. These results suggest that, minimally, screening for pragmatic deficits would be appropriate for all adolescents with learning disabilities.

### Summary of Clinical Implications

Several previous reviewers of the literature discussed in Chapter II attributed the conflicting results regarding the relationship between learning disabilities and social and pragmatic deficits to a lack of psychometrically-sound assessment instruments (Schumaker & Hazel, 1984a; Gresham & Elliott, 1989). The entire TICLS battery will go through a series of reliability and validity analyses for a variety of normal-achieving and special populations. The results of this study, however, indicate that the pragmatics portion of TICLS is likely to provide speech language pathologists a reliable and valid way to assess at least certain aspects of the pragmatic skills of adolescents with learning disabilities.

As noted, the current investigation did not find a clear subgroup of students with learning disabilities who had pragmatic deficits. Instead, it found a significant difference between the students with learning disabilities as a whole performing more poorly than their age-, race-, and gender-matched peers. The differences found between the two groups' performance on the experimental task indicate that testing for pragmatic deficits is an important component when assessing the language skills of all students with learning disabilities.

Although the scope of this investigation did not provide information as to the appropriate intervention to be used with the students who need pragmatic and social skills training, identifying these deficits is essential to initiating the process. The intervention could then be designed around the individual needs and abilities of each student.

### Future Research

Certainly, many further studies into the relationship of learning disabilities and pragmatic deficits are warranted. This study resulted in as many questions as answered. For example, if there is not a pragmatic subgroup of students with learning disabilities, what is the exact nature of the relationship between the pragmatics and learning disabilities? Further research into the theories behind the development of both pragmatic deficits and learning disabilities may provide information about this relationship. An increase in the number of participants with social skills goals, along with some research into how IEP goals are established, might lead to the identification of a pragmatic subgroup of learning disabilities. To further assess the reliability of this analysis, it is also recommended that another, more comprehensive, standardized test of pragmatic ability be used to determine the existence of a pragmatic subgroup of students with learning disabilities. The limited number of participants with identified social skills deficits in their IEPs also suggests that more information regarding the predictive validity of the experimental task might be found if the current study were replicated with more students.

Research investigating intervention strategies to be used with students with learning disabilities who have pragmatic deficits is also warranted. As pragmatic deficits

of students with learning disabilities are identified, these deficits will need to be treated. Perhaps more in-depth study of the strategies for dealing with social situations, such as those taught by Hess, Wagner, DeWald, and Conn (1993) or Wiig and McCracken (1992) will reveal an effective intervention method to be used with this population. A future study of these intervention methods might utilize a control group of participants with learning disabilities who do not receive the intervention for comparison with the students with learning disabilities who do receive the intervention.

Whatever strategy is employed, it is required that any future study assess generalization of the target skill. Due to the age and decreased learning ability of these students, and the lifelong manifestations of these deficits, facilitating generalization of the strategies is imperative. Bryan (1997) attested to the lifelong implications for students with learning disabilities whose pragmatic and social deficits are not addressed. Results of intervention studies could provide the insight needed to facilitate the acquisition of social and pragmatic skills for learning disabled students.

**Appendix A**  
**Recruitment Postcard**

(Front)

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Amy Juergens  
9212 Greenleaf Drive  
Fort Wayne, IN 46819

(Back)

**Social Language Skills Research Project**

**If you are interested in participating in this study please return the attached consent forms in the enclosed addressed, postage-paid envelope by November 30, 1996.**

Otherwise, please mark one of the following and return this postcard by November 30, 1996:

\_\_\_\_\_ **Yes, I am interested in participating, but I would like more information.**

\_\_\_\_\_ **No, I am not interested at this time. I know that I can change my mind after November 30, 1996 and call Amy at 747-6730 for more information.**

**NAME** \_\_\_\_\_

**\*\*\*If you haven't returned the consent forms or this postcard by November 30, 1996, send them in anytime after that date and I will try to include you! REMEMBER: If you have any questions call 747-6730!**

**Appendix B**  
**Parent Letter and Consent Form**



## WESTERN MICHIGAN UNIVERSITY

Principle Investigator: Dr. Nickola W. Nelson  
Research Associate: Amy L. Juergens

Dear Parents/Legal Guardians,

My name is Amy Juergens. I am a graduate student in Speech Language Pathology at Western Michigan University. I am asking your permission to invite your adolescent to participate in my master's thesis research for WMU. It is an experimental study of the social language skills of adolescents with and without special needs. If you give permission for your adolescent to participate in this study, it will ~~take~~ 40-45 minutes, and will be finished in one or two sessions (depending on school scheduling). The results of this study may be presented at educational conferences and published in scholarly journals, but names will not be used.

If you give your permission, your child will be asked to:

1. Take a hearing screening,
2. Take a ten-minute screening test of adolescent language; and
3. Complete a 20-question experimental task which is intended to assess the social aspects of using language.

There are no anticipated risks to your child beside minor discomforts typically experienced by adolescents when they are being tested. As in all research, there may be unforeseen risks. If an accidental injury occurs, appropriate emergency measures will be taken; however, no compensation or treatment will be made available except as otherwise specified in this consent form.

We will attempt to schedule the sessions that your child participates in so that he/she won't miss class. Although your child may not directly benefit from participating, if these tests are found to be useful, other students in special education programs may benefit. Other students who have tried out the task have found it to be a positive experience. Your adolescent will receive no special service from any educational agency or WMU as a result of the data collected for this study, but will receive a WMU memento as a token of appreciation.

The identity of your child will remain confidential during the study and after it. Your child will be assigned a student code number which will be attached to all of the data collected from him/her, rather than his/her name. A separate list of all of the participants names and corresponding codes will be kept in a locked file. The experimental task will be videotaped and Any audiotapes or videotapes used will be destroyed. Your adolescent's school files will be reviewed to confirm whether he/she has ever received special services and you will be asked to answer a few brief questions about your child.





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## WESTERN MICHIGAN UNIVERSITY

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Participation in this study is voluntary and your child may withdraw from the study at any time without prejudice, penalty, or endangering any current or future relationship with any educational agency or WMU. If you have any questions or concerns about the participation of your child at any time during or after this study, please feel free to contact me at 219-747-6730, my faculty advisor, Dr. Nickola Nelson at 616-387-8058, or Dr. Lucille Hess, a consultant to the project, at 219-481-6410. Thank you for your time and consideration.

