

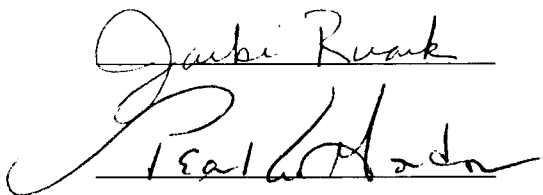
To the Graduate Council:

I am submitting herewith a thesis written by Heather Leigh Jones entitled "The Emergence of Accessing Skills in Typically-Developing School-Age Children." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Speech Pathology.



Lori Swanson, Ph.D., Major Professor

We have read this thesis and
recommend its acceptance:



Accepted for the Council:



Associate Vice Chancellor and
Dean of The Graduate School

THE EMERGENCE OF ACCESSING SKILLS OF
TYPICALLY-DEVELOPING SCHOOL-AGE CHILDREN

A Thesis
Presented for the
Master of Arts
Degree
The University of Tennessee

Heather Leigh Jones
May 1997

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Abstract

Recent research has affirmed that delays in the development of pragmatic skills can have long-term ramifications. Children whose language abilities are limited, as in specific language impairment, are at risk for social incompetence due to their inability to interact appropriately with their peers. One particular area of pragmatics which has been shown to have a profound impact on social skills is accessing. Studies have indicated that children with specific language impairment do not develop accessing techniques as do their age-matched and language-matched peers. However, no comprehensive study had been done thus far which documented the emergence of accessing skills in typically-developing children.

The purpose of this study was to examine the development of accessing skills. Typically-developing children in kindergarten and second grade participated in a triadic interaction. Two confederates began the interaction, and the subject was introduced after five minutes. The time required to access and accessing technique used were recorded, analyzed, and compared between groups. The Social Skills Rating System-Teacher Form (Gresham & Elliott, 1990) was also administered to assess social competence.

The results showed that kindergarten Subjects required an average of one minute longer to achieve access than did second graders, though this was not a significant difference. The results showed that attention getting, particularly through eye contact, was the single most frequently used accessing technique among all Subjects. The techniques used by both groups to achieve access were virtually identical, thus indicating the

existence of a particular pattern of behaviors which constitutes appropriate accessing skill.

A hierarchy of steps to achieve successful access is presented as a preliminary guide to providing treatment for children with pragmatic disorders who have difficulty with this skill.

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CHAPTER I

Introduction and Review of Literature

Introduction

In recent years the area of pragmatics has become more important in the practices of speech-language pathologists. Pragmatics are those social rules which govern the use of language, including nonverbal as well as verbal communication. There is clear evidence that children who lack pragmatic proficiency are at risk for peer rejection, loneliness, and social incompetence (Craig, 1993; Gallagher, 1993; Rice, Hadley, & Alexander, 1993; Rice, Sell, & Hadley, 1991). One particular group at risk for pragmatic difficulties is the population with specific language impairment. Current research has compared the pragmatic skills of children with specific language impairment to those of their age-matched and language-matched peers. In particular, they have examined accessing behaviors. Accessing behaviors are those techniques used when one desires entry into an ongoing interaction. Examples of accessing behaviors are making eye contact with the intended conversational partner, making a statement to gain attention, or asking a question. The conclusions of these studies indicate that children with specific language impairment show less proficiency in the use of accessing skills as compared with their peers. This warrants further research toward the development of treatment protocols for pragmatics in general and accessing in particular.

However, one difficulty faced by those pursuing the development of such programs is a lack of normative data regarding accessing and a concomitant lack of diagnostic tools for identifying and documenting accessing problems. While observation can provide basic

indicators of a child's knowledge of pragmatics and social skills which lead to social competence, it may not provide enough information for a teacher or speech-language pathologist to differentiate between children who truly have a disorder and those who lack an outgoing personality. Therefore, it is both practical and desirable to attempt to establish normative data on the emergence of accessing skills.

Specific Language Impairment.

Specific language impairment (SLI) is one of the common language deficits seen by speech-language pathologists, especially those who work with children. It is a unique disorder because of its relatively recent identification and the criteria used for its diagnosis.

Definitions and theories.

Identified by Leonard (1991) as a distinct clinical category, specific language impairment (SLI) has since been viewed as an umbrella term with numerous subtypes. These subtypes are based on the various aspects of language affected by specific language impairment and range from delays in underlying grammatical comprehension to impairments in expressive pragmatics. Specific language impairment was most definitively described by Stark and Tallal (1981) as performing at least twelve months below chronological or mental age on a standardized language test, without showing the following: (a) hearing thresholds above 25 dB HL, (b) emotional or behavioral problems, (c) intelligence scores more than one standard deviation below the norm, (d) neurological deficits, or (e) overt articulation or phonological deviations.

According to Leonard (1991), those who show SLI are not language impaired, but are those children who fall at the lower extreme of the normal distribution of language

skills in the population. Leonard uses the analogy of children who are not adept in skills common in the normal population, such as musical ability. He asserts that those who are born without particular proficiency in music are not labeled “musically impaired,” thus all children with difficulty learning language should not be labeled “language impaired.” Instead, these children, whether they are deficient in music or in language, may need special instruction in order to perform at a desirable level, whereas others in the population may not require such training. This analogy purports that language impairment is not the result of systemic damage. Rather, it is the expression of the lower extreme of the distribution of normal language ability in the population.

Leonard’s (1992) theoretical perspective of specific language impairment is called the Surface Account, and takes into consideration aspects of the theory of Limited Processing Capacities, to be discussed. The Surface Account states that children with SLI acquire certain aspects of grammar (e.g., articles, auxiliary verbs, and plural -s) later than children who do not have a language disorder, because the “surface features” of these words are less salient than content words (i.e., short in duration, low in intensity). Hence, these forms are more difficult to perceive, and children with SLI require more exposure to these forms before they can perceive them, and subsequently produce them, in their adult form. As interpreted by Leonard, such children require more exposure to these less salient “grammatical morphemes” in order to place them in morphological “paradigms.” Paradigms are those internal, learned linguistic devices which regulate the expression of language. Without these paradigms, children with SLI have difficulty recognizing the rules of grammar, and are left to learn language as a word-specific phenomenon, rather

than a rule-based system in which generalizations may occur. This interrupts the typical process of language acquisition and causes delays.

The construction of these paradigms is further hampered by the limited processing capacities of children with SLI. The theory of Limited Processing Capacities (Leonard, 1992) explains that some communicators lack ability in the areas of language comprehension and production. For such communicators, an increase in the complexity of language used decreases their ability to comprehend or express such structures. Increases in complexity would also interfere in the construction of morphological paradigms. These grammatical delays cause the overall language abilities of the child with specific language impairment to be immature. In terms of the Surface Account, a child who shows Limited Processing Capacities would have difficulty forming the morphological paradigms necessary to use more sophisticated language.

Prevalence and familial aggregation.

The discrete prevalence figure for specific language impairment is unknown for several reasons. While most researchers rely on the definition presented by Stark and Tallal (1981), this definition is not consistently applied in clinical contexts. It is also difficult to ascertain this figure because basic data on the prevalence of childhood language disorders are not consistently reported. While the Department of Education statistics can account for those children seen in the state school systems, they cannot account for all of the children who are seen in community clinics and private practices, nor can they report on those children who are not yet diagnosed. Leonard (1989) cited the percentages published by Tower in 1979, which projected that approximately six percent of all children

show SLI, though only one to two percent of all children would perform on language tests at a level two-thirds or more below their tested mental age.

The genetic component of SLI has been examined through (a) patterns of familial aggregation in extended families affected, (b) statistical studies of familial aggregation in such samples, (c) twin studies, and (d) DNA comparison of affected individuals and their unaffected relatives (Gopnik & Crago, 1991). Compelling evidence for a genetic component of specific language impairment was presented by Gopnik and Crago (1991). Their study of a multigenerational family with a high proportion of members who showed language impairment was an insightful examination of the possibility that there is a genetic component of SLI.

Review of Literature

Pragmatic Deficits of Children With SLI.

Pragmatics is the study of the use of language in a social context (Gallagher, 1991). It is primarily through social interaction that language skills are acquired and developed during childhood. Therefore, the opportunity to use language in a social realm is an important aspect of development and a crucial environmental factor in language acquisition. According to Hartup (1983), peer interaction is a meaningful element in child development and is necessary for childhood socialization; the inability to engage in such activity is an indicator of a difficulty in language development. This ability to interact with one's peers seems to be the single most important factor in establishing social competence in childhood, which in turn leads to the formation of positive peer relationships.

One of the major difficulties of children with specific language impairment is pragmatic skill. School-age children with pragmatic difficulties face numerous challenges in both academic and social skills. Those who are not identified and do not receive special services can find themselves spinning in Rice's "negative social spiral" (Rice, 1993, p. 147), a phenomenon of poor social and academic skills which alienates the student and thereby deters the student from active participation, further prohibiting success.

In terms of academics, children with SLI can have problems adapting to the routines of the classroom and understanding the expectations of the classroom teacher (Rice et al., 1993). Their participation in language-based classroom activities can be inappropriate and may be interpreted as evidence of a behavioral problem rather than a language deficit. Several studies have also indicated that teachers' perceptions of the intelligence and personalities of children with SLI who show pragmatic deficits are often unfavorable (Hadley & Rice, 1991; Schuele, Rice, & Wilcox, 1995). It is possible that this negative opinion could be reflected in the feedback and grades received by such children. This can then have an adverse impact on the development of the child's self-esteem.

Socially, a child with pragmatic problems would have difficulty entering ongoing play interactions due to poor accessing skills. This inability to access deprives the child of the opportunity to play with peers, make friends, and form positive peer relationships. The child can become isolated due to this pragmatic deficit. The fact that children learn language through interaction with peers makes this even more significant, as isolation will

work against the child and further delay appropriate language acquisition. These academic and social consequences of SLI can ultimately place the child at risk for social incompetence.

Fey's categories of interaction styles.

Children with SLI can show a wide range of social interaction styles. The use of interaction styles was described by Fey (1986), who developed two continua along which children could be classified relative to their pragmatic communicative temperament. He described two components of communication--assertiveness (referring to the child's willingness to take an unsolicited conversational turn) and responsiveness (referring to the child's responsiveness to the needs of the conversational partner). A child who is both assertive and responsive is termed "active"; one who is neither assertive nor responsive is "inactive." A child who is responsive to others, though not independently assertive, is "passive." Finally, a child who is assertive but unresponsive is a "verbal noncommunicator" (Fey, 1986, p. 70). These classifications can be useful in describing the interaction styles of children with SLI, as illustrated in the case studies by Craig (1993) and Fujiki and Brinton (1991).

To date, no case studies of Fey's active or inactive communicators have been conducted. The active communicator is both assertive and responsive, though this child would exhibit syntactical difficulty, such as an inability to construct contextually cohesive utterances. The active communicator does not have a severe pragmatic disorder, although a typically-developing child might not interact as often with this child. The inactive communicator, on the other hand, is neither assertive nor responsive. This child would be

susceptible to being ignored by peers, and could face great hardships in attempting to make friends and form positive peer relationships. Further examination of both of these categories of children is warranted.

Craig (1993) presents examples of interactions of a seven year-old boy with SLI named Gary who would most probably be identified as a passive communicator, a child who is not assertive but is responsive, using Fey's (1986) classification system. Gary is introduced to two other boys, Ben and Andrew, who met 10 minutes beforehand. Ben and Andrew are engaged in play when Gary walks into the room. Gary presents himself with "I'll stand here," indicating that he is not ready to begin interacting with the other boys. Gary's body language further isolates him, as he sits with his back to the interaction. Ten minutes into the interaction Gary is addressed by Ben and ignores this address until Ben persists. Then Gary begins interacting, though he interjects several times with "/^daI/," presumably jargon. His other responses are also inappropriate to the interaction, such as "You're a famous, lamous," and "I don't care to make any sense /^daI/." Clearly Gary was not a successful communicator, and several reasons are discussed.

The first is accessing. One normal pattern of accessing is to gain proximity to the desired interaction, observe, and then to ask for or volunteer new information. Gary did none of these. The next issue is responsiveness. Though Gary was responsive, his responses were most often inappropriate. It is not known why such children respond inappropriately. Another aspect is assertiveness. In these interactions Gary made no real assertive attempts. Under Fey's (1986) system of categorization, Gary would be labeled

as a passive participant because he was responsive but not assertive. However, Gary presents with both expressive and receptive problems. An additional difficulty faced by Gary was the inability to adjust his discourse to participate in an ongoing dialogue. Gary is not able to make real-time adjustments to his discourse, which impairs his ability to interact appropriately in the ever-changing social situations he encounters. The authors conclude that this child shows more than a pragmatic problem and that he is at risk for social incompetence, though the authors did not speculate on the possibility of other underlying disorders.

