Pragmatic Language Skills Underlying Social Competence of Reading Disability in Middle School Students

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PRAGMATIC LANGUAGE SKILLS UNDERLYING SOCIAL COMPETENCE OF READING DISABILITY IN MIDDLE SCHOOL STUDENTS

A Dissertation

Presented to

The Morgridge College of Education

University of Denver

In partial Fulfillment

Of the Requirements for the

Doctor of Philosophy

By

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August 2010

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Title: Pragmatic Language Skills Underlying Social Competence of Reading Disability in Middle School Students

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Date: August 2010

Abstract

The purpose of this investigation was to examine pragmatic language engagement and social competence in middle school children with and without reading disability during dyadic interaction. Engagement was defined in terms of degree of information and responsiveness provided by each partner. Analyses indicated reading disabled students differ from non-reading disabled students in terms of pragmatic language engagement. However, this was true only in terms of degree of responsiveness. Students with reading disability employed similar degrees of pragmatic language engagement in terms of information to those of their nondisabled peers. Further, no relationships were found between social competence and either type of pragmatic language engagement, responsiveness or information. Implications for the multifaceted assessment of pragmatic language and social competence and future research are discussed.
ACKNOWLEDGMENTS

I would like to thank the members of my dissertation committee who have helped me to complete this project. First and most thanks and appreciations go to my dissertation chairperson, Dr. Gloria Miller. Gloria, thank you for your patience, dedication and professionalism. This dissertation could not be finished without all your support. I also want to thank my family and especially my mother for her love and prayer.
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CHAPTER 1
INTRODUCTION

Background and Significance of the Study

While it is true that communication is the basis of all human interaction, it is language that enables communication to operate successfully (Thomas & Fraser, 1994). As a tool, language is represented as a series of symbols. These tools are of an auditory, visual, and/or kinesthetic nature. According to Liles (1993), the degree to which a child develops these tools frequently determines the amount of success achieved in the home environment, school community, and social community. Spoken language becomes the earliest tool that helps a child participate in the social culture.

In school, spoken language continues to be a tool, but it is more for the purpose of academic learning than social discourse. It is when academic performance problems emerge after children begin school that the presence of a learning-and-reading disability is considered. Furthermore, clinical observations reveal that the failure to communicate thoughts and needs, as well as misinterpretations of messages, often leads to confusion, aggression, and social withdrawal in children with language impairments (Prizant & Wetherby, 1990).

Research indicates that children, especially those in sixth, seventh, and eighth grades, with a language impairment or a learning or reading disability are at risk for problem behaviors (Benasich, Curtis, & Tall, 1993). Bender and Smith, concluded that a
significant number of students with learning disabilities are rated by teachers and parents as exhibiting problem behaviors, such as anxiety, depression, aggression, and hyperactivity (Cummings, Vallance & Brazil, 1992; Margalit & Levin-Alyagon, 1994; Gadeyne, Ghesquiere & Onghena, 2004). The majority of children with behavioral problems attending one psychiatric outpatient clinic were also found to have language-and-reading disability (Cohen, Davine, Horodezky, Lipsett, & Isaacson, 1993). This type of empirical evidence strongly suggests that students who have a learning disability (more specifically, a reading disability) are at risk for the development of social, emotional, and achievement problems. Despite all the research that has demonstrated a relationship between learning disabilities and problem behaviors, the processes underlying this association remain unclear. Deficient social discourse (Lapadat, 1991) and poor social skills (Cantwell & Baker, 1991; Mathinos, 1988, 1991) have been hypothesized as contributing to problem behaviors in students with and without reading disabilities.

Purpose of the Study and Statement of the Problem

The purpose of this investigation was to examine pragmatic language and social competence in middle-school children who have reading disabilities (RD) with peers who are not reading disabled (NRD). This purpose was achieved by comparing pragmatic language skills in a conversation that is relevant to social competence across both groups of middle-school students. If problems in pragmatic language skills can be further identified in students with reading disabilities and related to social competence, more successful interventions can be planned. Perhaps interventions targeting pragmatic language goals also will decrease disruptive behavior and lead to greater social
competencies. Since pragmatic language abilities are best assessed through spontaneous language in a child’s environment, an observation method during peer interactions will be used to assess pragmatic abilities. The focus here will be on pragmatic skills that are deemed most relevant to areas of social competency in middle school.

Research Hypotheses

The following hypotheses are forwarded: Students with Reading Disability (RD) will differ from students with No Reading Disability (NRD) on pragmatic language skills in terms of the engagement levels of responsiveness and information, and on ratings of social competence. A second hypothesis is that ratings of students’ social competence will be positively correlated with levels of pragmatic language skills in terms of responsiveness and information.

Definition of Terms

The terms and designations unique to the proposed study are stated and defined as follows:

**Pragmatics:** Pragmatics concerns the interface between language as a system and the goals and intentions of human communication (Dockrell & McShane, 1993). In essence, it is the use of language in a social context for a particular purpose or communicative competence (Gerber, 1993) and the use of language to communicate effectively (Twachtman-Cullen, 1998). Additionally, pragmatics includes the tailoring of language forms and expression of meaning to fit the social demands and situation (Landa, 2000). Typically, pragmatic language involves an understanding of communicative
intent, presupposition, social discourse, and level of conversational engagement (Landa, 2000; Mathinos, 1991).

For the purpose of this study, pragmatic language is defined as the level of conversational engagement techniques employed by children with and without reading disabilities while in a dyadic interaction.

**Conversational Engagement**: Conversational Engagement is defined and measured in terms of the degree to which specific types of utterances provide information and evidence responsiveness to one’s conversational partner.

**Levels and Types of Utterances**: A clear definition for each type of utterance is necessary for the purpose of coding utterances and assigning a level of information (levels 1-5) and level of responsiveness (levels 1-4). When coding the level of responsiveness, the increasing hierarchy of responsiveness to task, theme/topic, and preceding utterance is used to classify each utterance. When coding the level of information, the utterances are arranged in an increasing hierarchy, ranging from those that provide the minimum response needed to avoid conversational failure to those that actively elicit information from the partner (see Appendix G).