Sincerely,

A handwritten signature in cursive script, reading "Amy Jurgens".

Amy Jurgens

Graduate Student at WMU



## WESTERN MICHIGAN UNIVERSITY

Principle Investigator: Dr. Nickola W. Nelson  
Research Associate: Amy L. Juergens

### Parental Consent

Please keep the first two pages of this form and return the third page in the enclosed postage-paid envelope.

I have read the attached letter and understand it. I understand that I have the right to withdraw my child from this study at any time, and he/she has the right to withdraw himself/herself at any time. I also understand that this research project is being conducted by a graduate student whose research is being supervised. This student will have access to my child's school records for completing a checklist regarding previous and current special education services but not for copying.

Please check one answer and sign below.

/ / I give my permission for \_\_\_\_\_ to participate in this study.

/ / I would like more information about this project before I give permission for my child to participate.

\_\_\_\_\_  
Signature of Legal Guardian

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Witness

\_\_\_\_\_  
Date

**Appendix C**  
**Student Assent Form**



## WESTERN MICHIGAN UNIVERSITY

Principle Investigator: Dr. Nickola W. Nelson  
Research Associate: Amy L. Juergens

### Student Assent

I understand that I have been invited to be a part of a research project about language and hearing. I understand that if I agree to participate:

1. My hearing will be tested;
2. I will take a 10 minute screening test of language; and
3. I will answer 20 "Writing a Script" questions from a new test.

If I participate I understand that the testing will take 30-35 minutes and will be completed in one or two meetings (whichever my school leaders feel is best). I understand that I won't get any special services from my school or WMU. I understand that if I choose to participate, I will not get any extra credit, and if I don't wish to participate, my school grades will not be affected. I understand that my confidential file will be checked to see if I have had any special education services. I know that the results of this project will only be used in this study, and that my name will not be used. I also know that I will be videotaped while I answer the "Writing a Script" questions. I understand that the videotapes will be destroyed after the research paper is completed.

I know that I can decide to quit at any time and have it be O.K. If I quit it will not affect any relationship that I might have with my school or WMU. If I have any questions or concerns about this study before, during, or after it, I can call Amy Juergens at 747-6730, Dr. Nickola Nelson at 616-387-8058, or Dr. Lucille Hess at 219-421-6410.

My signature below means that I agree to participate.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Witness Signature

(If adolescent needs help understanding  
the language on this form.)

\_\_\_\_\_  
Date

**Appendix D**  
**Male Protocol**

## Pragmatic Skills 1

## Subtest 10: WRITING DIALOGUE

Student Code \_\_\_\_\_

Begin Time \_\_\_\_\_

Directions: After having established that the subject understands what a play is, say: "Today you are going to be an actor in a t.v. show. I'm going to give you a really short "scene" from a show, and then I'm going to ask you what a specific character in the "scene" would say. What I want you to do is tell me what the character would say, and, most importantly, how they would say it. Now I need you to really ham it up! Remember you're the actor! Let's try one. This time I'll do it." Give an example and then say, "Now it's your turn, remember to ham it up!"

## Scoring:

First, score whether understanding of the key concept was shown (a.). Circle the appropriate response.

2=Clearly understood the key concept;

1=Showed understanding after a definition was given;

0=Did not show understanding of the key concept;

NR=No response.

If the subject clearly did not show understanding of the key concept (underlined) for any items, do not score immediately. After all of the stimulus items have been presented, go back and re-administer those items, giving the definition of the key term. Say: "I wasn't sure that you knew exactly what \_\_\_\_\_ meant. It means \_\_\_\_\_. Why don't you try that one again."

If the subject receives a 1 or 2 for a., score b.—Completeness, and c.—Appropriateness. Circle the appropriate response.

For b.—Completeness:

2=Elaborated sufficiently;

1=Provided one unelaborated phrase;

0=Did not provide enough information.

For c.—Appropriateness

2=Exhibited appropriate tone, prosody, intensity, intonation, and gestures;

1=Did not exhibit one of the following: appropriate tone, prosody, intensity, intonation, or gestures;

0=Did not exhibit appropriate tone, prosody, intensity, intonation, or gestures.

## Examples:

A. Jarred always whines when his parents won't let him have his way. His mother won't let him buy candy in the grocery store. What do you think Jarred would say? \_\_\_\_\_

B. Larry wants to convince his big brother to help him build a playhouse. What do you think Larry would say? \_\_\_\_\_

C. Tim always pouts when he doesn't get his way. His parents won't let him go the mall. What do you think Tim would say? \_\_\_\_\_

## Items:

1. Leroy has to apologize for hurting Rose's feelings. What do you think Leroy would say? \_\_\_\_\_

(a.) 2 1 0 NR C

(b.) 2 1 0

(c.) 2 1 0

Definition: Say you're sorry.

## Pragmatic Skills 2

2. Sam's friend always brags about his dog. One day Sam decides to top his friend's bragging by telling how big his own dog is. What do you think Sam would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Exaggerate about everything// Beat his friend's exaggeration

3. David always uses hints to get his grandmother to buy him things. He is out shopping with her and sees some cowboy boots. What do you think David would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Talks around stuff; doesn't say things directly.

4. Richard wants to argue with his friend about whose turn it is to go first playing a video game. What do you think Richard would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Start a fight.

5. Ron wants to politely turn down an invitation to a party he thinks will be boring. What do you think Ron would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Be nice, but still say no.

6. Mr. Flynn always gets angry when his class doesn't listen. His class is really noisy and Mr. Flynn decides to punish the class for not listening. What do you think Mr. Flynn would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Gets mad// discipline.

7. Steve is a very nosy person. A new kid and family move in next door with lots of nice things. What do you think Steve would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Too interested in other people's business.

8. Norm buys a CD that doesn't sound right, so he is taking it back to the store to complain. What do you think Norm would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Tell someone you're not happy about something.

9. Brad always exaggerates about everything. He is telling his buddies about his baseball card collection. What do you think Brad would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: To say something is better than it really is.