A second case study (Fujiki & Brinton, 1991) explored the communicative style of "H," a child with SLI, age nine years, eleven months, who would be labeled as a "verbal noncommunicator" by Fey's (1986) definition. According to Fey, the verbal noncommunicator lacks relatedness, and his or her responses are not contingent upon context. H displayed specific pragmatic difficulties in his conversations with both peers and adults. He was described by his teachers as outgoing and verbal, though he had academic difficulties and was seen as "different" and "had trouble gaining acceptance from peers." He was also described as "socially inept and academically handicapped" (Fujiki & Brinton, 1991, p. 323). H was observed in dyadic interactions with an adult, a language age-matched peer, and a chronological age-matched peer.

H produced more utterances than his partners in all interactions, though the function of his utterances was deviant. A large number of his requests functioned as requests for attention, rather than requests for action or information. These empty requests, which were intended to hold the conversational floor, were often ignored by his

conversation partner. Among the dyads, the rate of turn initiations for each partner was essentially equal, though H occupied most of the talking space and initiated most of the topics. Many of these topics were nonsensical and were consequently ignored by the partner. In fact, in the dyad between H and the language-matched partner, over one third of H's initiations were not maintained. Additional outside observation led the authors to conclude that H's partners, particularly children, appeared affected by H's style of discourse. It is likely that this related to his difficulty forming peer relationships and also contributed to his teachers' judgments of his intelligence.

Social skills of children with SLI.

It is likely that children with specific language impairment who lack age-appropriate pragmatic skills will encounter difficulties when participating in social situations with both adults and peers. The studies which follow have examined the social skills of children with specific language impairment in a variety of contexts. These social skills are important to this discussion of pragmatics because pragmatic rules govern social interactions.

Early studies.

Greenwood, Walker, Todd, and Hops (1981) conducted one of the first comprehensive studies in the area of preschool social interaction rates. While the basis of this study was primarily child psychology, it presents a normative description across the demographics of age, gender, and school enrollment. The method of the study required the cooperation of teachers, who filled out evaluations of the social skills of selected students. A behavioral observation system developed by the investigators was used by the

teachers to record initiations, responses, continuing responses, and terminations. The following findings pertain to this discussion of accessing.

Significant increases were found between the social interaction rates (number of addresses made and received) of three year-olds, four year-olds, five year-olds, and seven year-olds. This finding indicates that this period of development is one of significant change in rates of social interaction, and could therefore be a critical period of maturation of social skills. It was also found that females tend to play in dyads more than males, and that males are generally more motoric in their play. The analyses did not reveal a significant difference between age-similar subjects with varying levels of school experience. Results also indicated that at age 3, females received more initiations than they made. By age 5 this pattern of initiations was no longer present. It was also found that males of all ages made more initiations than they received.

Brinton and Fujiki (1982) compared the request-response sequences in the discourse of typically-developing and language-disordered children in an effort to further document the patterns of young children. The study consisted of six dyads, three of which were comprised of typically-developing children and three of which were dyads of children with language impairment. The children were left alone in a room with various toys and were videotaped. Their interactions were transcribed and compared.

The target forms to be examined by the investigators were, (1) choice questions, (2) product questions, and (3) requests for clarification. Choice questions were those such as "Did you see that?" to which the appropriate response would be "yes" or "no" (Brinton & Fujiki, 1982, p. 59). Typically-developing children produced significantly more correct

responses to choice questions, and were the only subjects to request clarification and to make comments intended to divert the attention away from the question, referred to as “hedges” by the authors. Similarly, in response to product questions, such as “What’s your name?” (p. 60), children with normal language skills produced significantly more appropriate responses and were again the only subjects to request clarification and produce hedges. Two of the language-impaired subjects ignored these questions, whereas none of the children with typically-developing language did. Requests for clarification were produced three times more often by normal subjects than by the subjects with language disorders, leading the authors to conclude that it is possible that “speaker-listener contact was more important to these (normal) children” (p. 61). The subjects with language disorders produced more unrelated responses to all types of questions than the typically-developing subjects. The authors concluded that the findings of this research give a solid rationale for further consideration of the social skills of language-impaired subjects.

Guralnick and Paul-Brown (1986) compared the interactions of two groups: (1) mildly delayed children with handicaps and typically-developing preschool children, and (2) moderately delayed and severely delayed children with handicaps. This study focused on the effects of the developmental level (estimated mental age) of the listener on the utterances of the speaker. The results showed that nonhandicapped and mildly delayed children used longer mean length of utterances (MLUs) when addressing more linguistically advanced children, and a higher proportion of the longer utterances of these children were directed toward more advanced conversational partners. Even mildly

delayed subjects used more complicated utterances when addressing typically-developing partners. The types of addresses also varied by communicative partner. When speaking with moderately delayed and severely delayed partners, a higher proportion of addresses were behavior requests; conversely, the utterances directed toward higher functioning partners were more often information statements. These findings indicate that the children in this study, who ranged in age from 4 to 6 years, were sensitive to the communicative competence of their conversational partners and adjusted their level of conversation accordingly.

Craig and Evans (1989) conducted a study to assess the turn-exchange characteristics of the simultaneous and nonsimultaneous speech of children with specific language impairment in dyadic interaction. The subjects were five boys with SLI who ranged in age from 8;8 (years; months) to 13;11, with MLUs between 2.9 and 4.0 morphemes; five age-matched boys who were developing normally; and five language-matched boys who were chronologically younger than the SLI subjects. Spontaneous language samples of an adult-child interaction was collected for each subject. These samples were transcribed and the utterances scored as simultaneous or nonsimultaneous. Simultaneity refers to an unsuccessful turn exchange in which both conversational partners spoke at the same time, thus indicating a conversational breakdown. Nonsimultaneous utterances were those which showed appropriate turn taking. Nonsimultaneous utterances were further examined with regard to utterance focus, turn types, and response patterns.

The results showed that although more speech was produced nonsimultaneously for all subjects, the subjects with specific language impairment produced significantly less

simultaneous speech. The authors concluded that the conversational patterns of turn-taking in children with SLI are similar to those of their age-matched and language-matched peers, producing mostly single-utterance orderly exchanges, though they differ in important ways. The SLI subjects showed less simultaneous speech than the other two groups. While simultaneity is actually a conversational breakdown, interruption is a discourse device common in child language. The purpose of these interruptions is to gain a turn in the conversation, and the theoretical framework for using this device reveals that goal-directed use of simultaneous speech is a more sophisticated form than passiveness. Therefore, the SLI child “cannot easily be characterized as pragmatically intact with a circumscribed structural problem, nor as conversationally delayed” (Craig & Evans, 1989, p. 343).

Rice, Sell, and Hadley (1991) compared four groups of children with varying levels of language ability: normal language (NL), specific language impairment (SLI), speech impairment (SI), and English as a second language (ESL). The purpose of the study was to make comparisons among the four groups to gain information on social interactions of children with varying language abilities. The children were observed in a naturalistic setting, and social interactions were recorded. The following conclusions were made:

1. Normal-language peers initiate interactions with each other and have a higher percentage of longer responses; normal-language peers were the preferred addressees in peer initiations in the classroom.
2. Children with limited communication skills are more likely than their normal-language peers to initiate to adults.

3. Children with limited communication skills, and especially those with speech impairments, shorten their responses or use nonverbal responses.

4. ESL children were least likely to initiate interactions and were the most likely to be avoided as the recipient of an initiation (Rice et al., 1991, p. 34).

These findings suggest that subjects with normal language can monitor their own communicative skill relative to others and choose as partners those with skills similar to their own. Meanwhile, children with language difficulties are more likely to initiate with adults. This could be due to the fact that such children receive proportionally more adult-directed initiations than their peers with normal language because they were receiving more attention in the clinical setting due to their language impairments. Another possibility is that the lack of assertiveness of the children with language difficulties is the result of previous experiences of being ignored or receiving a negative response when initiating to normal-language peers.

Hadley and Rice (1991) conducted a follow-up study to examine the responsiveness of speech- and language-impaired preschoolers. They observed four groups of children: typically developing, marginal (those who had been receiving speech and language services but were now considered normal), language impaired (LI), and speech impaired (SI). The subjects were observed in a naturalistic setting during six 4-minute interactions which were recorded on-line. Statistical procedures showed no difference in the number of interactions or the number of conversational turns, implying that all four groups were engaged in similar interactions.

Subject groups were analyzed in terms of preferred conversational partners (peers or adults). The results showed that typically developing and marginal children were more likely to engage in peer interactions (45% and 51%, respectively), whereas the children with speech- or language-impairments did so with a frequency of only 35% and 34%, respectively. The reciprocity of peer and adult partners was also examined. When LI and SI subjects approached peers, they were ignored twice as often as peers with normal language. In interactions with adults there were no group differences, with the exception of the marginal subjects who were ignored by adults at a rate of 22%, as compared to 12% for the typically-developing subjects. It was also observed that adults were more likely to prompt another conversational turn than were peers when interacting with the LI and SI subjects.

When the LI and SI subjects were approached by peers, they were less likely to respond, attending but giving no response to advances at rates of 30% and 27%, respectively. Interestingly, these children were addressed half as frequently as those with normal language, which could be related to their lack of responsiveness. LI and SI children were also less likely to respond to the addresses made by adults.

These data were collapsed to calculate the frequency of "successful turns" for each group. A successful turn was defined as one in which attempts to interact met a response, or were part of an ongoing conversation. Children with typical language were equally successful with peer and adult partners, though marginal children were more successful with peers. The LI and SI subjects were less successful with their peers, though only SI children had a rate of success less than 80%.

Two hypotheses were drawn from these results regarding why the LI and SI children were more frequently ignored: (1) low intelligibility made their conversations too difficult to follow, and (2) failure to elicit attention reduced the number of opportunities to interact. Another issue was the lack of responsiveness of LI and SI children. It is possible that they were less responsive either because they did not comprehend the previous utterance or because they were trying to avoid a communication difficulty. Thus, their difficulties seem to range from an inability to comprehend and formulate responses to anticipation of failure and lack of motivation. These behaviors deter participation in future interactions and further deprive them of the opportunity to learn interactional skills. The authors concluded that these behaviors could lead to social isolation for such children.

Craig and Evans (1993) collected language samples of 10 children with SLI (2 subgroups based on profile of language impairment) and 10 children with normal language during an adult-child interview. The purpose of this study was to determine whether significant differences exist among subgroups of children with SLI, as distinguished by varying receptive skills. Subjects' utterances were scored with regard to turn-exchange and cohesion (the ability to construct a series of utterances on the same or a related topic).

The two subgroups of children with SLI included one group who showed good receptive skills but a lack of expressive ability (E:SLI) and another group of children with SLI who had deficits in both expressive and receptive skills (E-R:SLI). The findings showed that the children with SLI with poor expressive skills (E:SLI) used interruption and accessing more like children with normal language than did the SLI children with both expressive and receptive difficulties (E-R:SLI). The E-R:SLI group used fewer

interruptions and cohesive ties. These findings point to the need for subtyping with regard to SLI for both clinical and research purposes. The authors concluded that comprehension and production abilities should be considered as criteria for the description of subtypes.

Craig and Washington (1993) compared the verbal and nonverbal behaviors used by five children with SLI with those of age-matched and language-matched subjects. The subjects were put in triadic groups consisting of two normally-developing children and an experimental subject. The experimental subjects were either SLI, language-matched, or age-matched subjects. The two children with normal language were introduced and observed until they began playing together. Then the experimental subject was introduced and data were collected on the SLI (or control) child's use of accessing behaviors. The SLI (or control) child was in the room for a 20-minute play interaction, which the researchers called an Access Episode. The SLI (or control) subjects were scored on their use of verbal and nonverbal accessing behaviors during this episode. Again, these interactions were observed with SLI subjects, language-matched subjects, and age-matched subjects acting as the third playmate.

Of all subjects, only those with SLI did not access the play group. In fact, a majority (three out of five) of the SLI subjects were unable to join the interaction in any way. The two SLI subjects who did achieve access did so nonverbally. It was not clear whether the SLI subjects were reluctant to interact due to a history of failure in interacting with other children or because they did not possess the skills needed to access the group. However, it is most probable that these factors do not work in isolation.

Gertner, Rice, and Hadley (1994) studied the influence of communicative competence on peer preference in a preschool classroom. Their data were collected at a preschool where children with normally-developing language, children learning English as a second language, and children with specific language impairment participated in an integrated classroom setting. The children's levels of communicative competence were determined by a battery of tests used to monitor performance during enrollment in the program and ongoing observation during language intervention activities.

The subjects participated individually in a positive/negative nomination procedure, in which they selected the three classmates with whom they would most like to play with during a particular activity and the three classmates they would least like to play with in that same activity. From these nomination procedures, children in the class were assigned a peer preference rating, ranging from most liked to most disliked. The results showed that those children with limited language ability were less likely to receive positive nominations. When the data for predictors of peer status (age, intelligence, language ability) were examined, it was determined that language ability was a better predictor of peer status than either age or intelligence.