**Reading Disability**: Reading disability is generally defined as a severe impairment or an inability to read. Richek, List, and Lerner (1983) defined reading as language in written form. Current literature agrees that reading shares many of the same processes and sources of knowledge involved in talking and understanding (Catts & Kamhi, 2005). Empirical evidence from research with beginning readers and students with reading disabilities indicates that phonological weaknesses underlie most reading disabilities (Torgesen et al., 1999). In most research on phonological deficits, however, the focus has
been on a rather narrow developmental window: the primary grades (Catts & Kamhi, 2005).

With regard to literacy development beyond the primary grades, phonological deficits predict that students who have difficulty acquiring word recognition and decoding skills from the outset of schooling are likely to suffer various secondary consequences at older ages, such as weak reading comprehension, pragmatics, and difficulty in acquiring new vocabulary terms and other kind of information typically acquired through reading (Stanoch, 1986; Catts & Camhi, 2005). For the purposes of the proposed study, reading disabilities will refer to those middle-school children attending school in one urban community in the United States who have been identified as having a learning disability with reading as their area of main concern.

Social Competence: Gresham and Elliott (1989, 1990) defined social competence as those behaviors exhibited within specific situations that predict a child's standing on important social outcomes. The important social outcomes for these particular students include acceptance by the peer group, ability to follow the rules of conduct within a classroom setting, and appropriate motivation for achievement (Cicchetti & Howes, 1991). One way reading disabilities have been thought to contribute to problem behavior is through impaired pragmatic-language abilities.

During adolescence, children learn to mask their true feelings, and children with pragmatic difficulties may give a false impression of not caring, may become loners or get into fights. As a result, they are rejected by their peers and often become lonely and depressed (Beitchman at al., 1996). There have been several longitudinal studies of
children with preschool language delays related to pragmatics and social emotional problems. Silva, Williams, and McGee (1987) showed that children with delayed verbal comprehension at three years were most at risk for later social emotional problems. Thus, in this study, social competence skills also will be assessed, using a norm-referenced teacher rating scale (i.e., Social Skills Rating Scale - SSRS).

**Overview of the Study Organization**

Chapter one presents the background of the problem, states the problem of concern, describes the purpose of the study, presents the research hypothesis, notes limitations and assumptions, and provides an overview of the study.

Chapter two examines the relevant literature pertinent to reading disabilities in general and the relationship among social competence, reading disability and pragmatic language. Included is a review of language development, definitions, and forms. A review of the empirical research of those variables, especially as they pertain to older elementary and middle-school students with reading disabilities, is also included. Furthermore, this chapter contains a discussion on the link between pragmatics and reading disability.

Chapter three describes the study methodology. It is noted that the method of the research will be both quantitative and qualitative. The sample population will consist of sixth, seventh, and eighth grade students in one community. In this section, an overall description of participants, research steps, and study hypotheses will be provided.

Chapter four will provide an overview of the analysis used to address the hypotheses. Tables of relevant raw and collapsed data collected during the study will be
provided. Values resulting from statistical analyses will be presented to address the major research questions posed here. A general summary of the results will be noted.

Chapter five will conclude the investigation. A summary of the study will be provided, followed by conclusions based on the results and limitations of the study. Recommendations will follow, focusing on suggestions for future investigative studies of a similar nature, as well as areas of concern deemed important in light of the findings of this study.
CHAPTER 2
REVIEW OF RELATED LITERATURE

Introduction

The purpose of this chapter is to review previous studies related to the major variables of the proposed research in the following manner: A general definition of reading disabilities and the testing of language development. A general overview of pragmatics and the relationship between pragmatic skills and reading disabilities and how pragmatics is typically assessed. A review of social competence and its relationship with pragmatics and reading disabilities with particular attention to research on the link between pragmatics and reading disabilities. The final section summarizes the pertinent findings reviewed in the chapter and provides a transition to the methodology section of this study.

Learning Disabilities

Learning disability is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematics abilities (Aaron, 1991, 1997). The classification of learning disability into subtypes dates back many decades (Johnson & Myklebust, 1967). Since learning disabilities consist of constellation of symptoms, variation exists among the students and the types of learning disabilities diagnosed and ascribed. The federal definition of learning disability is that it is a disorder of using and understanding of language. The current classification recognizes language-based and
nonverbal learning disability which is more neuropsychological in origin. The language-based learning disabilities address reading and spelling dysfunctions, whereas nonverbal learning disabilities relate strongly to problems with arithmetic (Beitchman & Young, 1997; Rourke, 1996, 1997, 2000). The focus of this study is on language-based learning, specifically reading disabilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction (Catts & Kamhi, 2005). Even though a language-based learning disability may occur concomitantly with other handicapping conditions (e.g., sensory impairment, mental retardation, social and emotional disturbance, psychiatric factors) or environmental influences (e.g., cultural differences, insufficient/inappropriate instruction), it is not the direct result of these conditions or influences (Nowicki, 2002).

**Reading Disability**

According to Foorman et al., (1997), reading disability is a more focused and specific language-based learning disability. Reading disability has been defined as a severe impairment or an inability to read as indicated by a substantial discrepancy between anticipated intellectual level and chronological age and actual achievement, despite reading instruction and the opportunity to learn (Stothard & Hulme, 1992). In recent years there have been many new studies that indicate that the IQ-reading achievement discrepancy is not an appropriate or a valid marker for reading disability identification (Nowicki, 2002). Since there are two variations on IQ-achievement discrepancies are to be operationalized and defined (Lyon, 1988). Also, the major difference in how IQ and achievement scores are applied to a formula for deriving the
difference between expected and actual achievement levels. Another question that has been raised is whether an IQ-achievement discrepancy, no matter how it is measured, in fact tells us anything about reading disability.