## Pragmatic Skills 3

10. Rick's father always criticizes everything he does. When Rick brings home his report card with two A's and two B's, what do you think his father would say? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: Put down.

11. Joe always blames other people for his mistakes. One morning Joe runs over his neighbor's bushes with his pickup truck. What do you think Joe would say to his neighbor? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: To say that somebody else did something that you really did.

12. The talk show host always flatters his guests. He is interviewing an actress. What do you think the talk show host would say? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: Make someone feel good by saying nice things about them.

13. Shawn always fishes for compliments. He met his friend on the way to the school dance with his new leather coat on. What do you think Shawn would say? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: Try to get someone to say nice things about you without asking them directly.

14. Henry's big brother always bugs him to do things for him. He wants him to wash his car. What do you think the big brother would say? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: Bothers; drives him crazy.

15. Sammy always comes right to the point. He thinks his friend's haircut looks awful. What do you think Sammy would say? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: Say what you mean; don't beat around the bush.

16. Randy always bullies everyone. All the kids want him to play soccer, but he will only play if they let him be the goalie. What do you think Randy would say? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: Is mean to.

17. Eduardo's father always judges him harshly. Eduardo places second in a wrestling match. What do you think Eduardo's father would say? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: Thinks that nothing he does is good enough.

18. Josh has to confess to breaking his mother's favorite blue bowl. What do you think Josh would say? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: Admit that you did something wrong.



## Pragmatic Skills 4

19. Santos always encourages Connie to work on her running. She comes in second in a race. What do you think Santos would say? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: Give support.

20. Noah always sounds really sarcastic. Let's say it rains every weekend all summer. What do you think Noah would say? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: Say something you don't mean in a way that let's your listeners know you don't really mean it.

Total (a.) \_\_\_\_\_

Total (b.) \_\_\_\_\_

Total (c.) \_\_\_\_\_

End Time \_\_\_\_\_

Requested Clarification:

\_\_\_\_\_ Never; \_\_\_\_\_ A few times; \_\_\_\_\_ Often; \_\_\_\_\_ Every time

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Appendix E**  
**Female Protocol**

## Subtest 10: WRITING DIALOGUE

Student Code \_\_\_\_\_

Begin Time \_\_\_\_\_

Directions: After having established that the subject understands what a play is, say: "Today you are going to be an actor in a t.v. show. I'm going to give you a really short "scene" from a show, and then I'm going to ask you what a specific character in the "scene" would say. What I want you to do is tell me what the character would say, and, most importantly, how they would say it. Now I need you to really ham it up! Remember you're the actor! Let's try one. This time I'll do it." Give an example and then say, "Now it's your turn, remember to ham it up!"

## Scoring:

First, score whether understanding of the key concept was shown (a.). Circle the appropriate response.

2=Clearly understood the key concept;

1=Showed understanding after a definition was given;

0=Did not show understanding of the key concept;

NR=No response.

If the subject clearly did not show understanding of the key concept (underlined) for any items, do not score immediately. After all of the stimulus items have been presented, go back and re-administer those items, giving the definition of the key term. Say: "I wasn't sure that you knew exactly what \_\_\_\_\_ meant. It means \_\_\_\_\_. Why don't you try that one again."

If the subject receives a 1 or 2 for a., score b.—Completeness, and c.—Appropriateness. Circle the appropriate response.

For b.—Completeness:

2=Elaborated sufficiently;

1=Provided one unelaborated phrase;

0=Did not provide enough information.

For c.—Appropriateness

2=Exhibited appropriate tone, prosody, intensity, intonation, and gestures;

1=Did not exhibit one of the following: appropriate tone, prosody, intensity, intonation, or gestures;

0=Did not exhibit appropriate tone, prosody, intensity, intonation, or gestures.

## Examples:

A. Janet always whines when her parents won't let her have her way. Her mother won't let her buy candy in the grocery store. What do you think Jarred should say? \_\_\_\_\_

B. Linda wants to convince her big brother help her build a playhouse. What do you think Linda would say? \_\_\_\_\_

C. Tanya always pouts when she doesn't get her way. Her parents won't let her go the mall. What do you think Tanya would say? \_\_\_\_\_

## Items:

- |   |      |   |   |   |    |   |
|---|------|---|---|---|----|---|
| 1. Lakeisha has to <u>apologize</u> for hurting Rose's feelings. What do you think Lakesha would say? _____ | (a.) | 2 | 1 | 0 | NR | C |
| _____   | (b.) | 2 | 1 | 0 |    |   |
| _____   | (c.) | 2 | 1 | 0 |    |   |

Definition: Say you're sorry.

2. Sam's friend always brags about her dog. One day Sam decides to top her friend's bragging by telling how big her own dog is. What do you think Sam would say? (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Exaggerate about everything// Beat his friend's exaggeration

3. Darla always uses hints to get her grandmother to buy her things. She is out shopping with her and sees some cowboy boots. What do you think Darla would say? (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Talks around stuff; doesn't say things directly.

4. Regina wants to argue with her friend about whose turn it is to go first playing a video game. What do you think Regina would say? (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Start a fight.

5. Rachel wants to politely turn down an invitation to a party she thinks will be boring. What do you think Rachel would say? (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Be nice, but still say no.

6. Mrs. Flynn always gets angry when her class doesn't listen. Her class is really noisy and Mrs. Flynn decides to punish the class for not listening. What do you think Mrs. Flynn would say? (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Gets mad// discipline.

7. Susan is a very nosy person. A new kid and family move in next door with lots of nice things. What do you think Susan would say? (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Too interested in other people's business.

8. Norma buys a CD that doesn't sound right, so she is taking it back to the store to complain. What do you think Norma would say? (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Tell someone you're not happy about something.

9. Brenda always exaggerates about everything. She is telling her friends about her doll collection. What do you think Brenda would say? (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: To say something is better than it really is.

10. Rea's father always criticizes everything she does. When Rea brings home her report card with two A's and two B's, what do you think her father would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Put down.

11. Jo always blames other people for her mistakes. One morning Jo runs over her neighbor's bushes with her pickup truck. What do you think Jo would say to her neighbor? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: To say that somebody else did something that you really did.