Social competence.

All of the pragmatic and social skills which have been discussed thus far contribute to the overall social competence of children with specific language impairment. The following studies have examined language impairment as it relates to social skills and social competence. Dodge, Schlundt, Schocken, and Delugach (1983) compared social competence and sociometric status and the use of peer group entry strategies. The

purpose of the study was to examine the relationship between sociometric status and the use of certain accessing strategies within the peer group. The subjects in this study were 200 kindergarten students who were narrowed down to 50 participants: 10 popular children, 10 rejected children, 10 neglected children, and 20 average children. The distinction between rejected and neglected children is that rejected children were actively disliked by their classmates, whereas neglected children are those who were neither liked nor disliked by their peers. Average children were those who received mixed nominations. These groups were formed on the basis of a sociometric test given to all 200 subjects. This test was performed by placing pictures of each student in a class on a table and asking each child to choose the pictures of the three students they most liked to play with and the three students they least liked to play with at school.

Ten gender-matched groups consisting of one popular, one neglected, one rejected, and two average-status children were created. The two average-status children were designated as hosts, and the three other children were designated as entry children. In each observation session, the hosts were left alone to play in a room for five minutes. At that point one of the entry children was instructed to enter the room and to play with the hosts. The behaviors of the entry children were coded and classified. After the interaction, the hosts were interviewed separately. They were asked whether they thought the entry child would have many friends, few friends, or no friends. As hypothesized by the authors, those entry children who showed the greatest competence in the interaction were said to have more friends than did the subjects who interacted less proficiently as measured by the coding system.

The accessing coding system used in Dodge et al. (1983) was adapted from previous investigators (Corsaro, 1981; Putallaz & Gottman, 1981). The following categories of accessing behaviors were specified: (1) wait and hover, (2) attention getting, (3) group-oriented statement, (4) question, (5) self-referent statement, (6) disruption, and (7) other behaviors directed toward the hosts. The use of these types of behaviors was compared between and within subject groups.

The results showed that popular children were more likely to use "group-oriented statements," whereas the rejected group engaged in a higher proportion of "disruptions." The neglected group was most likely to "wait and hover." Peer responses were contingent on the behavior of the initiator. "Group-oriented statements" and "questions" were most likely to receive positive responses, while "disruptions" were most likely to receive negative responses. Popular children were more likely to receive positive responses, rejected children were more likely to receive negative responses, and neglected children were more likely to be ignored. In summary, the popular children were likely to use tactics which drew positive attention, while rejected children were more likely to engage in behavior which elicited negative attention (e.g., "disruption").

While the Dodge et al. (1983) study examined accessing techniques as it related to current sociometric status, Gallagher (1993) explored the relationship between language skill and the development of social competence in school-age children over time. Her review of the changing levels of friendship during maturation shows that communicative competence plays an integral part in forming positive peer relationships.

The development of communicative competence and social skill is reciprocal. While language skills are the first to begin developing, it is only through conversational interaction, or social exchanges, that language skills may be further improved. Some of the skills learned through such interaction are providing feedback, sensitivity to the needs of the listener, appropriate initiation, asking acceptable questions, and contributing to discussions. These skills are vital in appropriate peer interaction.

Through such interactions children form friendships. These may be on the level of peer acceptance (popularity) or on the level of a close, mutual dyadic relationship. Gallagher (1993) cites the work of Furman and Robins (1985), who proposed that popularity can make beneficial contributions to one's social needs, though it does not meet the needs of affection, intimacy, and alliance; popularity contributes a sense of inclusion which is not afforded by simple dyadic friendship. Both of these types of friendship provide the necessary input for social development.

From a maturational perspective, it is noted that children in preschool and the early grades are unable to separate physical characteristics from psychological attributes of their peers. Children assume that people whose appearance is different from their own (in ethnicity, attire, or handicapping conditions) must also think and act in a different way. Therefore, such conscientious observers would also be sensitive to the communicative competence of their peers, and would infer from this differential that such impaired children would be less desirable play mates. This is supported by the findings of Rice (1993), who found that children at a very young age can assess the communicative competence of their peers and choose their communicative partners accordingly.

One essential capability that is necessary to facilitate peer competence is the ability to resolve conflicts. Stevens and Bliss (1995) compared the conflict resolution abilities of children with SLI and chronological age-matched children during four hypothetical problem-solving scenarios, in which the subjects listed all of the possible ways to alleviate the proposed problem, and a role playing activity which involved acting out the process of resolving conflicts. The hypothetical task was conducted with the presentation of a computer-generated picture depicting a conflict. The subjects were then asked how they could respond to the conflict. The responses were assigned to mutually exclusive categories and tallied, and then they were collapsed into four modal developmental levels, with Level 0 as the lowest and Level 3 as the highest. The proportion of responses at each modal developmental level was calculated and compared for each subject. In the hypothetical tasks the SLI subjects used fewer strategies, had lower modal developmental levels, and proposed a smaller proportion of strategies at the second developmental level. These results could be due to the high level of social perspective-taking required by these tasks, the cognitive demands of these tasks, or the abstraction of the exercise, areas in which children with SLI could lack ability.

The types of strategies used by the subjects with SLI varied from those used by their peers. Some of their strategies were nonverbal approaches and SLI subjects did not use high-level persuasive strategies, requests for information, or explanations as did their peers. These deficiencies could be due to a lack of assertiveness as proposed by Fey (1986).

In the role-playing activity, the subjects with normal language used two conflict resolution strategies (requests for explanation and moral persuasion) more frequently than the children with SLI. Between the SLI subgroups, the children in the SLI:R-E subgroup used significantly fewer conflict resolution strategies than the children in the SLI:E group.

Rice (1993) formulated the Social Consequences Account of language impairment. This theory stipulates that socialization is the mechanism through which language is first acquired. Then the acquired language is used to succeed in the social environment. The appropriate use of this language forms the foundation for success in the social realm, and exposure to this realm is the foundation for language learning. This account was based on the work of Hazen and Black (1989), who found that in order to initiate successfully, a child needs to know, (a) when it is appropriate to initiate, (b) how to gain attention, and (c) what to talk about. Hazen and Black found that the difficulty in improving one's social skills arises when a child who is delayed in learning conversational conventions retreats into withdrawal and no longer has the social opportunities to learn these conventions. The Social Consequences Account also considers the impressions that teachers and peers have of children with language impairment. Because these children have immature language, they are often perceived as being emotionally and intellectually inferior to their peers. This has the effect of misrepresenting the child with SLI as one with global disorders.

Socioemotional Perspectives

The socioemotional aspect of social competence is of particular concern for children with language impairments. Whereas social competence implies that a child has reached appropriate levels of development in the areas of communication and socialization, there is

an underlying socioemotional component which is generally not as obvious. As with other handicapping conditions, children who show language impairment are different from their peers and can as a result experience socioemotional repercussions. One problem noted by Brinton and Fujiki (1993) is that many professionals regard language disorders as an "isolated phenomenon" (p. 194). Actually, language, socioemotional development, and social competence are interwoven aspects of maturation. It is interesting to note that some of the earliest definitions of speech impairment took these aspects into account. "Van Riper (1939) wrote: 'Speech is defective when it deviates so far from the speech of other people in the group that it calls attention to itself, interferes with communication, or causes its possessor to be maladjusted to his environment' (p. 243)" (Brinton & Fujiki, 1993, p. 195). Thus, a child who is maladjusted to the environment due to a communication disorder, as in specific language impairment, will likely withdraw from social situations which require conversation. It is recognized that participation in social exchanges is a precursor to inclusion in social groups. Considering that the child with language impairment has difficulty participating in peer interactions, it is not surprising that they would have social difficulties. Pragmatics are especially important in these social exchanges, as American society places a high value on the ability to be appropriate. Gardner (1983), as cited by Leonard (1991), asserts that language and logical-mathematical abilities are considered to be two of the "abilities that can be elevated to the status of 'intelligences' (p. 66)" because of their importance in the American educational system.

Another aspect of communicative competence is based on self-esteem. Children who do not learn language in a nurturing environment, perhaps as a result of negative feedback, could fail to develop self-assurance in their ability to communicate. Communication lends its purveyor a certain level of autonomy, one which the insecure language learner will not achieve. An inability to achieve this autonomy places the child further at risk for social incompetence and socioemotional dysfunction.

A concomitant deficiency lies in the child's ability to develop relationships with others. Pragmatic skills such as affective expressiveness and empathic response are crucial to development of peer relationships (Hummell & Prizant, 1993). This is in accord with the notion of developing sense of self, as the child who has achieved successful communicative interaction is prone to developing positive self-image and equally positive peer relations. Hummel and Prizant (1993) concluded that these factors establish language competence and socioemotional competence as inseparable entities.

Peer Rejection and Social Isolation

Considering that children with specific language impairment are at risk for delays in pragmatics and social skills, and realizing that such skills are necessary to establish social competence, it is pertinent to examine the issues of peer rejection and social isolation as they relate to children with language impairment.

Craig (1993) stated that children who do not interact well with their peers have a higher probability of being very lonely and lacking social-interactional skills. Her extensive review of the literature led to the conclusion that children with SLI have fewer peer interactions than do typically developing children, and that these interactions are of

poor quality. She stated that it is not known whether this lack of social skills is an inherent deficiency or a consequence of poor language skills.

Asher and Wheeler (1985) conducted a study to compare the levels of self-reported loneliness among rejected and neglected children, using a variation of the categories utilized by Dodge et al. (1983). Children who lacked friends and were overtly disliked by their peers were considered to be rejected, while those children who lacked friends but were not overtly disliked were considered to be neglected. Children were placed into these categories based on peer nomination procedures.

All children were administered a loneliness scale developed by the authors. Their responses were compared to determine which group of children was more lonely. Rejected children reported the greatest feelings of loneliness, whereas neglected children were not significantly more lonely than their peers in other status groups. Of the rejected children, 23% reported that they were extremely lonely and socially dissatisfied. However, not all low-status children were lonely. These results show that children who are overtly disliked by their peers are at risk for loneliness and have the potential for extreme social dissatisfaction.

More recently, Fujiki, Brinton, and Todd (1996) compared the social skills of children with specific language impairment who were randomly paired with chronological age-matched peers and compared on three measures. Both groups were assessed by their classroom teachers with the Social Skills Rating System-Teacher Form (Gresham & Elliott, 1990). This instrument provides general information with regard to social skills as they relate to the culture of the classroom (see Appendix A for further description). Then

the subjects were observed while completing a picture identification task in which they were asked whether they routinely participated in the depicted activities and with whom. The activities included such things as children eating together and children playing on a swing set. The subjects were also evaluated with the Williams and Asher Loneliness Questionnaire (Williams & Asher, 1992), which consists of questions regarding social satisfaction.

The children with SLI scored significantly lower on the SSRS subtest related to social skills and scored significantly higher on the subtest related to frequency of problem behaviors. The picture task revealed that the children with SLI reported significantly fewer social contacts, while the Loneliness Questionnaire indicated that they also reported significantly less social satisfaction. These results serve to further implicate specific language impairment as a barrier to social success.

Parker and Asher (1987) explored the connection between low peer acceptance and later personal development. Their research examined previous studies conducted between 1952 and 1979, which established predictors for dropping out of school. The predictors were categorically grouped into peer acceptance issues, aggressive behavior issues, and withdrawal issues, which were subgrouped into peer assessed measures and teacher assessed measures. These results were compiled to gain a composite view of findings in this area.

Of the studies related to peer assessment of low acceptance and a correlation with dropping out of school, 11 of the 14 studies supported such a correlation. Among teacher assessment measures of acceptance, all five of the studies supported such a conclusion.

The studies which examined aggressive or withdrawn behaviors were less consistent. The studies of aggressive behavior were split, with six showing support for a correlation and seven that did not support that hypothesis. The studies of withdrawal were similarly divided, with three which found a correlation between withdrawal and dropping out of school and four studies which did not reach that conclusion. Therefore, the finding of this retrospective study was that peer acceptance, or lack thereof, was more consistently shown to correspond with dropping out of school than the behavioral measures of aggressiveness or withdrawal.

This same article by Parker and Asher also discussed previous studies of the connection between juvenile and adult crime and the potential contributors of peer acceptance, aggressive behaviors, and withdrawal in studies conducted between 1962 and 1983. For acceptance, nine of the 13 studies showed a correlation between low acceptance and crime. In studies of aggression, 26 of 31 studies showed support for a connection with crime. There was poor support for a connection between withdrawal and crime, with only one of 10 studies in favor of such a correlation.

The next comparison made by Parker and Asher examined the same indicators (acceptance, aggressiveness, and withdrawal) with regard to adult psychopathology. While the behavioral criteria (aggressiveness, withdrawal) were generally split, the studies of acceptance were overwhelming; 19 of 21 studies found a correlation between low acceptance and adult psychopathology. In summary, this retrospective study found that a large proportion of previous research has determined that there is a link between low peer

acceptance and dropping out of school, involvement in juvenile and adult crime, and adult psychopathology.