Identifying Reading Disability

If one defines reading disability as deficits in decoding and recognizing single words, a discrepancy between IQ and reading achievement appears to be an invalid marker. A substantial number of studies indicate that reading disability typically reflects insufficient phonological processing abilities (Share & Leikin, 2004; Catts & Camhi, 2005). It is widely recognized that reading is a language-based skill (Flynn & Rahbar, 1994; Catts & Camhi, 2005). From an empirical standpoint, there is a wealth of evidence that proves deficits in phonological awareness not only co-occur with deficits in basic reading (Vellutino & Scanlon, 1987; Pratt & Brady, 1988), but that the relationship is in fact a causal one since deficits in phonological awareness impedes the acquisition of reading skills (Wagner & Torgesen, 1987; Olson et al., 1994; Torgesen, 1996). Richek et al. (1983) defined reading as language in written form. It is now generally acknowledged that reading shares many of the same processes and sources of knowledge involved in talking and understanding (Catts & Kamhi, 1986, 2005). Based on these links reading disabilities must be assessed through attention to language (Flynn & Rahbar, 1994; Catts & Kamhi, 2005).

Language

A very early definition of language that still holds true today was offered by Bloom and Lahey (1978). In their view, language is the “knowledge of a code for representing ideas about the world through a conventional system of arbitrary signals for
communication” (p. 246). During the school-age years children increase their range of social interaction and communication (e.g., turn-taking, initiating, topic maintenance, response etc). This requires them to be good conversational partners and to be able to understand and interpret the language and behavior of peers. The interplay of these processes enables the child to become a more effective communicator and problem-solver.

There have been attempts to examine the social skills underlying pragmatic difficulties of children with RD (Catts & Hogan, 2002). For example, Salend (1990) recommended specific strategies to enhance the development of language skills. These include modeling, role playing, prompting, coaching, and scripting. Modeling provides opportunities for students to observe appropriate social interactions and language, whereas role play provides a context in which learners can practice communication skills. Prompting, coaching, and scripting are manipulative strategies in which the teacher prompts the use of certain skills, coaches specific skills or actually writes a script for the learner.

According to the literature, the boundaries of communication disorders such as language delay and reading disabilities often overlap, making it difficult to determine the individual effects of each disorder. Some researchers have stated that language impairments and reading disabilities are one and the same problem observed at different times throughout the life cycle (Duchan, Hewitt, & Sonnenmeier, 1994; Gerber, 1993). Haynes, Moran, and Pindzola (1990) reported a significant number of common symptoms that reflect difficulties in the semantic (e.g., word finding, limited vocabulary);
syntactic/morphological (e.g., use of incorrect grammar, use of starters and stereotyped phrases); and pragmatic (e.g., use of redundancy, difficulty shifting style to fit social situations) components of language. According to the researchers, if any of these characteristics interfere with educational performance, students are identified as having reading disabilities.

Pragmatics

Lahey (1988) refers to pragmatics as the ability to use language appropriately to achieve desired outcomes within a social, situational and interactive context. Basically, pragmatics refers to how well individuals use language for communication. Students need to be able to communicate in accordance with the accepted rules of the school, home and social environments. According to one team of researchers (Prizant, Audet, Burke, Hummel, Maher & Theodore, 1990), discourse rules for social contexts generally require the use of appropriate opening statements to focus the listener on the topic; use of acceptable turn-taking patterns; use of statements that are relevant to the established topic; use of the partner's preceding statements; and formation of reasonable judgments about the listener's knowledge of the topic.

Pragmatics is one of the most important components of language for socio-cognitive and emotional regulation and social interaction (Accardo et al., 2000). The area of most significant growth during the school age and adult years is in the development of conversational skills, which is highly related to pragmatics. Pragmatics involves the interface between language as a system and the goals and intentions of human communication (Dockrell & McShane, 1993). Language Pragmatics includes the ability to acquire and apply the rules governing the social use of language. More specifically,
pragmatics is concerned with understanding the communicative intentions of others (e.g., questioning, commands, descriptions, engagement, etc.), the presupposition of implicitly shared knowledge, the ability to make correct inferences, consideration of the context in which language is used, and the ability to initiate and maintain dialogue (Spekman, 1984; Accardo et al., 2000). For the purpose of this study, pragmatic language is defined as the level of conversational engagement techniques employed during a dyadic interaction. In this respect dyadic interactions are mutual and they require that both conversational partners are engaged and responsive. Pragmatics in these situations is defined and measured in terms of the degree to which utterances provide information and are responsive to one’s conversational partner (Mathinos, 1988, 1991).

**Reading Disabilities and Pragmatics**

Research has indicated that children with reading disabilities respond to inferential communication differently from children without reading disabilities. An earlier study by Bryan, Donahue, and Pearl (1981) examined conversational competence of 20 male children with reading disabilities and 20 male children without reading disabilities, grades 2 to 4, when placed in a social position. Each subject was videotaped as they played the role of a talk-show host interviewing a child. Children with RD were less skillful in initiating and maintaining a conversation with a guest and were less assertive during conversational interaction than children without RD.
Assessment of Pragmatics

Although there are many options for a coding system of linguistic analysis, Prutting and Kirchner (1983) have employed two levels of analysis, molecular analysis and molar analysis. While molecular analysis is a more detailed analysis of a client’s specific behavior, molar analysis consists of a more global appraisal of the client’s interactions with the social environmental system. In molar analysis, an observational protocol is used to judge a client’s appropriateness or inappropriateness of language and behavior in various settings. Although there are some standardized instruments that can assess some aspects of pragmatics, most clinicians and researchers believe that since pragmatic language is used in different social situations it cannot be assessed with standardized language tools (Landa, 2000; Twachtman-Cullen, 1998).