12. The talk show host always flatters her guests. She is interviewing an actress. What do you think the talk show host would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Make someone feel good by saying nice things about them.

13. Sheila always fishes for compliments. She met her friend on the way to the school dance with her new dress on. What do you think Sheila would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Try to get someone to say nice things about you without asking them directly.

14. Hanna's big sister always bugs her to do things for her. She wants Hanna to wash her car. What do you think the big sister would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Asks; bothers; drives her crazy.

15. Sandra always comes right to the point. She thinks her friend's haircut looks awful. What do you think Sandra would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Say what you mean; don't beat around the bush.

16. Randi always bullies everyone. All the kids want her to play soccer, but she will only play if they let her be the goalie. What do you think Randi would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Is mean to.

17. Esther's father always judges her harshly. Esther places second in a gymnastics match. What do you think Esther's father would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Thinks that nothing she does is good enough.

18. Josie has to confess to breaking her mother's favorite blue bowl. What do you think Josie would say? \_\_\_\_\_
- (a.) 2 1 0 NR C  
(b.) 2 1 0  
(c.) 2 1 0

Definition: Admit that you did something wrong.

19. Sandy always encourages Connie to work on her running. She comes in second in a race. What do you think Sandy would say? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: Give support.

20. Noel always sounds really sarcastic. Let's say it rains every weekend all summer. What do you think Noel would say? \_\_\_\_\_
- |      |   |   |   |    |   |
|------|---|---|---|----|---|
| (a.) | 2 | 1 | 0 | NR | C |
| (b.) | 2 | 1 | 0 |    |   |
| (c.) | 2 | 1 | 0 |    |   |

Definition: Say something you don't mean in a way that let's your listeners know you don't really mean it.

Total (a.) \_\_\_\_\_

Total (b.) \_\_\_\_\_

Total (c.) \_\_\_\_\_

End Time \_\_\_\_\_

Requested Clarification:

\_\_\_\_\_ Never; \_\_\_\_\_ A few times; \_\_\_\_\_ Often; \_\_\_\_\_ Every time

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **Appendix F**

### **Raw Data Tables**

	ld	gender	ca	camos	race	ld
1	216	1	17;11	215.00	b	1
2	202	1	18;6	222.00	w	1
3	201	2	18;6	222.00	b	1
4	290	1	16;6	198.00	h	1
5	120	1	16;2	194.00	w	1
6	151	1	16;2	194.00	w	1
7	200	1	15;3	183.00	b	1
8	225	1	17;8	212.00	w	1
9	254	1	16;10	202.00	w	1
10	300	1	16;5	197.00	w	1
11	169	1	17;7	211.00	w	1
12	233	1	16;5	197.00	w	1
13	175	2	15;10	190.00	w	1
14	272	2	15;4	184.00	w	1
15	285	1	15;5	185.00	b	1
16	215	2	15;2	182.00	b	1
17	126	2	15;7	187.00	w	1
18	113	1	15;1	181.00	w	2
19	199	1	16;9	201.00	h	2
20	203	1	18;6	222.00	w	2
21	205	1	15;4	184.00	b	2
22	213	2	18;0	216.00	b	2
23	240	1	17;9	213.00	w	2
24	250	2	15;9	189.00	w	2
25	253	1	17;2	206.00	w	2
26	257	2	15;9	189.00	w	2
27	267	1	17;5	209.00	b	2



	alsb1	alsub2	alsub3	alsub4	alsub5	alsub6
1	7	9	6	7	6	7
2	8	12	7	7	4	6
3	6	12	10	8	8	6
4	8	13	10	14	7	8
5	7	12	6	9	4	6
6	8	15	9	18	6	9
7	8	15	9	13	8	8
8	7	13	9	3	5	7
9	8	11	7	11	7	5
10	8	12	7	7	10	5
11	8	14	10	13	9	9
12	8	16	9	19	6	8
13	8	16	10	17	5	9
14	8	16	10	19	9	9
15	7	9	7	11	9	8
16	6	10	4	7	4	4
17	8	14	7	11	5	8
18	8	12	8	10	6	9
19	8	15	9	12	6	8
20	8	15	9	17	6	7
21	7	12	9	13	8	7
22	8	16	10	12	6	7
23	8	16	10	17	8	9
24	8	16	10	19	8	8
25	8	16	9	18	10	8
26	8	14	10	13	8	7
27	8	15	10	16	9	9

	alsub7	alst	tidc1	tidc2	tidc3	tidctot
1	18	60	31	26	27	84
2	5	49	25	22	24	71
3	18	78	32	28	23	83
4	18	78	34	27	34	95
5	18	62	21	14	10	45
6	18	83	38	30	31	99
7	18	79	36	37	32	105
8	18	62	29	23	18	70
9	18	67	36	32	31	99
10	16	65	28	28	29	85
11	18	81	34	36	39	109
12	18	84	37	38	34	109
13	18	83	35	32	30	97
14	18	89	38	31	36	103
15	18	69	35	38	19	92
16	18	53	21	13	12	46
17	18	71	27	22	28	77
18	18	67	37	33	32	102
19	18	76	25	30	30	85
20	18	80	38	38	36	112
21	18	74	36	34	35	105
22	18	77	34	35	29	98
23	18	86	38	33	35	106
24	18	87	36	36	37	109
25	18	87	39	31	33	103
26	18	78	38	37	34	109
27	18	85	36	24	32	92