The relationship between language impairment and psychiatric impairment has been observed as early as school age. Hummel and Prizant (1993) explored this evidence further, focusing on the school-age child. The authors first made a distinction between emotional disorders, in which the child may be withdrawn or passive, and behavioral disorders, which are characterized by aggressive behavior. Both of these characteristics are likely to be diagnosed when children enter school because their behavior is in contrast to that of their peers. However, it is possible that children with language impairment are at a high risk for these types of disorders due to their impaired ability to express their feelings and desires.

Recent research has revealed a "50%-70% co-occurrence rate of speech, language, and communication disorders and emotional or behavioral disorders in children and adolescents in a variety of settings, including public schools, community speech and language clinics, and inpatient and day treatment psychiatric settings" (Hummell & Prizant, 1993, p. 217). It is reasonable to suggest that such children would have pragmatic problems, though it would be arbitrary to suggest whether their origin lies in the language or psychiatric disorder. Either way, it is clear that such problems could make the child a less favorable playmate. According to Donahue and Bryan (1984), learning disabled children were less preferred playmates among their peers, even as early as first grade.

Intervention Attempts

A common thread to all of the studies mentioned thus far is the conclusion that children who have difficulties with pragmatics are at risk for social incompetence. There is evidence that this particular aspect of SLI can have a large negative impact on the social skills of children with such a diagnosis. This places such children at risk for academic failure as well as peer rejection and difficulty forming positive peer relationships, resulting in social incompetence and possible long-term implications. Intervention is clearly warranted for such children, though formal intervention techniques have not been specifically created to address this issue.

An early attempt to remediate low peer initiation in withdrawn preschool children was made by Strain. This psychological study (Strain, 1977) was conducted with three subjects who were labeled “behaviorally disordered” children between the ages of 43 and 51 months enrolled in a private treatment center. These children showed general social withdrawal and delayed language patterns, and were unresponsive to social stimuli. The intervention strategy was implemented in the classroom of the institution during free play periods. The intervention consisted of training a peer confederate to interact with the subjects in order to increase their social interaction rates.

The subjects were observed during free play to set a baseline for progress. The investigators made note of motor-gestural and vocal-verbal responses of the subjects when approached by peers. The prompting given by the teacher in these situations was also recorded. Intervention was carried out through a confederate who underwent training. This peer model was instructed to do his best to get the withdrawn children to play with

him. He practiced techniques such as approaching and asking a question, approaching and giving an invitation to play, and persisting in attempts to gain attention. This was accomplished through role play with the experimenter. The teacher was instructed to abstain from prompting and reinforcement which might encourage the subjects to interact with the confederate. In the second phase of the study a baseline was obtained by instructing the confederate not to initiate to the subjects but to behave as he typically would in order to assess generalization. The intervention with the confederate was then repeated.

The results showed a significant increase in subject responsiveness during the intervention and generalization for two of the three subjects. While no data were collected in follow up to this study to assess long-term generalization effects, these results show promise in the area of pragmatic intervention.

One of the most recent studies with regard to intervention in social skills was conducted by Schuele et al. (1995). Because previous research has shown that children with SLI initiate to adults more than their peers and due to the fact that inclusionary models are being used to give these children the opportunity for social interactions with peers, the authors proposed a naturalistic form of intervention. They proposed that teachers could be taught the strategy of redirection, in which a child who approaches the teacher is instructed to interact with a peer. The desired response of the redirected child was that the child would follow through with this request and that the child's peer would be receptive to this initiation. Over time, the intervention was expected to increase spontaneous peer initiations of the subjects with SLI. First, four SLI subjects were

monitored over the course of a semester to determine whether peer initiations increased without intervention. Then the teacher was instructed in redirection. The next semester the teacher was observed in her use of redirects, and the reactions of the subjects and the peers to whom they initiated were recorded. The results showed that the teacher was capable of learning and implementing the strategy of redirects, and that the subjects were responsive to these redirects in 57% of interactions. Almost 26% of the redirects were not accepted by the subjects with SLI, who continued to talk without regard for the redirect. Sixteen per cent of the teacher's redirects were met by no response; the child discontinued the conversation with the teacher, but did not opt to follow the redirect by addressing a peer. In one case the subject verbally refused to carry out the redirect. Overall, the peers were responsive to the redirected initiations of the subjects. More than two-thirds of the initiations were acknowledged, 26% received neutral responses, 1% were met with no response, and one initiation was overtly rejected. In terms of personal increase in the number of observed spontaneous initiations, 2 subjects showed increases, 1 did not change (though the authors contend that this subject may have already reached an optimal level of initiating in the baseline semester), and 1 showed a shift similar to that observed in the control semester. It was concluded that this method of intervention shows promise, though more research is necessary to determine whether the interactions which resulted from redirects were comparable in length and content to the initiations of typically-developing children.

The most recent research in the area of access skills is by Brinton, Fujiki, Spencer, and Robinson (1995). The purpose of this study was to highlight the differences in the

access skills of children with SLI as compared with chronological age-matched (CA) and language similar peers (LS). Eighteen subjects (six SLI, six CA, and six LS) were observed during a triadic interaction. The triadic interaction involved two confederates, who began playing together in a room with interactive toys on a table. After five minutes, the subject was brought into the room and the three children were observed. The investigators recorded the following: (a) time to access (from the point of entry into the room), (b) encouragement to access (how the confederates did or did not welcome the subject to join the interaction), (c) number of utterances produced by each of the confederates after access occurred, and (d) number of utterances produced by the subject after access occurred.

The results showed that all children in the CA and LS groups accessed the interaction, and did so more quickly than those in the SLI group. Two of the SLI subjects did not access, thus the only subjects who did not access were those with SLI. The children in the SLI group also talked less and were addressed less than the other two triad members. Brinton et al. (1995) concluded that the children with SLI had more difficulty entering the ongoing interactions, and that those who did achieve access were “less integrated” (p. 23) than the CA and LS subjects. The authors speculated that the relationship between language problems and social problems is symbiotic, and that future research is needed to identify specific language-social behaviors in order to provide intervention for children with specific language impairment.

Summary of the Review of Literature

Since it was described by Stark and Tallal (1981) and identified as a clinical category by Leonard (1991), specific language impairment has been recognized as a multifaceted interruption in the typical acquisition of language. While the Surface Account and the theory of Limited Processing Capacities (Leonard, 1991) lend evidence toward the cause of SLI, there is no definitive data with regard to its prevalence.

Despite these unknowns, it is clear that children with SLI can show difficulties with pragmatics. Gallagher (1991) states that pragmatics is the social use of language, while Hartup (1983) contends that social language use is the single most important factor in establishing social competence in childhood. Therefore, it may be deduced that poor pragmatic skills could cause difficulties in establishing social competence. Rice's (1993) description of the "negative social spiral" (p. 147) illustrates the results of poor interaction with peers and the resulting isolation, which further hinders the child's ability to learn social interaction skills. Academically, these pragmatic deficiencies affect performance and also lead teachers to have negative perceptions of students with SLI (Hadley & Rice, 1991; Rice et al., 1993; Scheule et al., 1995).

Fey's (1986) descriptions of the four interaction styles of children with SLI lend support to both the variability in the manifestation of SLI and the tendency for children with SLI to show pragmatic difficulties. This is further supported by the case studies of Gary (Craig, 1993) and H (Fujiki & Brinton, 1991).

Early studies of the pragmatic skills of children, such as the normative data presented by Brinton and Fujiki (1982) showed that the emergence of social interactional skills develops early and that even young children can recognize the deficits in their age-matched peers with language delays. Guralnick and Paul-Brown (1986) support these findings, stating that children between the ages of four and six can adjust their level of conversation downward for less sophisticated conversational partners.

Further comparative studies of children with SLI and their language-matched and age-matched peers highlighted the pragmatic difficulties faced by children with SLI (Craig & Evans, 1989; Hadley & Rice, 1991; Rice et al., 1991). Craig and Evans (1993) lent evidence that subgroups relative to receptive ability exist for children with SLI.

Children with SLI do not interact with peers as do children with typical language. They exhibit difficulty in accessing (Craig & Washington, 1993) and tend to be less liked than their peers with typical language (Gertner et al., 1994). One of the reasons why children with SLI have such difficulty with their peers is their inability to achieve access. This topic of accessing was investigated by Dodge et al. (1983), who established categories for the methods of accessing used by children. A complication for children with SLI is that their inability to access makes them appear "different" to their peers. Gallagher's (1993) work notes that children cannot separate physical characteristics from psychological attributes of their peers, further implicating children with SLI as having the potential for social difficulty.

Children with SLI who are not successful in peer interactions are at a disadvantage for acquiring further language skills (Hazen & Black, 1989; Rice, 1993) and for

developing relationships with others (Craig, 1993; Hummell & Prizant, 1993). Such rejected and neglected children could be at a greater risk for loneliness (Asher & Wheeler, 1985), and could be more likely to drop out of school, commit crimes, and show signs of psychopathology (Hummell & Prizant, 1993; Parker & Asher, 1987).

While several attempts to intervene with children who show poor social skills have been made (Scheule et al., 1995; Strain, 1977) these did not involve an initial process of acquiring normative data. This has only recently been attempted on a small scale, as in Brinton et al. (1995), who were also interested in making a variety of other comparisons.

Access Skills: The Unknown Norm

Despite the wealth of related knowledge, there is not at present concrete data on the accessing skills of typically-developing children. While educators and speech-language pathologists alike trust that they have the ability to judge what appears to be normal, no formal evaluation process has been documented. There are several reasons that such information would be useful.

Most importantly, it is presumptuous to diagnose a disorder when the norm is unknown. With respect to accessing skills which are present in typically-developing children of various ages, such data are not to be found. If such data did exist, it would be more likely that children who had problems with accessing could receive appropriate training. This is another reason why such information would be useful.

When a child with deficient accessing skills is referred for language therapy in the area of pragmatics, what techniques should be taught? It may seem that adult-like forms such as "Hi, how are you?" would be appropriate in this case. But the speech-language

pathologist who trains such a young child in similar sophisticated forms is more likely to compound the social difficulties of this child by teaching forms which are inappropriate for the child's age and peer group. What would be more effective is a training approach based on normative data on accessing techniques, organized by age group and frequency of use of such techniques by the age group relative to other techniques. Ideally, such data could be immediately transformed into intervention protocols which could then be tested for efficacy and a concomitant increase in peer acceptance of the child who begins to use them.

The need for normative data and intervention in the area of accessing is indisputable. It is agreed that there are children with specific language impairment who exhibit abnormal use of pragmatic skills. These skills are learned through social interactions with other children. The child with specific language impairment who lacks pragmatic skills does not possess the knowledge of social conventions such as accessing needed to enter the peer group and engage in social exchange. Thus, this child is at a grave social disadvantage because the child will never attain the level of social competence displayed by the peer group. This places the child at risk for social incompetence, which can have repercussions of loneliness, rejection, neglect, and potential for problems later in life. If accessing could be effectively taught to such disadvantaged children the negative cycle could be reversed. This will be possible only when normative data on the development of accessing skills are available.

Purpose of Study and Research Questions

The purpose of this study is to begin compiling normative data for children between the ages of five and seven years and to make preliminary suggestions with regard to the development of efficient intervention protocols for the remediation of this problem.

I seek to determine the following:

(1) What is the average interval of time which passes between the introduction of the subject and the successful entry of that subject into the controlled triadic interaction for children in kindergarten and second grade? Are there significant differences between the two groups on this measure?

(2) What accessing techniques, as defined by Dodge et al. (1983), are successfully used by children in kindergarten and second grade to achieve entry into the controlled triadic interaction? What is the relative frequency of the use of these techniques within each group? Are there significant differences between the groups on this measure?

(3) What are the characteristics of the utterances used by children who utilized verbal techniques?

(4) Is there a correlation between the Social Skills Rating assigned by the subjects' classroom teachers and the behaviors used by the subjects when successfully accessing?

CHAPTER II

Method

Subjects

Recruitment

This project and the use of human subjects was approved by the University of Tennessee Office of Research and a local county School System Coordinator for Research and Evaluation. The schools selected for this investigation were appropriate because the majority of the teachers and students spoke Standard American English, each school maintained at least three classrooms for each of the grades involved, and each had a conference room which was available to the Investigator for the purpose of conducting the study. The grades involved in the study were kindergarten and second grade. These grade levels were selected for the study for two reasons. First, the critical period for the emergence of social skills identified by previous research is between the ages of four years and seven years (Greenwood et al., 1981). Secondly, it is presumable that children in kindergarten who are relatively new to the school culture would have less sophisticated social skills than their peers in second grade.