Assessment of pragmatic language should be dynamic, process-oriented and conducted in a natural context. As reported by Damico (1990), a critical part of pragmatics assessment is the measurement and evaluation of pragmatic functioning including conversational discourse. Frequently, students with reading disabilities exhibit pragmatic deficits that affect the coherence of their discourse. As a result, discourse is fragmented and often irrelevant. As explained by Damico (1990), discourse analysis views functional language in real interactive situations and it takes into consideration the quantity, quality, accuracy, relation, and manner of communication interaction. Discourse analysis evaluates the student's ability to (a) maintain a topic, (b) provide cohesion and (c) accurately sequence. It also evaluates the student's ability to initiate, and to use a repair strategy if a communication breakdown occurs.
Damico (1990) and Tager-Flusberg (2000) also point out that norm-referenced testing is used to provide the information needed to determine reading problems. However, norm-referenced assessments do not take into consideration the language of the classroom or the cognitive, pragmatic, and social problems faced by students with reading disabilities. For this reason, it is important that an in-depth pragmatics assessment include both norm-referenced and naturalistic assessments to describe a student's pragmatics strengths and weaknesses. The information obtained from this comprehensive assessment should be used not only to determine eligibility for services but also to formulate functional and meaningful goals and objectives for the student.

**Social Competence**

Social competence is an area of concern for children with learning disabilities (Pearl, Donahue, & Bryan, 1986; Nowicki, 2002). It is a complex multidimensional construct consisting of a variety of behavioral and cognitive variables as well as aspects of emotional adjustment; social competence is useful and necessary in order to develop adequate social relations and to obtain desirable social outcomes (Bender & Wall, 1994). Various definitions have been proposed based on the different orientations of social theorists and psychologists. Sabornie (1994) has defined social competence in terms of social skills. She propose socially competent functioning include perspective-taking and problem-solving behavior. Important social outcomes for school-aged children include acceptance by the peer group, ability to follow the rules of conduct within a classroom setting, and appropriate motivational orientations for achievement (Gresham & Elliot, 1987).
As children get older and develop socio-cognitive awareness they are able to incorporate their experiences and become more efficient in interpersonal interaction and problem-solving. A growing body of research has shown that children with RD differ from children with NRD on such behaviors (Owens, 1999). Toro and his colleagues (1990) studied the social problem-solving of children with RD and children with NRD at the elementary school level. They introduced children on their ability to generate alternative solutions. Children were presented with four age-relevant social problem situations. Children with RD demonstrated significant deficits in generating alternative solutions to social problem-solving. Carlson (1987) examined 30 mainstreamed secondary adolescents with RD and 30 peers with NRD on tasks reflecting different aspects of social problem-solving strategies. She found that children with RD performed at a lower level than their NRD peers when identifying a social problem, generating a solution to the problem and recognizing consequences of each alternative solution to the problem. Similar patterns have been found in other group subjects.

Social competence is also related to mental health outcomes. Less socially competent individuals with negative or conflict-ridden social relationships in childhood have been found to be at risk for a variety of negative outcomes in adulthood, such as delinquency, depression, mental illness and employment difficulties (Beitchman et al., 1996). Theories of intelligence also acknowledge the importance of social competence. The early work of Piaget (1926) emphasized the importance of engaging in social interactions with peers for the development of cognitive abilities. In his triarchic theory of intelligence, Sternberg (1985) embedded social competence in the concepts of both social and practical intelligence. Gresham (1986) conceptualized the broad domain of
social competence as comprising the following three subdomains: (a) adaptive behavior, (b) social skills, and (c) peer acceptance. Although there are some disagreements among researchers on different componential factors of social competence, most agree on the above factors involved in socially competent behaviors.

Based on these definitions, researchers have studied the importance of social competence in the development of individual social interaction and adjustment. Previous research has shown that the presence of social competence is an important foundation for adequate peer relationships (Owens, 1990). Positive and enduring social relationships in children are significantly tied to typical development (Hartup, 1989). In addition, socially competent behavior and peer acceptance are important for academic success and for the development of positive self-image (Hartup, 1989). Conversely, inadequate social competence and poor relationships during childhood has been associated with mental health problems (Hartup, 1989; Sigman et al., 1997), juvenile delinquency, and social rejection in later life (Gerber, 1993). A large body of research indicates that social skills difficulties may predict serious adjustment problems later in life (Court and Givon, 2003; Dawson 2002, Gerber, 1993; Gresham and Elliott, 1987).

Most of the previous research on pragmatics and social competence is predominantly with younger children. Few studies on social competence and pragmatic abilities conducted on middle school children are available. One of these studies was carried out by Fujiki and Brinton (1996). They found that elementary age children with specific language difficulties between the ages of eight and 12 years had poorer social
skills, fewer peer relationships, and were less satisfied with peer relations than the control groups.

**Social Competence and Reading Disability**

In the past, reading was believed to be a visually-based, perceptual activity. Thus, children with reading disabilities were believed to have visual problems. As a result, remediation was concentrated on visual correction. In the last 30 years, researchers challenged this assumption. They stated that reading is a language-based process and the role of vision in reading is limited (Vellutino, 1987). This new direction in reading research and emphasis on linguistic basis of reading disabilities has changed the clinical diagnosis and classification in this area (Catts & Kamhi, 1987; 2005).

**Social Competence and Pragmatics**

The development of interpersonal skills and social competence is an important factor in the process of children’s development (Pearl, Danahue, & Brayne, 1986). Previous studies have identified many factors that are necessary in the process of normal interaction and socialization, but not many studies have examined the role of language in the process of interpersonal interaction and social competence. The role of pragmatics, in particular, is an important aspect of language that can affect both academic and social interactions in the specific population with language disabilities. Language difficulties such as phonology, syntax, semantic, and pragmatics have been hypothesized to adversely affect children’s relations to peers (Vaughn & Haager, 1994).

Earlier descriptions of language did not always attempt to include aspects of context and the social consequences of an individual’s utterances. Instead, they have sometimes focused on discrete aspects of individual utterances, choosing to ignore the
full complexity inherent in the social dimension of the interaction (Thomas & Fraser, 1994). Recently, studies of the language used in social contexts by children and adolescents with reading disabilities have dominated research in the area of language usage.