	tidsttm	tidcturn	clarif	mlu	difwdave	difffwr
1	16.00	24.00	1.00	8.01	8.17	196.00
2	16.00	28.00	.00	7.52	6.57	184.00
3	22.00	24.00	6.00	7.07	7.67	184.00
4	23.00	24.00	2.00	8.81	7.58	182.00
5	23.00	29.00	1.00	5.03	3.41	99.00
6	21.00	22.00	3.00	6.52	6.73	148.00
7	17.00	22.00	3.00	6.36	7.64	168.00
8	20.00	25.00	13.00	4.91	6.80	170.00
9	21.00	23.00	4.00	6.31	7.74	178.00
10	21.00	27.00	1.00	5.98	5.70	154.00
11	21.00	26.00	.00	7.48	8.31	216.00
12	9.00	22.00	.00	7.81	7.36	162.00
13	26.00	23.00	.00	5.75	7.26	167.00
14	14.00	21.00	5.00	8.36	8.71	183.00
15	23.00	24.00	2.00	7.77	11.50	276.00
16	16.00	28.00	4.00	4.78	4.00	112.00
17	25.00	30.00	4.00	6.76	5.40	162.00
18	11.00	21.00	2.00	6.86	7.48	157.00
19	14.00	32.00	5.00	7.00	5.22	167.00
20	10.00	22.00	1.00	7.16	7.59	167.00
21	8.00	22.00	.00	5.76	5.64	124.00
22	10.00	24.00	2.00	6.05	8.00	192.00
23	10.00	22.00	1.00	7.14	5.82	128.00
24	8.00	23.00	.00	7.44	7.04	162.00
25	10.00	21.00	4.00	8.71	8.57	180.00
26	13.00	22.00	.00	8.28	7.91	174.00
27	16.00	23.00	2.00	5.61	5.04	116.00

	wdmazave	wrdmaze	totwdave	totwrds	lepsoc	lepread
1	.75	18.00	26.25	630.00	1.00	1.00
2	1.04	29.00	15.43	432.00	1.00	1.00
3	.58	14.00	18.50	444.00	1.00	2.00
4	.54	13.00	14.17	340.00	1.00	2.00
5	.03	1.00	6.34	184.00	2.00	1.00
6	.18	4.00	13.59	299.00	2.00	1.00
7	1.00	22.00	16.23	357.00	2.00	1.00
8	.20	5.00	15.32	383.00	2.00	1.00
9	.52	12.00	18.17	418.00	2.00	1.00
10	1.00	27.00	12.00	324.00	2.00	1.00
11	.46	12.00	19.04	495.00	2.00	1.00
12	.45	10.00	16.41	361.00	2.00	1.00
13	.30	7.00	13.78	317.00	2.00	2.00
14	.33	7.00	20.14	423.00	2.00	2.00
15	1.46	35.00	33.13	795.00	2.00	2.00
16	.32	9.00	8.82	247.00	2.00	2.00
17	.43	13.00	10.03	301.00	2.00	2.00
18	.29	6.00	15.38	323.00	2.00	2.00
19	.13	4.00	12.66	405.00	2.00	2.00
20	1.36	30.00	14.68	323.00	2.00	2.00
21	.36	8.00	10.64	234.00	2.00	2.00
22	.63	15.00	17.88	429.00	2.00	2.00
23	.32	7.00	10.27	226.00	2.00	2.00
24	.00	.00	13.83	318.00	2.00	2.00
25	.62	13.00	17.48	367.00	2.00	2.00
26	1.23	27.00	16.23	357.00	2.00	2.00
27	.17	4.00	9.00	207.00	2.00	2.00

	lepwrnt	lepspell	leporal	lepmath	var00003
1	1.00	1.00	1.00	1.00	.
2	1.00	2.00	2.00	1.00	.
3	2.00	2.00	1.00	2.00	.
4	2.00	2.00	2.00	2.00	.
5	1.00	2.00	2.00	2.00	.
6	1.00	1.00	2.00	1.00	.
7	1.00	2.00	2.00	2.00	.
8	1.00	2.00	2.00	1.00	.
9	1.00	2.00	2.00	2.00	.
10	1.00	2.00	2.00	1.00	.
11	2.00	2.00	2.00	1.00	.
12	2.00	2.00	2.00	2.00	.
13	1.00	1.00	1.00	2.00	.
14	1.00	1.00	2.00	2.00	.
15	1.00	2.00	2.00	2.00	.
16	2.00	2.00	1.00	1.00	.
17	2.00	2.00	2.00	1.00	.
18	2.00	2.00	2.00	2.00	.
19	2.00	2.00	2.00	2.00	.
20	2.00	2.00	2.00	2.00	.
21	2.00	2.00	2.00	2.00	.
22	2.00	2.00	2.00	2.00	.
23	2.00	2.00	2.00	2.00	.
24	2.00	2.00	2.00	2.00	.
25	2.00	2.00	2.00	2.00	.
26	2.00	2.00	2.00	2.00	.
27	2.00	2.00	2.00	2.00	.

	ld	gender	ca	camos	race	ld
28	269	1	17;1	205.00	w	2
29	273	1	16;8	200.00	w	2
30	274	1	16;2	194.00	b	2
31	277	1	17;8	212.00	w	2
32	279	2	15;10	190.00	b	2
33	301	1	16;1	193.00	w	2
34	311	2	16;7	199.00	w	2

	alsb1	alsub2	alsub3	alsub4	alsub5	alsub6
28	8	15	9	19	6	7
29	8	16	10	20	11	10
30	8	11	10	12	5	7
31	8	16	10	19	6	9
32	8	16	10	16	9	7
33	8	14	9	14	8	8
34	8	14	10	8	10	8

	alsub7	alst	tids1	tids2	tids3	tids tot
28	18	82	35	38	37	110
29	18	93	38	39	40	117
30	18	71	38	37	40	115
31	18	88	39	39	40	118
32	18	84	38	37	37	112
33	18	79	36	32	35	103
34	18	76	34	31	32	97



	tidstim	tidturn	clarif	mlu	difwdave	diffrd
28	9.00	22.00	.00	7.19	10.41	229.00
29	21.00	22.00	.00	7.45	13.09	288.00
30	9.00	22.00	.00	5.71	7.59	167.00
31	10.00	21.00	.00	6.97	13.62	286.00
32	7.00	21.00	.00	7.03	6.19	130.00
33	9.00	22.00	.00	6.33	7.27	160.00
34	14.00	23.00	7.00	5.31	6.65	153.00

	wdmazave	wrdmaze	totwdave	totwrds	lepsoc	lepread
28	2.73	60.00	27.18	598.00	2.00	2.00
29	1.64	36.00	33.45	736.00	2.00	2.00
30	.55	12.00	16.32	359.00	2.00	2.00
31	1.90	40.00	39.57	831.00	2.00	2.00
32	.33	7.00	11.19	235.00	2.00	2.00
33	.18	4.00	14.86	327.00	2.00	2.00
34	.70	16.00	16.39	377.00	2.00	2.00

	lepwrft	lepspell	leporal	lepmath	var00003
28	2.00	2.00	2.00	2.00	*
29	2.00	2.00	2.00	2.00	*
30	2.00	2.00	2.00	2.00	*
31	2.00	2.00	2.00	2.00	*
32	2.00	2.00	2.00	2.00	*
33	2.00	2.00	2.00	2.00	*
34	2.00	2.00	2.00	2.00	*