Classroom teachers in kindergarten and second grade at each school were introduced to the project during a meeting held at the respective schools, and those willing to participate signed a Classroom Teacher's Consent to Participate in the Emerging Language Skills Study (see Appendix B). Three teachers in both grades at both schools, a total of 12 teachers, returned these forms, thus allowing their students to participate in the study during nonacademic activities.

Each of the 12 teachers distributed a Fact Sheet describing the project and its requirements (see Appendix C) and an Informed Consent form (see Appendix D) home with each child in her class. These forms were distributed three times in each classroom to each student in order to achieve a sufficient sample size. Once the forms were returned to the Investigator (the thesis student conducting this study), each teacher was given a list of the students in her classroom whose forms were returned along with the Eligibility Questionnaire (see Appendix E). The purpose of this questionnaire was to determine whether any of the children on the list were not eligible for participation on the basis of the presence of handicapping conditions, dialect, or below average academic performance. Each teacher crossed the names of ineligible students from her list and returned it to the Investigator. The remaining children thus formed the participant pool for each class.

Triad formation

In order to observe the accessing skills of the students, it was necessary to place them into groups of three, hereafter known as triads. The requirements for triad formation were as follows: (a) all three children were of the same gender, (b) all three students were in the same grade (kindergarten or second grade), (c) all three students had a different classroom teacher, such that no two were in the same class, and (d) the three students could be acquaintances, but could not be close friends. This final requirement was achieved by interviewing each student individually with a questionnaire (see Appendix F) to identify whether randomly selected children from the participant pools in the other two classes in his/her grade were his/her "close friends." This procedure made it possible to group the children together in such a way that no close friends were in the same triad.

Subject identification.

The triads were formed based on the criteria listed above, taking into consideration the information gained through the questionnaire interviews (see Appendix F). Figure 1 provides a graphic depiction of the process of triad formation. Each triad was composed of either three males or three females who were enrolled in different classrooms of the same grade (i.e., triads of boys in kindergarten, girls in kindergarten, boys in second grade, or girls in second grade). There were five triads of kindergarten students at each school and five triads of second grade students at each school, for a total of 10 kindergarten triads and 10 second grade triads. One member of each triad was randomly selected to be the Subject for that triad, for whom data would be collected. The other two members served as Confederates, for whom no data were collected but whose presence in the room elicited the Subjects' behaviors. Thus, there were 10 kindergarten Subjects and 10 second grade Subjects. Subject information is presented in Appendix G. The kindergarten Subjects ranged in age from five years, one month, to six years, zero months. The second grade subjects ranged in age from seven years, five months, to eight years, three months. Before completion of the project, one of the second grade Subjects became unavailable, leading that triad to be dropped, such that data are available for only 9 second grade Subjects. Total participation in the project was 57 students (19 Subjects, 38 Confederates).

School IKindergarten

Class A Students	Class B Students	Class C Students
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5

Kindergarten	ABC1
Triads from	ABC2
School I:	ABC3
	ABC4
	ABC5

Second Grade

Class A Students	Class B Students	Class C Students
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5

Second Grade	ABC1
Triads from	ABC2
School I:	ABC3
	ABC4
	ABC5

School IIKindergarten

Class A Students	Class B Students	Class C Students
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5

Kindergarten	ABC1
Triads from	ABC2
School II:	ABC3
	ABC4
	ABC5

Second Grade

Class A Students	Class B Students	Class C Students
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5

Second Grade	ABC1
Triads from	ABC2
School II:	ABC3
	ABC4
	ABC5

Figure 1. Process of triad formation. Roman numerals (I, II) indicate schools, letters (A, B, C) indicate teachers, and arabic numerals (1...5) indicate student participants; ABC1 = the first triad formed consisting of one student from each classroom (A, B, and C), ABC2 = the second triad formed consisting of one student from each classroom, and so forth.

Preparation for observation sessions.

Completion of this study as designed required the assistance of another female graduate student in speech-language pathology who had completed over 100 clinical hours working with children. She is hereafter referred to as the Research Assistant who brought all of the Subjects to the observation sessions. During the interview previously described, Subjects' verbal assent to participate was audio recorded and the Research Assistant was introduced. Arrangements were made to observe each triad in a private conference room at the school during nonacademic activities. These observation sessions were conducted during a three-week time frame at each school during the months of October and November, 1996. This time frame was selected for two reasons. With regard to the teachers and their abilities to identify whether students were eligible to participate, it was necessary to conduct the study after school had been in session for at least six weeks. As for the students, it was preferable to complete the observations earlier in the school year to minimize the likelihood that children in different classrooms would be close friends.

Procedure

Social Skills Rating System.

The Social Skills Rating System (SSRS) (Gresham & Elliott, 1990) is a standardized questionnaire which evaluates behaviors that affect peer acceptance, teacher-student relations, and academic performance (Fujiki et al., 1996). The system includes a Teacher Form, used in this study, as well as a Parent Form. Each form is composed of three scales: Social Skills, Problem Behaviors, and Academic Competence, which are compiled to calculate a child's Social Skills Rating. The Social Skills scale consists of

items such as "Initiates conversations with peers easily," to which the respondent would reply "Always," "Sometimes," or "Never." These same responses (Always, Sometimes, Never) are used for the Problem Behaviors section, with items such as "Is fidgety or restless." Academic Competence consists of items which examine the child's performance with regard to grade-level expectations.

The Elementary Level Teacher Form of the SSRS was completed by the classroom teacher of each of the 20 prospective Subjects. The purpose of administering this scale was two-fold. First, had any of the Subjects received scores which were abnormally poor, based on the teacher's report and the standardized scoring procedures of the rating scale, they would not have been included in the study. Secondly, these scores were examined relative to accessing techniques to determine whether a correlation existed between the use of Dodge et al.'s (1983) techniques and the Subjects' scores on the SSRS. In addition, this tool was used to provide more information on the individual children, and was a control used to determine whether the behaviors shown by a child during the observation were typical.

Triadic interaction.

The procedure for observing the children in social interactions was based on the methods utilized in previous research (Brinton et al., 1995; Craig & Washington, 1993; Putallaz & Gottman, 1981). Each triad participated in a 15-minute interaction session. When the Investigator went to pick up the Confederates and the Research Assistant went to get the Subject, each greeted the children with "It's time to come and play with some toys." If the child refused to participate, an offer was made to participate later and the

session was postponed until another time. This procedure was employed with a Subject on one occasion.

The two Confederates were brought to a conference room in the school containing a table and three chairs (see Appendix H for graphic depiction). The Investigator stood behind the chair in the middle, and the Confederates were asked to sit on the adjacent sides, such that the Confederates would be at a 90-degree angle to the Subject. The Investigator introduced the interactive toys provided on the table, which included: a doctor's kit, a set of Lego blocks, and a write-and-wipe board with markers. The Investigator then encouraged the children to play with the toys together, saying to the children, "You may play with any of the toys. I would like it if you would play with the toys together." Once the children had begun playing with the toys, the Investigator explained that she was going to do some work behind a room divider in the corner of the room, placing her out of sight from the children.

After five minutes, timed from the moment when the Investigator stated that she was going to "do some work," the Subject was brought into the room by the Research Assistant who said to the Confederates, "This is (child's name). (He/she) is going to play with some toys with you for a while." The Research Assistant left the room, and the children were left to interact for 10 minutes. Upon completion, each child was given a special pencil for participation and was escorted back to the classroom.

Recording procedures.

All sessions were audio- and video-recorded for later analysis of the children's verbal and nonverbal behaviors. The equipment used to record the interactions included a

Panasonic AG-195MUP video camera, a Sony TC-RX606ES stereo cassette deck, and two Sony ECM-T150 tie-pin microphones clipped to metal stands and placed at the end of the table. High bias Type II audio cassettes were used.

Post-interaction measures.

Within ten days after the triadic interactions were completed, the Subjects were administered the Clinical Evaluation of Language Fundamentals Screening Test (Semel, Wiig, & Secord, 1987). The rationale for post-testing was to minimize the Subjects' familiarity with the Investigator. The purpose of this measure was to assure that none of the subjects showed signs of language impairment (see Appendix I for a summary of the CELF Screening Test). All Subjects passed this screening, as per criteria described in the Test Manual. Raw scores for all subjects are reported in Appendix G.

Data Analysis

The following comparisons between the kindergarten and second grade Subjects were made: time to access, accessing technique, and language analysis, as necessitated by the research questions. These questions were: (1) What is the average interval of time which passes between the introduction of the subject and the successful entry of that subject into the controlled triadic interaction for children in kindergarten and second grade? (2) What accessing techniques, as defined by Dodge et al. (1983), are successfully used by children in kindergarten and second grade to achieve entry into the controlled triadic interaction? (3) What are the characteristics of the utterances used by children who utilized verbal techniques? and (4) Is there a correlation between the Social Skills

Rating assigned by the subjects' classroom teachers and the behaviors used by the subjects when successfully accessing?

Time to access.

A stopwatch was used to record the time interval between the point when the Subject entered the room and the moment when he/she achieved access to the ongoing interaction. Time to access was defined as the time interval between the introduction of the Subject and the receipt of the first positive response of a Confederate to the Subject's bid (as in the work of Brinton et al., 1995). An example of such an interaction would be as follows:

Subject: I've got blocks like that.

Confederate: What do you build?

At the end of the word "build" (the last word of the Confederate's response to the Subject) the stopwatch was stopped to determine the duration between the entry of the Subject and the receipt of a positive invitation to enter the interaction.

Accessing technique.

The accessing technique used by the Subject to achieve positive, accepted access was documented. These discourse devices were pragmatically grouped as in Dodge et al. (1983). They were, (a) Wait and hover: this described those entry behaviors in which the Subject gained proximity to the ongoing interaction, conveyed a nonverbal desire to enter the ongoing interaction by intently watching what was going on, and said nothing; (b) Attention getting: this included verbal and nonverbal means which were nonaversive, such as addressing one of the other children by name, touch, or eye contact, or joining in the

play in a noticeable way, such as assisting a child in building a tower of blocks in a helpful manner; (c) Group-oriented statement: this referred to any nondisruptive verbal utterance intended for both children engaged in the interaction; (d) Question: this referred to questions used to gain information about the ongoing play, to overtly request inclusion, or any other question deserving of a response; (e) Self-referent statement: any statement made by the target child to refer to or describe himself or herself; (f) Disruption: any verbal or nonverbal bid which noticeably interrupted or disturbed the other children.

Language analysis.

A comparison of the use of specific grammatical structures, vocabulary words, and forms of words was also made. The tapes were assessed to determine if particular structures and forms were used by the Subjects which consistently elicited a positive response from the intended conversation partner. The purpose of this comparison was to determine if there were specific words or phrases (e.g., "What's that?") which were recurrent in the accessing attempts of these typically-developing children.

Intra- and Inter-Judge Reliability

Intra-judge reliability was established by the Investigator re-coding the accessing behaviors for all Subjects' accessing behaviors one week after the initial coding without access to previous score information. Accuracy for the reliability check was 95% agreement for technique (18 of 19 Subjects' accessing behaviors coded the same), and accuracy for time was 100% (19 of 19 Subjects) within 20 seconds.

Inter-judge reliability for coding the Subjects' accessing techniques and measuring time to access was established by enlisting the assistance of the Research Assistant and

one additional Master's-level student in speech-language pathology. These judges underwent a training process prior to analysis of the tapes. The first portion of the training process involved instruction in the appropriate use of the Dodge et al. (1983) categories to describe accessing behaviors, accomplished through description of the categories of accessing behaviors followed by role playing. Each technique was acted out five times as examples of different ways each technique could be used. Training in timing and recognizing the point of access was also completed, as the judges used stopwatches to determine the time interval prior to access, as previously defined. One-third of the videotapes (7 of 19) were randomly selected to be evaluated by these judges for the purpose of establishing inter-judge reliability. One-half of the remaining videotapes (6 of 12) that had not been selected were used for further training, both for the purpose of illustrating the use of the techniques and as a preliminary testing procedure to ensure that the judges were sufficiently familiar with the categories to evaluate the accessing behaviors demonstrated in the videotapes. This was measured by each judge achieving 90% (9 of 10 coded the same) agreement for identification of the Subjects' accessing techniques and a criterion of within 20 seconds for time to access. Inter-judge reliability for seven randomly selected videotapes was 86% (6 of 7) for each judge for technique and 100% for each judge for time within 20 seconds.

CHAPTER III

Results

Time to Access

The results for time to access for kindergarten subjects are presented in Table 1. The kindergarten subjects who achieved access in less than 10 seconds were those who immediately got settled in their seats. One of them was acquainted with a confederate, and greeted her by name. The two kindergarten subjects who accessed within 10 and 30 seconds observed ongoing parallel play between the confederates before accessing. The four kindergarten subjects who required more than 30 seconds to access were similar in that all four wandered around the table briefly before sitting down and then attempting access. The child who did not access also wandered and watched the ongoing play. For kindergarten subjects, the shortest time to access was 0.15 minute, the longest time to access was 9.16 minutes, and the mean was 2.38 minutes, also taking into consideration those who did not access within 10 minutes.