A central aspect of language in social contexts is pragmatics. Pragmatics refers to the use of language in a social context for a particular purpose or communicative competence (Gerber, 1993). Pragmatics deficit can strongly affect communicative competence, which will reduce the social effectiveness of children with reading disabilities. These children often appear to experience difficulties in (a) imparting intentions to listeners in specific situations, (b) conveying and understanding information, and (c) initiating and sustaining conversation (Levine, 1987). As children approach adolescence, increasing social demands are made by their peers. Previous research has shown that children with better pragmatics language abilities are more successful in social behaviors, such as peer interactions (Brinton & Fujiki, 1994; Farmer, 1997, 2000; Gallagher, 1993, 1999; Koning & Magill-Evans, 2001; Mendez et al., 2002; Sigman & Ruskin, 1999). Language reading disabilities may prevent students from meeting these demands (e.g., appropriate use of slang terms or coy, flirting behaviors with the opposite sex) and resulting in social maladjustment.

Preteens and adolescents must also develop meta-linguistic competence, the ability to think about language, which enables them to decide whether a message is acceptable or successful in its intent and to determine the meaning of unfamiliar expressions, ambiguous messages and linguistic ambiguity. Research in this area has
typically been conducted with young children (Bunce, 1993). As a result, most books on language development contain a great deal of information detailing the early stages of phonologic, syntactic, and morphologic development and far less information on later language development including the role of pragmatics in communication (Owens, 1990; 1999).

There is substantial evidence that children with reading disabilities have difficulties in the use of language. Lapadat (1991) undertook a meta-analysis of the results of 33 studies of the pragmatic language skills of 3-12 year-old children with and without reading disabilities. Lapadat estimated the mean effect size was -0.52 (s.e. = 0.06) that is the mean of children with language impairment was about half a standard deviation below that of the control group. The effect was equally marked for children with reading disabilities above and below 8 years of age. Furthermore, the results from this review indicated that pragmatic deficits might be attributable to language disabilities since the effect size was more marked (-0.77) for children labeled as having language disorders than for children with a general learning disability.

There is little dispute about the basic idea that oral language skills are fundamentally related to reading (Catts & Kamhi, 2005). There have been many studies investigating the nature and processes underlying difficulties of reading disability finding that there are many factors contributing to reading processes, such as visual perceptual processing skills, phonological processing, memory processes, word knowledge, etc. (Velluntino, 1987; Aaron P. G., Joshi, R. M., & Williams, 1999).

Gerber (1993) reported on the characteristics of adolescents with language-based learning and reading disabilities involving both basic and higher level language tasks.
The adolescents he studied had difficulties following oral directions, comprehending basic classroom vocabulary and concepts, and processing critical information.

Previous research on persons with reading disabilities has focused on examining isolated components of language as related to social competence, frequently neglecting the interrelationships that exist among components (Benasich, Curtiss, & Tallal, 1993). Clinicians have also frequently overlooked the fact that language is used by individuals within a dynamic context to communicate a variety of intentions and to accomplish different goals or objectives (Spekman, 1984; Owens, 1999). In order to understand the interface between language reading and social functioning, a broad examination of pragmatics during interpersonal communication is needed (Thomas & Fraser, 1994). Especially for adolescents with and without RD and language problems (Liles, 1993).

Summary

The purpose of this chapter was to review the literature associated with the major variables of the study. The general area of reading disabilities was discussed first. It was noted that reading disability is a part of the larger learning disability syndrome, and based on the links between language and reading, it is likely that those who have difficulties with reading often have difficulties with language, especially pragmatics. Social competence problems and reading disability were also found to be related to pragmatics. Theories of intelligence acknowledged the importance of social competence as a major factor influencing the social interaction and adjustment. Pragmatics has also been linked to these variables. It was concluded from this review that pragmatics can strongly affect
communicative competence which will reduce the social effectiveness of children with reading disabilities.

Preadolescence is a time when there is significant demand for interpersonal, psychosocial, and language maturation. The interaction between language skills and socialization are often reflected in the development of social competence. The review of the literature suggests that higher order pragmatic language processes are central to reading and social abilities (Gerber, 1993; Haynes, Moran, & Pindzola, 1990) in younger children. However, these relationships have not been studied with older children. A large body of evidence supports the idea that children with reading disabilities demonstrate significant problems with language tasks that involve higher-order language skills, such as pragmatics. It is reasonable to believe that these language difficulties would affect not only their reading abilities but also their social communication skills. It is hypothesized that lower social competence and socialization problems of RD children may be connected to difficulties in higher-order language processes such as pragmatics.

While prior work suggests that there is a relationship between social competence, pragmatics and reading disability, more work is needed to support especially with middle school students with reading disabilities and middle school students without reading disabilities. The purpose of the next chapter is to review the methodology of a study designed to address these issues.
CHAPTER 3

METHOD

Participants

A total of 400 parents of one middle school in a large western city were offered participation via an approved parental permission form that explained the purpose of the study and its procedures, the researcher’s name and phone number, the institution supporting the study, and approval from the school district. Of these, 245 parents returned their permission form.

After selecting students based on the inclusion criteria below, data for this study were collected from a total of 30 sixth, seventh, and eighth-grade students which resulted in 15 pairs. This final sample of 30 students consisted of 8 females and 22 males. From the total of 8 female students, 2 were sixth graders, 4 were seventh graders and 2 were eighth graders. From the 22 male students 6 were sixth graders, 10 were seventh graders and 6 were eighth graders. Students were paired based on their gender and grade level. Half of the study participants were identified as having a Reading Disability (RD); the other half did not have any known previous or current reading disability (NRD) and obtained proficient scores on the Colorado Student Assessment Test (CSAP).