## Appendix G

### Sample Transcript of LD Student Number 300

Mar 01, 1997  
L300M.TXT (Entire Transcript)

1 \$Amy, L300M  
2 +Writing a TV show subtest  
3 +01-30-97  
4 +[PR] = Prompt needed  
5 =A & L300M are seated in a quiet room with few distractions. They just completed L's hearing screening. L has just received instructions for the experimental task.  
8 - 13:06:00  
9 A Leroy has to apologize for hurt/ing Rose/z feelings. AWhat do you think Leroy would say?  
11 L I/'m so sorry I hurt your feeling/s.  
12 L I/'m sorry.  
13 A Very good.  
14 A You sound sorry.  
15 A Good act/ing.  
16 A Sam/z friend always brag/3s about his dog.  
17 A One day Sam decides to top his friend/z brag/ing by telling how big his own dog is.  
19 A What do you think Sam would say?  
20 L My dog is bigger than your/z.  
21 L Ha ha ha.  
22 A (Good) good job.  
23 A David always use/3s hints to get his grandmother to buy him thing/s.  
24 A He is out shopp/ing with her and see/3s some cowboy boot/s.  
25 A What do you think David would say?  
26 L (Mom) is it his >  
27 A Grandma.  
28 L Grandma, (can I buy) can I get those boots, please?  
29 A Good.  
30 A Richard want/3s to argue with his friend about whose turn it is to go first play/ing a video game.  
33 A What do you think Richard would say?  
34 L It/'s my turn!  
35 L Give me the remote control now!  
36 A Good.  
37 A Ron want/3s to politely turn down an invitation to a party he thinks will be boring.  
39 A What do you think Ron would say?  
40 L I/'m so sorry.  
41 L I/'m busy that night.  
42 A Good job.  
43 A Good job.  
44 A Mr. Flynn always get/3s angry when his class does/n't listen.  
45 A His class is really noisy and Mr. Flynn decide/3s to punish the class for not listen/ing.  
47 A What do you think Mr. Flynn would say?  
48 L (All you) all you kid/s have an after school detention.  
49 A (Good) good.  
50 A Steve is a very nosy person.  
51 A A new kid and family move in next door with lots of nice thing/s.  
52 A What do you think Steve would say?  
53 L Oh, what nice thing/s they have!  
54 L I want one!  
55 A (Good) good job.

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56 A Norm buys a CD that does/n't sound right.  
57 A So he is take/ing it back to the store to complain.  
58 A What do you think Norm would say?  
59 L This CD don't work.  
60 L I want another CD that does work.  
61 A (Good) good job.  
62 A Brad always exaggerate/3s about everything.  
63 A He is tell/ing his buddy/s about his baseball card collection.  
64 A What do you think Brad would say?  
65 L (I got) I got a lot of baseball card/s.  
66 L New one/s and old one/s.  
67 L They worth a lot of money.  
68 A (Good) good job.  
69 A Rick/z father always criticize/3s everything he does. AWhen Rick brings home his report card with two A's and two B's, what do you think his father would say?  
72 L Good boy.  
73 L Here/'s 20 dollars for two A's.  
74 A Good job.  
75 A Joe always blame/3s other people for his mistake/s.  
76 A One morning Joe runs over his neighbor/z bush/s with his pickup truck.  
77 A What do you think Joe would say to his neighbor?  
78 L (Um) (some truck) some drunk driver ran over your bush last night.  
79 A (Good job) good job.  
80 A The talk show host always flatter/3s his guest/s.  
81 A He is interview/ing an actress.  
82 A What do you think the talk show host would say?  
83 L (Um) are you (good at) good at talk/ing to camera and say/ing your part, too?  
84 A (Good) very good.  
85 A Shawn always fish/3s for compliment/s.  
86 A He met his friend on the way to the school with his new leather coat on.  
87 A What do you think Shawn would say?  
88 L Like my new leather coat.  
89 L Ain't it cool dude?  
90 A (Good) good job.  
91 A Henry/z big brother always bug/3s him to do things for him.  
92 A He want/3s Henry to wash his car.  
93 A What do you think the big brother would say?  
94 L Nope, (not) not because you bug me a lot.  
95 L And I ain't gonna do nothing for you.  
96 A Well that might be what Henry would say, but what would the big brother say to bug Henry?  
98 L (Oh) oh.  
99 L Can you wash my car, please?  
100 L Please?  
101 L I/'ll give you ten dollars to was my car.  
102 A good.  
103 L Sorry about that.  
104 A No, that/'s all right.  
105 A That/'s why I/'m here.  
106 A Sammy always come/3s right to the point.

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107 A He think/3s his friend/z haircut looks awful.  
108 A What do you think Sammy would say?  
109 L Your haircut is terrible.  
110 L You need to put a hat on or something.  
111 A (Good) good job.  
112 A Randy always bully/3s everyone.  
113 A All the kid/s want him to play soccer.  
114 A But he will only play if they let him be the goalie. AWhat do you think Randy would say?  
116 L That/'s the bully?  
117 A Yes.  
118 L OK, (I wanna be the) (a soccer) I wanna be the soccer goalie.  
119 L That boy out there, go out there and play soccer while I block the goal.  
120 L Now!  
121 A Good.  
122 A I like what you added at the end.  
123 A Eduardo/z father always judge/3s him harshly.  
124 A Eduardo place/3s second in a wrestling match.  
125 A What do you think Eduardo's father would say?  
126 L Good.  
127 L Good son.  
128 L XXX.  
129 A Good.  
130 A Josh has to confess to break/ing his mother/z favorite blue bowl.  
131 A What do you think Josh would say?  
132 L Mom, I broke your bowl.  
133 L I/'m very sorry.  
134 L I/'m sorry.  
135 A (Good) good boy.  
136 A You/'re a good actor!  
137 A Santos always encourage/3s Connie to work on her running.  
138 A She comes in second in a race.  
139 A What do you think Santos would say?  
140 L Good girl you came in second!  
141 L Here/'s a (girl) second place trophy.  
142 A Good job.  
143 A Noah always sound/3s really sarcastic.  
144 A Let's say it rain/3s every weekend all summer.  
145 A What do you think Noah would say?  
146 L Boy, it/'s so boring because it/'s rain/ing outside.  
147 L I want something to do.  
148 A Good job.  
149 A You were a really good actor!  
150 A Have you try/ed that before?  
151 A No?  
152 A Well, what I/'m going to do is>  
153 A There were a couple of them I/'m not sure you got quite the gist of.  
154 A So I/'m gonna help you out and tell you what we really want/ed to get across and what it means.  
156 A And we/'ll make them a little bit better.  
157 A The key condept to this one is uses hints.  
158 A And that means that you kind of talk around stuff.