The results for time to access among second grade subjects are also presented in Table 1. Of the five second grade subjects who achieved access in less than 10 seconds, all immediately settled in their seats with the exception of one who was immediately greeted when he walked in the door; this subject was acquainted with one of the confederates. The two second grade subjects who took between 10 and 30 seconds to access engaged in parallel play with the confederates before attempting access. The second grade subject who accessed after one minute wandered around the table for a

Table 1

Time to Access for Subjects in Kindergarten and Second Grade

	<u>Kindergarten</u>	<u>Second grade</u>
Less than 0.17 min.	3	5
0.17 to 0.5 min.	2	2
1 to 2 min.	2	1
2 to 9 min.	2	-
No access	1	1
Mean	2.38 min.	1.29 min.

Note. Abbreviation “min.” refers to minutes; 0.17 min. is equal to 10 seconds.

moment before sitting down, playing, and then accessing. The other subject did not access. It is notable that the confederates in this group did not talk after the subject entered the room until nine minutes had elapsed. For second grade subjects, the shortest time to access was 0.10 minute, the longest time to access was 1.02 minutes, and the mean was 1.29 minutes, taking into consideration those who did not achieve access within 10 minutes.

The alpha level for all statistical procedures was set at 0.05. Adjustments were made to take the uneven number of subjects between the groups into account. Time to access was not normally distributed, as determined by an x-y plot; the presence of a significant difference was calculated with the Kruskal-Wallis Test of Chi-Square Approximation ($p = 0.08$), a nonparametric procedure. There was no significant difference between the two groups for time to access.

Accessing Techniques

The variable of accessing techniques is presented in Table 2. For kindergarten, the most frequently used techniques were attention getting, a technique used by six subjects, and question, used by two subjects; one subject used wait and hover. One of the kindergarten subjects did not achieve access during the allotted ten minute time frame. Of those who achieved access via attention getting, three used persisting eye contact, two used verbal means, and one handed a toy to a confederate. Thus, five subjects used nonverbal means of accessing and four used verbal strategies.

For second grade, the most frequently used technique was attention getting, used by six subjects. One subject asked a question to gain entry, and another of the subjects

Table 2

Accessing Techniques Used by Subjects in Kindergarten and Second Grade

	<u>Kindergarten</u>	<u>Second Grade</u>
Attention Getting	6	6
<i>Eye Contact</i>	<i>(3)</i>	<i>(3)</i>
<i>Verbal</i>	<i>(2)</i>	<i>(3)</i>
<i>Toy</i>	<i>(1)</i>	-
Question	2	1
Wait and Hover	1	-
Other	-	1
No Access	1	1
Total Nonverbal	5	4
Total Verbal	4	4

Note. Total nonverbal = 9, total verbal = 8.

achieved access by entering the room and immediately making eye contact with the confederates, coded as other. One of the second grade subjects did not achieve access during the allotted ten minute time frame. Of those who achieved access via attention getting, three used persisting eye contact and three used verbal means. Thus, four subjects used nonverbal means of accessing and four used verbal strategies.

The alpha level for all statistical procedures was set at 0.05. Results of the Kruskal-Wallis Test of Chi Square Approximation ($p = 0.32$) showed no significant difference between the two groups for accessing technique.

Linguistic Patterns

Specific words and phrases used to achieve access are presented in Table 3. Four subjects in kindergarten and four subjects in second grade used verbal strategies to achieve access. Among kindergarten subjects, three of four made direct reference to the intended partner by using the child's name or the pronoun "you." Among second grade subjects, two made direct reference with the pronoun "you" and one used the group reference of "we."

Social Skills Rating Scale as Correlated with Technique

SSRS scores and accessing techniques are presented in Table 4. No correlation could be established between SSRS scores and accessing technique through statistical protocol due to the small sample size and the lack of normal distribution among accessing techniques.

Table 3

Specific Words and Phrases Used When Subjects Employed Verbal Accessing Techniques

<u>Grade</u>	<u>Subject Identification</u>	<u>Utterance</u>
Kindergarten	School I, Subject 1	"How long?"
	School I, Subject 3	"What are you making?"
	School I, Subject 4	"Hi Cassie."
	School II, Subject 5	"You're in Devon's class."
Second grade	School I, Subject 1	"What are y'all making?"
	School I, Subject 3	"What did we come here for?"
	School II, Subject 4	"Hi Ryan."
	School II, Subject 5	"There should be music."

Table 4

Subject Profiles for Social Skills Rating System (SSRS) Score and Accessing Technique

<u>Grade and School</u>	<u>Subject Number</u>	<u>Gender</u>	<u>SSRS Score</u>	<u>Accessing Technique</u>
K I	1	m	103	Question
K I	2	f	108	Wait and hover
K I	3	f	98	Question
K I	4	f	104	Attention getting (verbal)
K I	5	m	95	Attention getting (eye contact)
K II	1	m	115	Attention getting (eye contact)
K II	2	f	108	Attention getting (toy to child)
K II	3	f	112	Attention getting (eye contact)
K II	4	f	84	No access
K II	5	f	98	Attention getting (verbal)
2 I	1	f	83	Question
2 I	2	f	113	Attention getting (eye contact)
2 I	3	f	90	Attention getting (verbal)
2 I	4	f	104	Other
2 I	5	m	115	Attention getting (eye contact)
2 II	1	m	93	No access
2 II	2	m	84	Attention getting (eye contact)
2 II	3	m	This subject became unavailable	
2 II	4	m	117	Attention getting (verbal)
2 II	5	f	128	Attention getting (verbal)

Note. "K" represents kindergarten, "2" represents second grade; roman numerals (I, II) differentiate between the two schools involved; "m" refers to male students, "f" refers to female students.

Summary of Results

These results showed that kindergarten Subjects required an average of one minute longer to achieve access than did second graders, though this was not a significant difference. The results showed that attention getting, particularly through eye contact, was the single most frequently used technique among all Subjects. The techniques used by both groups to achieve access were virtually identical, thus indicating the existence of a particular pattern of behaviors which constitutes appropriate accessing skill.

CHAPTER IV

Discussion

Purpose of study

The purpose of this study was to examine the emergence of accessing skills in typically-developing children. More specifically, it was to determine which techniques are used by children in kindergarten and second grade, the time required for those children to achieve access, and whether there are significant differences between the two groups on these measures. A secondary purpose was to gain initial descriptive data with regard to the specific language used by children of these ages during accessing. By categorizing accessing techniques with the Dodge et al. (1983) system and further describing the behaviors of children during access, this study reveals components of the process of accessing as ongoing interaction which are worthy of future research.

Accessing Techniques

Of the accessing techniques described by Dodge et al. (wait and hover, attention getting, question, disruption, group-oriented statement, and self-referent statement), attention getting was the most frequently observed behavior, a technique used by 11 of the 19 subjects. Of those 11 subjects, six achieved this through persistent eye contact, characterized by a pattern of looking at one confederate for up to 5 seconds, glancing at the table, and then looking at the other confederate and repeating the pattern. This noninvasive nonverbal expression of desire to enter the ongoing play was the single most frequently observed behavior exhibited by the subjects to achieve access.

The other attention getting techniques involved verbal expression in all but one case, in which the child handed a toy to another child. It is interesting to note that this particular subject took 9.17 minutes to achieve access and had the lowest SSRS score of all kindergarten subjects, indicating that the particular technique used was not especially sophisticated. Of those who used direct verbal attention getting techniques, 3 of the 7 subjects directly addressed the intended partner with a pronoun (we, you) or the partner's name. One subject said to herself, as if for reinforcement, "What did we come here for, to play with toys," which elicited laughter from the confederates and initiated the interaction. This was coded as attention getting rather than a statement because the subject did not use the rising intonation which is characteristic of interrogative utterances and because the subject answered herself immediately rather than waiting for a response from the confederates.

Verbal and nonverbal strategies, therefore, differ in their level of inherent complexity though they were both successful means of entering the ongoing interaction. Whereas nonverbal attention getting is achieved simply through making eye contact, verbal attention getting requires formulation of a direct address to the intended conversational partner(s). Verbal attention getting, therefore, may be regarded as a more complex technique because the child must consider what is appropriate to say and how to say it.

Another subject used a verbal attention getting technique without addressing the partners directly. She entered the room, looked around, and said to herself while looking at the ceiling "There should be music," to which the confederates responded and began a conversation about how quiet it was in the room where the observations were being

conducted. This type of attention getting technique appears to be more sophisticated, as it is not a direct appeal for attention, but rather a statement to which an individual in the same situation would most likely choose to respond. It is strikingly similar to the adult tendency to comment on surroundings such as the weather when interacting with strangers (e.g., "Nice weather we're having"). It is notable that this subject received the highest SSRS score among all subjects, at the 90-th percentile. More obvious was the technique of asking a question to achieve access, used by two kindergarten subjects and one second grade subject. These questions referred to the observation situation itself and elicited responses and bids of entry. Hence, they were successful means of accessing.

Therefore, for this study, the most common successful accessing techniques were attention getting through eye contact or verbal address toward the intended partner. The verbal techniques of attention getting involved either direct address or indirect social statements. Two subjects, one in each group, did not achieve access. SSRS scores for these children were both at or below the 25-th percentile. Therefore, it is possible that these children did not access the ongoing interaction because they were less socially adept than their peers.

Of Dodge et al.'s (1983) categories, three were not observed: disruption, group-oriented statement, and self-referent statement. These differences could be due to the fact that Dodge's study involved only kindergarteners, and had a different purpose. Whereas this study was focused on development of accessing skills, Dodge et al.'s purpose was to observe the extremes of the social spectrum (popular children as compared with rejected and neglected children) with regard to accessing techniques.

Time

With regard to time, the mean time to access for kindergarten subjects was 1.04 minutes longer than for second grade subjects. Though this was not statistically significant, this may have been affected by the small sample size which necessitated the use of nonparametric procedures which are inherently less sensitive to difference. This variable is worthy of further consideration, as a larger-scale study involving a wider band of age ranges with more subjects at each level could reveal such differences. However, it is most probable that this is indicative of a developmental difference in the two grades, and that with increasing age, time to achieve access decreases.

It is notable that two subjects who achieved access almost immediately were those who were familiar with one of the confederates in their respective groups. This could indicate that accessing techniques are less important with more familiar peers, as both accessed in less than 5 seconds, one through greeting a confederate and the other as the recipient of a greeting from a confederate. It is also important that all of the subjects who achieved access in less than 10 seconds immediately gained proximity to the ongoing interaction, whereas the remaining subjects either wandered around the table or sat and observed the parallel play without looking at the confederates before accessing. It is reasonable to assume that gaining proximity to the ongoing interaction is the first step in accessing.

Another factor with regard to time was the amount of ongoing conversation between the confederates upon the entry of the subject. Among kindergarten subjects who accessed in less than 10 seconds, all were entering groups in which the confederates

were having conversations. For second grade subjects who accessed in less than 15 seconds, however, three were entering quiet groups in which there was no conversation at the moment of entry. Among second grade groups, all subjects who required more than 30 seconds to access were entering groups in which the confederates were not talking but were playing together silently. The same was true for the kindergarten subject who required more than 9 minutes to access. Therefore, while one might presume that it is easier to enter a group in which there is ongoing conversation, this was not proven by this study. There was also no difference among the Confederates in kindergarten and second grade in terms of the amount of conversation.

Language Use

With regard to the specific language used to achieve access, few conclusions may be drawn from these results due to the fact that a small number of subjects achieved access through verbal means. The only evidence of a pattern was the use of direct address. Future research could be directed to this area, as children with specific language impairment may need direct treatment for this particular skill. It is proposed that the key element in attempting to achieve access into an ongoing interaction through verbal means is gaining attention, whether by directly addressing the intended conversation partner or by making a comment which would presumably be of interest to that partner.

Perhaps the most sophisticated form of such attention getting is the construct used by the second grade subject who commented on the surroundings in a statement. This comment was “safe” because it did not require a response from the confederates, and it

was very similar to the comments which frequently occur among unfamiliar adults. This technique, however, may be too sophisticated for a young child, such as the kindergarten subjects in this study. It is likely that such young conversation partners would not know how to react to such a statement.

The accessing times of the subjects in this study were more varied than those of Brinton et al. (1995), in which all “normal language subjects” achieved access in less than 10 minutes and all accessing was achieved verbally after at least 2 minutes had elapsed. There are several possible reasons for this discrepancy in results. First, the subjects in the Brinton et al. study were significantly older, ranging in age from eight years, ten months, to twelve years, five months. The room arrangement for the Brinton et al. study was more ideal, as a circular table was used for the observation sessions. This placed the subject in closer proximity to the confederates, and was more naturalistic. This may have had a negative impact on the external validity of this study, as previously mentioned. Additionally, the relative talkativeness of the confederates was greater in that study, in that a larger proportion of confederates talked as the subject entered the room. It is likely that the age of the subjects as well as the arrangement of the room impacted that variable, and that subjects felt more welcome when the confederates were more talkative; this is similar to the observations in the present study which showed that most children accessed more quickly when the confederates were engaged in conversation. Another possible difference in the amount of talkativeness is the possibility that children in the present study were from a different style of classroom culture. The schools involved in this study were based on a teacher-directed classroom model with little group interaction. It is probable that children

who are accustomed to a teaching style which encourages more classroom interaction would be more talkative.