Inclusion criteria for the RD sample were based on Colorado special learning disability education identification for a specific learning disability which includes: (a) evidence of processing difficulty (perceptual, language, cognitive) impairing the student’s ability to listen, think, attend, speak, read, write, spell and/or do mathematical
calculations; and (b) determination of the impact on educational achievement (decoding, comprehension, writing, math computation, math reasoning) as measured by significant discrepancy between the IQ cluster scores and the achievement cluster scores, using a Colorado regression formula. (Learning disability definitions and diagnostic criteria have changed since the participants in this study were first identified. This raises the possibility that some of the participants might not be considered learning disabled by current standards.) All the students with a reading disability were selected for this study based on the following criteria:

1. Evidence of at least low average intelligence (e.g., WISC-IV Full Scale IQ of approximately 85 or higher)
2. Reading achievement is significantly below chronological age (as assessed by individually administered tests like WJ-III)
3. Absence of primary sensory deficits (e.g., no evidence of severe hearing loss)
4. Absence of primary emotional problems
5. At least two years of special education experience
6. English proficiency
7. Unsatisfactory score on the CSAP reading section

Inclusion criteria for the NRD sample were based on:

1. Confirmation of no known hearing, learning, or intellectual disabilities or neurological problems
2. A file review with a score of proficient on their CSAP reading section
3. English proficiency
4. Absence of primary sensory deficits (e.g., no evidence of severe hearing loss)
5. Absence of primary emotional problems

Measures

The following measures were employed to assess the pragmatics language and social competence of subjects. The Pragmatics Record Form has columns for individual scoring and a total score for both information and responsiveness levels.

Pragmatics Coding System (PCS) (Mathinos, 1991). The primary measure to assess the pragmatics used during the task was based on the coding scheme developed by French, Sobel, and Boynton (1985) and Mathinos (1988; 1991) to rate a short dyadic exchange. The Pragmatic Coding System (PCS) is the modification of the 11 items that constituted the dyadic interaction coding scheme employed by Mathinos (1991).

The Pragmatics Coding System (PCS) characterizes a child’s conversational interaction based on the nature and amount of information and responsiveness to a peer’s comment. Two protocols were used to score the transcripts of conversational interactions. The first protocol categorizes the coding in terms of information that the student provides to the partner. For this, responses were arranged and scored in terms of an increasing hierarchy (1-5) from providing minimum information to continue conversation (e.g., I know, right) which receives 1 point, to higher more elaborated information (e.g., Do you like softball? Not as much as baseball, which do you like better?) Which receives 5 points? The second protocol categorizes the coding in terms of responsiveness. For this, the responses were arranged and scored in terms of an increasing hierarchy (1-4) from minimum response (e.g., yeh, o.k.) which receives 1 point, to more relational response
(e.g., I do not like baseball as much as softball, I bet you like baseball more, don’t you?) which receives 4 points.

The Pragmatics Record Form (PRF) was developed to collect the data by the raters for both Information hierarchy (1-5) and Responsiveness hierarchy (1-4) using the system provided in Appendix B.

The Social Skills Rating System (SSRS) (Gresham & Elliott, 1990). This teacher rating measure was designed to assess social competence in students ages 3 to 18. The SSRS has three rating forms for a teacher, parent, and student. All three forms are standardized and norm-referenced and can be used separately or in combination. Because this research was looking at social skills within the school context, only the Teacher Form was utilized for this project. It has three scales: Social Skills, Problem Behaviors, and Academic Competence. The teacher rates each Social Skills scale item in terms of how often the behavior occurs using a three-point scale (e.g., Initiates conversations with peers), 0 = never, 1 = sometimes, 2 = very often. The teacher also rates how important each behavior is for classroom success (e.g., Attends to your instructions), not important, important, critical. Standard scores for this scale range from 40 to 130, and percentile ranks are provided. The scale was normed in 1988 on a national sample using 259 teachers who rated over 4,000 students ages 3 to 18. The instrument provides a translated table of the teacher rating scores into standard scores with a mean of 100 and a standard deviation of 15. Internal consistency reliability ranges from .74 to 94.
Procedures

Pilot study

Prior to the main study a pilot study was done in the summer of 2007. Purpose of the pilot study was to test the appropriateness of the task in terms of the pragmatics levels of engagement, clarity of the directions and scoring, appropriateness of time limits, and the participants’ abilities to generate enough utterances in terms of both information and responsiveness. The pilot results were used to adapt and modify the instructions and language-coding system.

Step 1. Student selection and pairing: For the purpose of the pilot study, three pairs of students (n=6) were recruited over the summer of 2007. The three pilot pairs and their parents were known to the researcher and were not part of the main study. The pilot pairs were promised and rewarded with pizza party and two free swimming session tickets at a recreation center. Of the 6 students 4 were six graders and the remaining 2 were seventh graders. There were magazines related to the four topics of conversation (television and movies, sports, hobbies, and technology), which the subjects could look at for reference. The script used to introduce the task can be found in Appendix F.

The pairs were audio-taped in a room that resembled a regular classroom for six minutes. Previous researchers have suggested that at least six to ten minutes are needed for an adequate sample (Miller, 1988; Mathinos, 1991). All three pairs were male and were matched based on their grade levels. Upon finishing audio taping of the three pairs, the tapes were transcribed by the researcher and a speech-language pathologist who was a co-worker of the researcher.
Step 2. Coding: To establish inter-rater reliability with regard to the coding system for Pragmatic Coding System (PCS), the researcher presented the speech-language rater with the Pragmatic Coding System (Appendix A) and the Pragmatics Record Form (Appendix B) and reviewed the forms with the speech-language rater. The training included a summary of the project and detailed procedural information, including the order in which to code, instructions regarding coding at each level of information and responsiveness analysis, and description of scoring. Data analysis was intended to address whether the coding categories demonstrate sufficient inter-rater reliability.