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159 A You don't say thing/s directly.  
160 A David always use/3s hints to get his grandmother to buy him thing/s.  
161 A He is out shopping with her and see/3s some cowboy boot/s.  
162 A What do you think David would say?  
163 L Oh, nice boot/s.  
164 L I want that one.  
165 A (Good) good job.  
166 A See, we/'re just doing like they would do on a regular TV show.  
167 A If they need a little help, they just practice it again.  
168 A OK, Steve is a very nosy person which means that he is way too interested in other people/z business.  
170 A A new kid and family move in next door with lots of nice thing/s.  
171 A What do you think Steve would say?  
172 L Oh, nice thing/s.  
173 L Wow, I would like thing/s like that.  
174 A (Good) good acting.  
175 A Rick/z father always criticize/3s everything he does, which means he put/3s down everything he does. AWhen Rick brings home his report card with two A's and two B's, what do you think his father would say?  
179 L Wow, Son, that was so nice of you to get A's and B's on your report card.  
180 A Good job.  
181 A All right.  
182 A Oh here was one.  
183 A This one I was/n't sure you got quite the gist of.  
184 A The word was flatter.  
185 A And flatter mean/3s to make someone feel good by saying lots of nice thing/s about them, even if you don't mean it.  
187 L (OK um) OK, what a nice dress you/'re wearing.  
188 A (Good) very good.  
189 L Or good acting.  
190 A Good job.  
191 A A couple more.  
192 A Do you know what it mean/3s to fish for compliment/s?  
193 A I think that/'s something girl/s do a little more than guy/s.  
194 A So let me help you out.  
195 A When you fish for compliment/s it mean/3s that you try to get someone to say nice thing/s about you without asking for it directly.  
197 A Shawn always fish/3s for compliment/s.  
198 A He met his friend on the way to the school with his new leather coat on.  
199 A What do you think Shawn would say?  
200 L Wow, nice jacket.  
201 L (I/'m gon) I want a jacket like that.  
202 A (Good) good job.  
203 A OK, Eduardo/z father always judge/3s him harshly.  
204 A And that means that nothing he does is good enough.  
205 A Eduardo/z father always judge/3s him harshly.  
206 A Eduardo place/3s second in a wrestling match.  
207 A What do you think Eduardo's father would say?  
208 L You can do a lot better than that!  
209 A Good job.  
210 L You can get first place instead of second.



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211 A Good.

212 A OK, there/'s only one more.

213 A Yes, only one more.

214 A And that one/'s sarcastic.

215 A When you/'re sarcastic that means that you say something that you don't mean in a way that let/3s everyone know you don't mean it.

217 A Noah always sound/3s really sarcastic.

218 A Let's say it rain/3s every weekend all summer.

219 A What do you think Noah would say?

220 L Boy, I wish it would stop rain/ing so I could go out and play.

221 A Good job.

222 -13:2p[]6:00

## **Appendix H**

### **Sample Transcript of NLD Student 301**

Mar 15, 1997

C301M.TXT (Entire Transcript)

1 \$Amy, C301  
2 +Writing a TV show subtest  
3 +02-05-97  
4 +[PR] = Prompt needed  
5 =A & C301 are seated in a quiet room with few distractions. They just completed C's hearing screening. C has just received instructions for the experimental task.  
8 - 12:45:00  
9 A Leroy has to apologize for hurt/ing Rose/z feelings. AWhat do you think Leroy would say?  
11 C I/'m sorry.  
12 C (I) I really did/n't mean to.  
13 C I guess I just was/n't listen/ing to what I was say/ing.  
14 A Fantastic.  
15 A Sam/z friend always brag/3s about his dog.  
16 A One day Sam decides to top his friend/z brag/ing by tell/ing how big his own dog is.  
18 A What do you think Sam would say?  
19 C Oh well, my dog can stand on my head and do a double flip off.  
20 C Beat that.  
21 A Good job.  
22 A David always use/3s hints to get his grandmother to buy him thing/s.  
23 A He is out shopp/ing with her and see/3s some cowboy boot/s.  
24 A What do you think David would say?  
25 C Hey those are some nice boot/s.  
26 C I think those would look real good on me.  
27 A Good.  
28 A Richard want/3s to argue with his friend about whose turn it is to go first play/ing a video game.  
31 A What do you think Richard would say?  
32 C (I) I can go first this time, I promise you can go first next time.  
33 A Good.  
34 A You/'re do/ing a great job.  
35 A Ron want/3s to politely turn down an invitation to a party he thinks will be boring.  
37 A What do you think Ron would say. (Uh) I think I have plan/s that night.  
39 C I/'m not sure.  
40 A Good.  
41 A Mr. Flynn always get/3s angry when his class does/n't listen.  
42 A His class is really noisy and Mr. Flynn decide/3s to punish the class for not listen/ing.  
44 A What do you think Mr. Flynn would say?  
45 C You all have detention after school.  
46 A Good job.  
47 A Steve is a very nosy person.  
48 A A new kid and family move in next door with lots of nice thing/s.  
49 A What do you think Steve would say?  
50 C Where you from?  
51 C What do you like to do?  
52 C Do you wanna come over some time?  
53 A Perfect.  
54 A Norm buys a CD that does/n't sound right.  
55 A So he is take/ing it back to the store to complain.  
56 A What do you think Norm would say?