The results of this study do concur with the findings of Hulsing, Luetke-Stahlman, Loeb, Nelson, and Wegner (1995), who observed the social interactions of hearing-impaired children in triads and found that those who interacted most successfully were those who used skills other than verbal means (i.e., eye contact and proximity, as well as gestures) to access the group. Their findings suggest that while verbal accessing techniques are those most often taught to children with pragmatic delays, simpler, nonverbal techniques may be easier to teach as well as more effective. While it is important to note that the children in their study were hearing impaired and, consequently, had compromised linguistic skills, their results show the importance of the use of nonverbal techniques.

Clinical Relevance

Due to the small sample size, only general application may be made from these results. They may not be generalized to the SLI population, nor can they be generalized to other states or cities, and should be interpreted with caution. The most frequently occurring technique, that of eye contact, appears to be an effective means of attracting attention for the purpose of gaining access to the ongoing interaction. It appears plausible to suggest to children with accessing difficulties who are being treated for language delays or disorders that they attempt to achieve eye contact before addressing an intended conversation partner. This could be an effective starting point for improving accessing skills. Further, it follows that encouraging children to address the intended conversation

partner, either by name or “you,” as a means of gaining entry would be appropriate. While these techniques at first appear to be overly simple and inherently obvious, they are not evident to a child with pragmatic delays or deficiencies secondary to specific language impairment. These children may be categorized by adults or peers as shy or even rude because they do not know how to begin a conversation. A seemingly elementary skill, that of achieving access is critical to future language development and avoidance of Rice’s (1993) negative social spiral.

The techniques identified by this study are not new to speech-language pathology, though they are seldom explicitly named as specific treatment strategies. An exception to this is Naremore, Densmore, and Harman’s (1995) text which defines a program for increasing pragmatic skills. The authors describe the process of implementing a social skills treatment plan through a four-step process: rule teaching (e.g., “Look at the person you want to talk with”, p. 92), observation of other students engaging in the target behavior, scripting an interaction, and role playing with other students. They suggest that this direct treatment process is an effective means of teaching pragmatic skills such as making eye contact and initiating a conversation by offering new information. However, this program does not offer further suggestions for techniques to be included in such a program.

Hierarchy of Techniques for Entering Small Groups

There are instances in which accessing techniques must be discretely taught, both to typically developing children and perhaps more commonly to children with language impairments. Whereas typically developing children learn these social rules, either by

inference or trial and error, it might be necessary to teach children with language impairments discrete skills. The following hierarchy of techniques for accessing small groups is recommended as a step-wise procedure for achieving entry. According to Hazen and Black (1989), it is first important to know when it is appropriate to access. The results of that study suggested that this was accomplished by evaluating the situation before attempting entry and gaining proximity to the ongoing play. It is necessary to evaluate the situation before moving to the next step, that of making eye contact. If access is not yet achieved, parallel play is an appropriate way to further assess the interaction and to think about what is taking place so that a pertinent greeting, comment, or question may follow. While a social greeting such as "Hi," may be the easiest and most elementary accessing utterance, a direct comment on the activity may be more appropriate and successful. Other options are asking a question or offering new information. A higher-level comment would be one that is indirect and related to the activity that does not require a response, thus keeping the child safe from the risk of feeling ignored when a response is not offered, such as the Subject's comment on the need for music in the observation room. It is proposed that these techniques are appropriate to teach children who have difficulty interacting with their peers due to a lack of pragmatic savvy.

Cross-Cultural Application of Findings

It is important to note the implications of generalizing these results to children of other cultures and dialects (e.g., African American, Latino). The child language literature reveals significant differences among these groups which imply that these techniques may or may not be effective (Campbell, 1994). For speakers of Black English Vernacular, a

high value is placed on the ability to use language effectively (Campbell, 1994). For entry into such groups a much richer knowledge of discourse devices is required, and the simple accessing techniques discussed may not be sufficient. Brice and Montgomery (1996) examined the pragmatic skills of Latino students studying English as a second language, and found deficits in the areas of initiating and maintaining conversations as per American standards. It was suggested that students of different cultures who are in the process of acquiring English and learning the mores of American interactional style may need discrete instruction in conversation initiation and maintenance due to differences in cultural norms and the process of learning new metalinguistic rules.

Future Research

In terms of future research, this study offers many questions to be answered through further investigation with a larger portion of the typically-developing population. It is through such research that valid protocols for teaching the pragmatic skill of accessing could be developed and generalized to a larger portion of the population. Such research should include children of varying age, ethnicity, and socioeconomic status in order to gain information which may be generalized to a larger group and incorporated as part of a valid therapeutic program.

One variable which should be considered further is that of time to achieving access. While this does not appear to be of discrete clinical relevance, further quantification would shed light on the progression of mastery of accessing techniques as children progress through the grades of school. Such information would be valuable for

the purpose of establishing developmental norms for this skill, thus serving a diagnostic purpose more than a therapeutic purpose.

With regard to technique, further investigation with a larger and more varied subject group should reveal a larger number of appropriate, successful techniques, appropriate to particular age ranges, which could be taught to children struggling socially. It is necessary to compile more data in this area in order to identify developmental differences in technique. It is quite probable that techniques which are appropriate to younger children (e.g., preschool students) would not be appropriate for older children (e.g., those in third grade), and vice versa.

Further study should also address the SSRS and its predictive value for other areas of pragmatics besides accessing, such as making friends, resolving conflicts, and introducing oneself, as proposed by Fujiki et al. (1996). While this instrument appears to have acceptable face validity, it is a relatively new instrument which requires further study to examine its relevance. In addition to consideration of predictive value, it would also be appropriate to further examine the inter-judge reliability of this instrument, as it appears to have several subjective sections.

Future study could also assess the importance of the pre-access setting and its impact on the accessing moment. Variables such as utterances per minute prior to access, complexity and topic of those utterances, and inclusionary bids to Subjects prior to accessing attempts would be important to address, as the results of this study imply that these variables can have an impact on a child's ability to achieve access.

Summary

In summary, this study revealed several aspects of the accessing behaviors of typically-developing school-age children. Though no statistically significant differences were found between Subjects in kindergarten and second grade, descriptive developmental data were gained. These results imply that, given a larger number of subjects, there would be a distinct difference on the variables of time to access. It is proposed that children in kindergarten would require more time to access a small group than their second-grade peers. However, there was no evidence to indicate that a developmental difference would exist on the variable of technique between these two age groups. This is potentially a factor of age; given a broader age difference, such as kindergarten children compared with children in third grade, it is likely that the difference on the variable of technique would be great, and that this difference would indicate that a greater proportion of older children use more verbal accessing techniques.

The implications for the implementation of the treatment techniques described are worth consideration. The proposed hierarchy represents a logical sequence of steps to achieving access. By first attempting to enter a group through less obtrusive strategies, a child is less likely to call undue attention to himself or herself. By utilizing the hierarchy of techniques for accessing a small group, it may be possible to teach children with pragmatic deficiencies how to interact with peers more appropriately. This could have the effect of increasing their level of social competence and enhancing their potential for achieving social and linguistic success. Children with language impairments who do not receive such intervention are at risk for social isolation and all of the associated negative repercussions.

Although teaching pragmatics through such a direct approach may be unpalatable to some speech-language pathologists, it is important to realize that such children have obviously not been able to master these skills through the naturalistic teaching style afforded by their environment.

The children in this study showed that there is more than one appropriate way to access a group, but that a particular pattern exists among those who achieved expedient successful entry. Future research in this area should further quantify and describe these patterns so that more efficacious treatment may be developed for such children. In so doing, both diagnostic and therapeutic techniques could be developed to give children with pragmatic impairments the opportunity to achieve social success and to enjoy the benefits afforded by appropriate social interactional techniques, including friendship and personal well being.

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APPENDICES

Appendix A
Social Skills Rating System

The Social Skills Rating System

The Social Skills Rating System (SSRS; Gresham & Elliott, 1990) was developed as a screening and classification test to assess social behavior. There are three versions of the SSRS: Preschool Level, Elementary Level, and Secondary Level. Each consists of three forms: Teacher Form, Parent Form, and Student Form, with the exception of the Preschool Level which does not have a Student Form. Each form is a checklist which is divided into the areas of Social Skills, Academic Competence, and Problem Behaviors. The sections are composed of a list of items followed by a scale to which the rater responds that the given behavior is observed (for the Teacher and Parent Forms) or performed (for the Student Form) “Never,” “Sometimes,” or “Very Often.”

Some examples of the items included in the area of Social Skills are “Initiates conversations with peers,” “Keeps desk clean and neat without being reminded,” and “Controls temper in conflict situations with peers.” Academic Competence items examine the areas of motivation and grade-level expectations. For Problem Behaviors, sample items are “Gets angry easily,” and “Appears lonely.”

The SSRS was developed over a period of five years of research in the area of social skills. The national standardization was based on the self-ratings of 4,170 students, as well as ratings performed on a portion of these students by 1,027 parents and 259 teachers. This allowed the calculation of yoked ratings, in which a teacher’s, one or two parents’, and the student’s scores were examined together to determine

convergent and discriminant validity for 800 students. Separate normative data was compiled for typically-developing children and children with handicaps, and separate norms are given for each group. For the Elementary Level of the Teacher Form, the demographics of the sample included the following regions: Northeast = 12.0%, North Central = 35.5%, South = 35.5%, West = 17.0%, and community size was varied (more than 50,000 = 36.7%; between 2,500 and 50,000 = 50.8%; 2,500 or fewer = 12.5%). For race and ethnicity for this form, the percentages were as follows: 20.1% Black, 3.8% Hispanic, 3.6% Other, and 72.5% White.

Coefficient alpha reliability (internal consistency) for this instrument was calculated for each subtest of each form. For the Elementary Teacher Form, the correlations were as follows: Social Skills = 0.94, Problem Behaviors = 0.88, and Academic Competence = 0.95.

Validity for this instrument was assessed by comparing it with two other accepted measures. The Social Behavior Instrument (Stephens, 1978) was administered and these scores were correlated with those of the SSRS. The resulting correlations were -0.68 for Social Skills, 0.5 for Problem Behaviors, and -0.67 for Academic Competence. These are moderate correlations, and the negative values are appropriate because of the design of the SBI. The other measure correlated was the Child Behavior Checklist (Achenbach & Edelbrock, 1983), for which the correlation coefficient was 0.81.

Appendix B

Classroom Teacher's Consent to Participate in the Emerging Language Skills Study

Classroom Teacher's Consent to Participate in the Emerging Language Skills Study

Heather Jones, Graduate Student at the University of Tennessee

Dr. Lori Swanson, Assistant Professor, Dept. of Audiology and Speech Pathology

We have received permission from your school system to conduct a study of normal child language development. We are interested in the language that children of different ages use when talking to other children their age. We would like permission to allow the students in your classroom to participate in this project. Your students would be videotaped playing in a group with two other children outside of the classroom, and, if designated as a subject, the student would also be administered a language screening. Each of six students in your class selected to participate will be observed for 15 minutes. Total participation time for each child will be no more than 40 minutes. Each of the observations will be completed at your school at times agreed upon by you and the child during which nonacademic activities are conducted. If at any time during the session the child would like to stop participating, he or she will be allowed to do so. There are no risks in participation other than those encountered daily in the school setting. There are no penalties for not participating.

The observations will be audiotaped and videotaped in order to assure accurate record keeping. All audio- and videotapes and forms will be kept in a locked cabinet in the private office of Dr. Lori Swanson, the faculty advisor for this project. Only Heather Jones, Dr. Swanson, and a research assistant will have access to these materials during the project to ensure confidentiality. Neither the parents' names nor the child's name will be used at any time for presentation or publication purposes.

The information obtained from this project will be included in a thesis written by Heather Jones to partially fulfill the requirements for a Master's degree from the University of Tennessee. This information will also be used to help speech-language pathologists improve their knowledge of the language used by normal children with other children their age.

If you agree to participate in this project, you will be asked to assist in distributing and collecting consent forms, identifying children who do not meet the criteria for participation (a process which would take no longer than 30 minutes), and completing a checklist on those students in your classroom who are identified as subjects. No more than two subjects will be from any one classroom, and completion of this form takes no more than 15 minutes per child.