Step 3: Scoring: Prior to the scoring of the audio tapes, the researcher listened to all the three tapes (three pairs) of pilot study one by one and transcribed each tape utterance by utterance and listened to the tapes again to make sure all utterances had been transcribed. The speech-language rater used the same procedure and transcribed the three tapes (three pairs) independently. Each transcript was then scored based on the five levels of Information and four levels of Responsiveness. The researcher and the speech-language rater compared the scoring of all three tapes one by one and discussed the discrepancy of the Pragmatics Record Form (PRF) (Appendix B) for scoring. This procedure occurred until consistency was achieved between the researcher and speech language rater. Both the researcher and the speech-language rater used the Pragmatics Record Form (PRF) (Appendix B) for scoring.

Step 4. Reliability Calculations: Next, the inter-rater reliability analysis was completed using the Kappa statistic to determine consistency between the two raters. The inter-rater reliability for the raters was found to be Kappa = 0.78 (p<0.001) for RD group
and Kappa = 82 (p<0.001) for NRD group. According to a guideline for interpretation by Fleiss (1981, p. 218), a Kappa value above .75 denotes excellent agreement.

Main study

Step 1. Permission: Consent forms were sent to parents by the school. All students in the study were selected based on the criteria outlined above.

Step 2. Selecting Final Sample and Matching Pairs: After the signed consent forms were collected (Appendix D), the researcher began collecting the necessary data on each student. The students’ records were reviewed to gather information based on the criteria mentioned above.

Step 3. Administering SSRS Teacher Rating: For the rating of social competence, the SSRS was given to the art classroom teacher to assess the students’ social skills. The reason that the art teacher was selected was that she was the same teacher for all sixth, seventh, and eight grade students that they went to her classroom at different periods.

Step 4. Dyadic Assessment Session: Subjects were assessed in pairs and observed in a non-distracting room in the school, which was equipped with two audiotape recorders to ensure accuracy and protect the study from technical malfunctions. Their pragmatics language skills were collected based on their dyadic interactions recorded on audio tapes.

The study was done during spring semester of 2008 at 9:45 to 11:30 in the morning. Pairs of students with RD and NRD, matched by grade and same gender, were called in randomly for this session. When the dyads came into the room, the researcher introduced himself and asked the students their names. He told them that the purpose of
the session was for them to help him understand how students their age converse and he obtained their assent for the study.

The dyads were then given a list of four topics (television and movies, sports, hobbies, and technology). They were instructed to choose any one of the topics to discuss for six minutes. Previous researchers have suggested that at least six to ten minutes are needed for an adequate sample (Miller, 1988; Mathinos, 1991).

There were magazines related to the four topics (television and movie, sports, hobbies and technology), which the subjects could look at for reference. There was a jar of labels with blue and green colored pieces of paper; blue represented RD, green represented NRD. The subjects were not told the categories of the colors. One of the subjects picked a label from the jar and gave it to the researcher. If it was blue, the researcher told the RD to pick a topic and begin a conversation. If it was green, the researcher told the NRD to pick a topic and begin a conversation. The purpose of this procedure was that to determine who was going to start the conversation, the RD or NRD. The examiner used a script for the instruction in order to ensure standardization across students (See Appendix F). All conversational interactions were audio-taped for the later transcription.

Step 5. Transcription: Coding and scoring was done by adapting a procedure by Mathinos (1988, 1991) (Appendix A). Each individual utterance produced by the dyad received one score for information (1-5) and one score for responsiveness (1-4). After utterances were assigned values for information and responsiveness, a score representing the levels was given as a total score.
Prior to the scoring of the audio-tapes, the scoring system and forms were reviewed and discussed with the second rater, who was the same rater as that used in the pilot study. The rater presented with definitions and examples of each category of information and responsiveness (Appendix A).

Step 6: Inter-rater reliability: Data for the main study was obtained randomly for the 20 percent of the 15 dyads (n=6). A Kappa statistic was used to assess inter-rater agreement across each of the two levels of analysis: information and responsiveness.

For the RD group, there was a 93 percent agreement rate with a Kappa of .91 for information, and a 79 percent agreement with a Kappa of .67 for responsiveness. For the NRD group, the agreement rate was 78 percent for information and 86 percent for responsiveness. The Kappas were .62 and .77 respectively. Thus, inter-rater reliability was found to be primarily within the excellent range for both categories captured on the Pragmatics Coding System. This will be discussed fully in the next research section.
CHAPTER 4
RESULTS

The results section is organized in the following manner. First, data analysis of inter-rater reliability for the main study is discussed. Next, the analysis is presented that is associated with the main research questions of the study.

Inter-rater Reliability

Inter-rater reliability data for the main study were obtained for the 20 percent of the 15 dyads (n=6). The researcher and the speech-language pathologist used the same protocol and the same procedure that were used for pilot study to arrive at each subject’s information and response scores. All 30 audio tapes (15 pairs) were transcribed utterance by utterance by both the researcher and the speech-language rater independently.

The researcher and the speech-language rater scored each of the audiotapes for the four dyads, following the categories of information and responsiveness as described previously. A Kappa statistic was used to assess inter-rater agreement across each of the two levels of analysis: information and responsiveness. Kappa is a measure of inter-rater agreement that examines whether raters’ counts differ from what would be expected by chance. According to Fleiss (1981, p. 218) a Kappa value above 75 percent denotes excellent agreement, values between 40 percent and 75 percent denotes fair to good agreement, and values below 40 percent denotes poor agreement.

For the RD group, there was a 93 percent agreement rate with a Kappa of .91 for information, and a 79 percent agreement with a Kappa of .67 for responsiveness. For the
NRD group, the agreement rate was 78 percent and 86 percent, respectively. The Kappa was .62 and .77. Thus, inter-rater reliability was found to be primarily within the excellent range for both categories captured on the PCS.

Analyses of the Main Research Questions

This chapter presents the results of the analyses and will address the main research questions. First: The analysis associated with hypothesis 1 are presented and the data obtained across groups are reviewed with respect to ratings in both social skills and dyadic conversational engagement in regard to information and responsiveness. Then group differences RD versus NRD are assessed on overall levels of information and levels of responsiveness as well as on their social skills ratings. Separate analysis for individual pragmatic levels is also investigated.