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C301M.TXT (Entire Transcript)

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57 C I think there/'s something wrong with this CD.  
58 C I think maybe you should give me a refund, please.  
59 A Good.  
60 A Brad always exaggerate/3s about everything.  
61 A He is telling his buddy/s about his baseball card collection.  
62 A What do you think Brad would say?  
63 C I got some really cool card/s.  
64 C Wanna see them.  
65 A Good.  
66 A Rick/z father always criticize/3s everything he does. AWhen Rick brings home his report card with two A's and two B's, what do you think his father would say?  
69 C Is/n't it better than last time?  
70 C Oh, OK.  
71 C I mess/ed up on that.  
72 C The father was suppose/ed to say something, right?  
73 C Or was I speak/ing as the son?  
74 A Yeah, you/'re the father.  
75 C Can't you do any better than that?  
76 C I mean a B?  
77 C Come on.  
78 A Perfect.  
79 A Joe always blame/3s other people for his mistake/s.  
80 A One morning Joe runs over his neighbor/z bush/s with his pickup truck.  
81 A What do you think Joe would say to his neighbor?  
82 C (Uh) (I) the dog did it.  
83 A Good.  
84 A The talk show host always flatter/3s his guest/s.  
85 A He is interview/ing an actress.  
86 A What do you think the talk show host would say?  
87 C Oh, you have such pretty eye/s.  
88 C They/'re like diamond/s.  
89 A Good.  
90 A Shawn always fish/3s for compliment/s.  
91 A He met his friend on the way to the school with his new leather coat on.  
92 A What do you think Shawn would say?  
93 C Say that again.  
94 A Sure.  
95 A Shawn always fish/3s for compliment/s.  
96 A He met his friend on the way to the school with his new leather coat on.  
97 A What do you think Shawn would say?  
98 C Like my new coat?  
99 A Good.  
100 A Henry/z big brother always bug/3s him to do things for him.  
101 A He want/3s Henry to wash his car.  
102 A What do you think the big brother would say?  
103 C Henry bug/3s his brother to wash the car?  
104 A Henry/z big brother always bug/3s him to wash the car.  
105 C Come on.  
106 C Wash it, please.  
107 C Will you please wash it for me?

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C301M.TXT (Entire Transcript)  
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108 A Perfect.  
109 A Sammy always come/3s right to the point.  
110 A He think/3s his friend/z haircut looks awful.  
111 A What do you think Sammy would say?  
112 C Your hair look/3s really bad.  
113 A Good.  
114 A Randy always bully/3s everyone.  
115 A All the kid/s want him to play soccer.  
116 A But he will only play if they let him be the goalie. AWhat do you think Randy would say?  
118 C If you don't let me be goalie, I/'m not gonna play.  
119 A Eduardo/z father always judge/3s him harshly.  
120 A Eduardo place/3s second in a wrestling match.  
121 A What do you think Eduardo's father would say?  
122 C Second?  
123 C Second?  
124 C That/'s the best you can do is second?  
125 A Perfect.  
126 A Josh has to confess to break/ing his mother/z favorite blue bowl.  
127 A What do you think Josh would say?  
128 C I accidentally broke your blue bowl.  
129 C I know it/'s your favorite, but I did/n't mean to.  
130 A Good.  
131 A Santos always encourage/3s Connie to work on her running.  
132 A She comes in second in a race.  
133 A What do you think Santos would say?  
134 C You did really good.  
135 C I was surprise/ed.  
136 C At least you did/n't get last.  
137 A That ws fantastic.  
138 A Noah always sound/3s really sarcastic.  
139 A Let's say it rain/3s every weekend all summer.  
140 A What do you think Noah would say?  
141 C God, it rain/3s every single day.  
142 C You/'d think we live/ed ina pool or something.  
143 A Good.  
144 A You were a great actor.  
145 A You did exactly what I want/ed you to do.  
146 A There were only two of them that I/'d like to go back to a and them over.  
147 A Only because I/'m not sure I got across to you exactly what I want/ed to.  
148 C I/'m sorry.  
149 C I was think/ing of other one/s.  
150 C And so I got mess/ed up.  
151 A Well, you were do/ing great anyway.  
152 A And this one in particular has been hard for all of the guys.  
153 A I think girl/s do it more.  
154 A Shawn always fish/3s for compliment/s which mean/3s he try/3s to get his friends to say nice thing/s about him without ask/ing them directly.  
156 A He met his friend on the way to the school with his new leather coat on.

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157 A What do you think Shawn would say?  
158 C I just got a new leather coat.  
159 C I really like it.  
160 C Everyone/'s telling me it/'s just reallly nice.  
161 A What do you think?  
162 A Good job.  
163 A OK, and the very last one has just been the ahrdest for everyone.  
164 A We all know how to do this.  
165 A It/'s just kind of hard to do it on the spot.  
166 A Sarcastic was the key concept.  
167 A And that mean/3s that you say something that you don't mean, in a way  
that let/3s everyone know you don't really mean it.  
169 A Noah always sound/3s really sarcastic.  
170 A Let's say it rain/3s every weekend all summer.  
171 A What do you think Noah would say?  
172 C What do you mean by it?  
173 C Can you give me an example?  
174 A Do your best.  
175 =No response.  
176 A OK, here/'s an example unrelated to this.  
177 A Let/'s say you/'re talk/ing about the school/z food.  
178 A You might say, "Boy I can't wait until lunch".  
179 A I love the food here.  
180 C I love the rain.  
181 C I wish it would rain more often.  
182 C In fact, the more the merrier.  
183 A Perfect.  
184 -1:00

**Appendix I**  
**Research Protocol Clearance**



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## WESTERN MICHIGAN UNIVERSITY

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Date: 24 October 1996

To: Dr. Nickola W. Nelson

From: Richard Wright, Chair *B for R. Wright*

Re: HSIRB Project Number 96-10-18

This letter will serve as confirmation that your research project entitled "Assessing Pragmatic Skills in Adolescents with Learning Disabilities" has been **approved** under the **expedited** category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you must seek specific approval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: October 20, 1997

xc: Amy L. Juergens



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