I have read this informed consent and have agreed to participate in this study. I understand that my participation in this project is completely voluntary. I am also aware that I may withdraw from this study at any time without penalty to me or my students. I may also call to request more information or a general summary of the findings of the study from Dr. Swanson or Heather Jones (phone 974-1794). I understand that individual results will not be disclosed.

Teacher's Name _____

Signature _____

Date _____

Appendix C
Fact Sheet

Dear Parents:

Please consider allowing your child to participate in this research project. Your child's help would be appreciated.

Heather Jones

Fact Sheet about the Emerging Language Skills Study
 Conducted by Heather Jones, Graduate Student
 Directed by Dr. Lori A. Swanson, Assistant Professor
 Department of Audiology and Speech Pathology
 The University of Tennessee

Site of observation:	(Name of school)
Time of observation:	November 1996
Task:	Investigator will meet with the children for approximately 5 minutes prior to the session. Child will be observed playing with two other children for 15 minutes, and certain children will be screened for normal language skills. Total participation will take no longer than 35 minutes per child.
Observer:	Heather Jones, a graduate student studying child language at the University of Tennessee
Number of students participating:	60 normally-developing children
Results:	Overall results of the study will be made available to parents upon request at the end of the study.
Approval for Study Has Been Obtained From:	The University of Tennessee Dr. Samuel Bratton, Coordinator of Research and Evaluation for Knox County Schools (School principal) Classroom teachers
Benefit of Project:	Information obtained from this study will be used to determine how the communication that children use with their peers changes as children mature. The types of language that these typically-developing children use can then be taught to children who have communication disorders.

Appendix D
Informed Consent

Parental Informed Consent for Language Research Project

Heather Jones, Graduate Student

Directed by Dr. Lori A. Swanson, Assistant Professor

Department of Audiology and Speech Pathology, The University of Tennessee

We have received permission from your school system to conduct a study of normal child language development. We are interested in the language that children of different ages use when talking to other children their age. We would like permission for your child to participate in one of two ways. Your child may participate as a subject whose social skills in the classroom will be observed and noted by his or her classroom teacher. Your child would then be videotaped playing in a group with two other children, and would also be administered a language screening. Your child may also participate as one of the children involved in group play. Your child's classroom teacher will assist in selecting children with typical language who are eligible to participate. All children for whom parental consent is received may not be observed. If you give permission for your child to be included in this project and your child is selected, your child will be asked if he/she agrees to participate, and his/her verbal assent will be recorded. Your child will be observed playing in a group with two other children their age for 15 minutes. Total participation time will be no more than 35 minutes. Each of the observations will be completed at your child's school at times agreed upon by your child and his/her teacher during which nonacademic activities are conducted. If at any time during the session your child would like to stop participating, he or she will be allowed to do so. There are no risks in participation other than those encountered daily in the school setting.

The observations will be audiotaped and videotaped in order to assure accurate record keeping. All audio- and videotapes and forms will be kept in a locked cabinet in the private office of Dr. Lori Swanson, the faculty advisor for this project. Only Heather Jones, Dr. Swanson, and a research assistant will have access to these materials during the project to ensure confidentiality. Neither your names nor your child's name will be used at any time for presentation or publication purposes. These tapes will be stored for one year, then destroyed.

The information obtained from this project will be included in a thesis written by Heather Jones to partially fulfill the requirements for a Master's degree from the University of Tennessee. This information will also be used to help speech-language pathologists improve their knowledge of the language used by typical children with other children their age. There are no penalties for not participating.

Permission Form

Name of Child _____ Child's Teacher _____

Name of Parent or Legal Guardian _____

I have read this informed consent and have agreed to allow my child to participate in this study. I understand that my child's participation in this project is completely voluntary. I am also aware that I may withdraw my child from this study at any time without penalty to me or my child. I may also call to request more information or a general summary of the findings of the study from Dr. Swanson or Heather Jones (phone 974-1794). I understand that individual results will not be disclosed.

Signature of Parent or Legal Guardian

Date

Appendix E
Eligibility Questionnaire

To the Classroom Teacher:

Thank you for your assistance in distributing the Fact Sheets and Parental Consent forms to your class. I now need your help in narrowing the group down, based on the questions below. Please go down the list of students (attached) and ask yourself the following questions about each student. If, to the best of your knowledge, you would answer "Yes" to any one question in reference to that child, please cross the child's name off of the list, and return the list to my mailbox in the office.

Thank you,

Heather Jones

1. Does this child have a history of speech or language impairment?
2. Does this child speak English as a second language, or does this child speak a dialect which is different from the dialect of the majority of his or her classmates?
3. Does this child have a history of hearing impairment?
4. Does this child have any diagnosed physical, mental, psychological, or emotional disabilities?
5. Has this child been held back a grade in school?
6. Does this child require resource services?

Appendix F
Questionnaire

Note: This questionnaire will be read orally to the subjects while they look at the items and answer Yes or No for each prospective triad member.

1. Do you play with (prospective triad member 1) at your house or other places when you are not at school? **Yes No**

2. Do you play with (prospective triad member 2) at your house or other places when you are not at school? **Yes No**

Criteria

If a child says or marks Yes, that child will not be placed in a triad with the named prospective triad member.

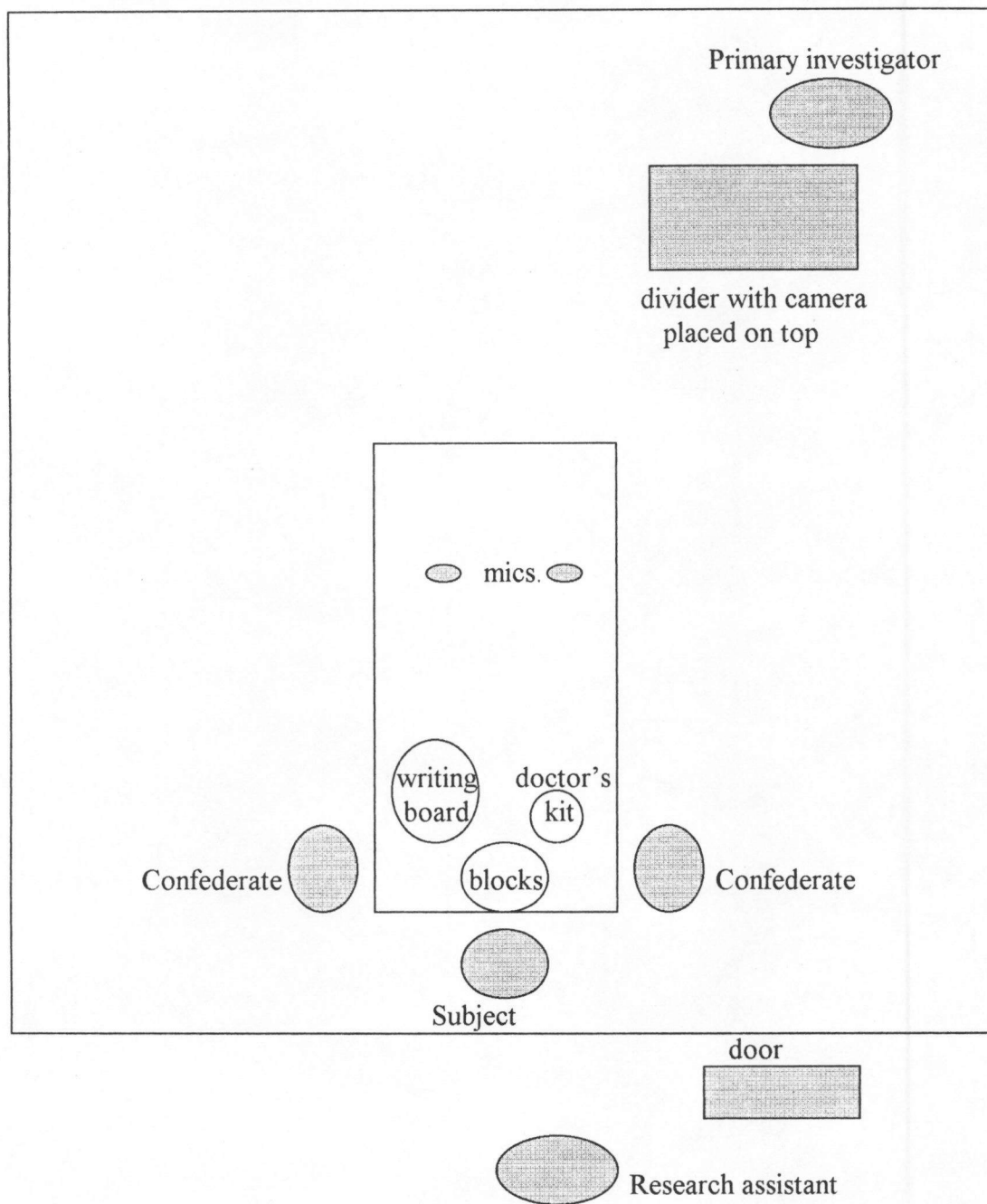
Appendix G
Description of Subjects

Description of subjects

<u>Grade and School</u>	<u>Subject</u>		<u>Chronological</u>	<u>CELF</u>
	<u>Number</u>	<u>Gender</u>	<u>Age</u>	<u>Screening Score</u>
K I	1	male	5:11	31
K I	2	female	6:0	27
K I	3	female	6:0	24
K I	4	female	5:8	20
KI	5	male	5:1	24
KII	1	male	5:10	20
KII	2	female	5:7	17
KII	3	female	5:11	28
KII	4	female	5:8	16
KII	5	female	5:6	20
2I	1	female	7:8	19
2I	2	male	7:11	24
2I	3	female	7:5	27
2I	4	female	7:10	29
2I	5	male	7:9	24
2II	1	male	8:3	28
2II	2	male	7:11	27
2II	3	male	7:8	31
2II	4	female	7:7	30

Note. K = Kindergarten, 2 = Second grade; roman numerals indicate the two different schools participating; CELF is an abbreviation for the Clinical Evaluation of Language Fundamentals Screening Test (Semel, Wiig, & Secord, 1989).

Appendix H
Graphic depiction of room arrangement

Observation Room Layout

Appendix I
Clinical Evaluation of Language Fundamentals Screening Test

The Clinical Evaluation of Language Fundamentals Screening Test

The Clinical Evaluation of Language Fundamentals Screening Test (CELF Screening Test; Semel, Wiig, & Secord, 1989) was developed as a screening test to determine the need for further in-depth language assessment of children between the ages of five and thirteen. It is a revised version of the Clinical Evaluation of Language Fundamentals-Revised (CELF-Revised; Semel, Wiig, & Secord, 1987), and its items reflect the expressive and receptive subtests of that instrument (Word Structure, Linguistic Concepts, Oral Directions, Recalling Sentences, Word Classes, Semantic Relationships, and Sentence Assembly).

The CELF Screening Test was administered to 2,273 normal achieving students between the ages of five and sixteen for the purpose of standardization. The sample was divided among regions (Northeast = 8.0%, North Central = 23.7%, South = 40.9%, West = 27.4%) and community size (more than 50,000 = 50.5%; between 2,500 and 50,000 = 37.2%; 2,500 or fewer = 12.3%). It was also divided by gender (51.5% female, 48.5% male) and race (82.5% White, 12.5% African American, 5.0% Other, of whom 5.8% were Hispanic). Therefore, this test was appropriate for the subjects involved in this study.

All of the above subjects were also administered the CELF-Revised to determine the criterion-related validity. The correlations ranged from 0.66 to 0.87 among age groups, thus providing evidence of concurrent validity. The overall percentage agreement for correct identification, as compared with the scores for the CELF-Revised, (placing a student's score above (passing) or below (failing) the age-

appropriate criterion) was 87.6%, with only 4% false passes and a range of 1% to 7% false failures. Construct validity was assessed by comparing sections of the CELF Screening Test with subtests of the CELF-Revised. The greatest correlations exist between each CELF Screening Test section and the matching CELF-Revised subtest, as is appropriate.

Test-retest reliability was measured by re-administering the CELF Screening Test to 128 students at three ages at an interval of one to two weeks. Reliability coefficients for ages 6, 10, and 14 were 87%, 88%, and 68%, respectively.

VITA

Heather Jones graduated with Summa Cum Laude honors from the University of Tennessee in August 1995 with a Bachelor of Arts in Speech Pathology. She was a member of Phi Kappa Phi and Phi Beta Kappa honor societies. During her senior year she completed an independent Honors Project, "A case study of a high-risk infant and the pursuit of intervention," a scholarly discussion of a child with congenital cerebellar agenesis.

Ms. Jones is currently a graduate student at the University of Tennessee in speech-language pathology. She is particularly interested in the area of child language and pragmatic skills. Clinically, she has had practicum experience in a public school, a community clinic, a nursing home, and a Level One trauma center. She has served as Vice President of the local chapter of the National Students of Speech-Language and Hearing Association and has been active in departmental affairs. Upon graduation in May 1997 she plans to pursue a career as a speech-language pathologist in a pediatric setting.