Second: Analysis associated with hypothesis 2 is presented. The relationships between social skills ratings and the scores from the dyadic conversation ratings are assessed. Statistical analyses to determine group differences in the information and responsiveness components of dyad language engagement, and the relationship between these components and social competence consisted of a series of t-tests and multiple correlations.

Hypothesis 1

That students with RD will differ from students with NRD on pragmatic language skills in terms of their engagement levels of information and responsiveness, and on ratings of social competence: This hypothesis was tested by evaluating the students’ performance during dyadic interaction, with the determining general group differences on pragmatics
skills and social competence. To do this a series of paired t-tests were conducted on the overall scores for each group across the Information, Responsiveness and Social Competence ratings.

Paired t-tests analysis found no significant difference between reading disability (RD) and non-reading disability (NRD) students on their variables of social skills (NRD: M = 99.47, SD = 6.32; RD: M = 96.20, SD = 9.12) and their scores for information (NRD: M = 3.55, SD = .57; RD: M = 3.23, SD = .57). However, there was a statistically significant difference between the reading disability (RD) students and the non-reading disability (NRD) students in their responsiveness (NRD: M = 3.17, SD = .33; RD: M = 2.85, SD = .37, p ≤ .05). These results indicate that students in the NRD group were more responsive than those in the RD group (See Table 1).

Table 1

Means, Standard Deviations, and Paired T-Test Results for Social Skills, Information, and Responsiveness

<table>
<thead>
<tr>
<th>Variable</th>
<th>RD group</th>
<th>NRD group</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Social Skills</td>
<td>96.20</td>
<td>9.13</td>
<td>99.47</td>
<td>6.32</td>
</tr>
<tr>
<td>Information</td>
<td>3.23</td>
<td>0.57</td>
<td>3.55</td>
<td>0.53</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>2.85</td>
<td>0.37</td>
<td>3.17</td>
<td>0.33</td>
</tr>
</tbody>
</table>

* p < .05
Further Analysis of Pragmatics Levels

To further assess differences between the RD and NRD groups in relationships to information and responsiveness, a t-test analysis was conducted to investigate group differences on the varying levels of information between the reading disability students (RD) and the non-reading disability students (NRD). Significant differences were found between the reading disability (RD) and non-reading disability (NRD) groups in terms of information at different levels of utterances. While the non-reading disability (NRD) group used Level 3 more frequently (M=8.00, SD=6.28 p<.05), the reading disability (RD) group was found to employ Level 2 utterances more often (M=2.40, SD =2.64, p<.01) (See Tables 2 and 3).

**Table 2**

*Total Score and Percent for Each Information Level Across the RD and NRD Groups*

<table>
<thead>
<tr>
<th>Levels</th>
<th>RD Group</th>
<th>NRD Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Score</td>
<td>Percent</td>
</tr>
<tr>
<td>Level 1</td>
<td>14</td>
<td>3%</td>
</tr>
<tr>
<td>Level 2</td>
<td>36</td>
<td>8%</td>
</tr>
<tr>
<td>Level 3</td>
<td>63</td>
<td>14%</td>
</tr>
<tr>
<td>Level 4</td>
<td>232</td>
<td>50%</td>
</tr>
<tr>
<td>Level 5</td>
<td>115</td>
<td>25%</td>
</tr>
<tr>
<td>Total</td>
<td>450</td>
<td>100%</td>
</tr>
<tr>
<td>Level</td>
<td>RD Group</td>
<td>NRD Group</td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Level 1</td>
<td>0.93</td>
<td>1.22</td>
</tr>
<tr>
<td>Level 2</td>
<td>2.40</td>
<td>2.64</td>
</tr>
<tr>
<td>Level 3</td>
<td>4.20</td>
<td>2.96</td>
</tr>
<tr>
<td>Level 4</td>
<td>15.47</td>
<td>7.07</td>
</tr>
<tr>
<td>Level 5</td>
<td>7.67</td>
<td>4.17</td>
</tr>
</tbody>
</table>

* p < .05

Next, a similar analysis was conducted to examine group differences in regards to responsiveness to determine whether RD versus NRD subjects employ utterances at different levels of responsiveness. Significant differences were found between the reading disability and non-reading disability groups in terms of responsiveness at different levels of utterances. While the NRD group used Level 4 more frequently (M==11.49, SD=5.63, p<.05), the RD group was found to employ Level 2 utterances more often (M=4.93, SD=3.53, p<.01) (See Tables 4 and 5).
Table 4

*Total Score and Percent for Each Responsiveness Level Across the RD and NRD Groups*

<table>
<thead>
<tr>
<th>Levels</th>
<th>RD Group</th>
<th>NRD Group</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Score</td>
<td>Percent</td>
<td>Score</td>
<td>Percent</td>
</tr>
<tr>
<td>Level 1</td>
<td>2</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Level 2</td>
<td>74</td>
<td>18%</td>
<td>20</td>
<td>4%</td>
</tr>
<tr>
<td>Level 3</td>
<td>248</td>
<td>61%</td>
<td>270</td>
<td>59%</td>
</tr>
<tr>
<td>Level 4</td>
<td>82</td>
<td>21%</td>
<td>172</td>
<td>37%</td>
</tr>
<tr>
<td>Total</td>
<td>406</td>
<td>100%</td>
<td>462</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 5

*Mean, Standard Deviations, and T-Test for Five Levels of Responsiveness*

<table>
<thead>
<tr>
<th>Levels</th>
<th>RD Group</th>
<th>NRD Group</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Level 1</td>
<td>0.13</td>
<td>0.35</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Level 2</td>
<td>4.93</td>
<td>3.53</td>
<td>1.33</td>
<td>2.23</td>
</tr>
<tr>
<td>Level 3</td>
<td>16.53</td>
<td>3.14</td>
<td>18.00</td>
<td>5.55</td>
</tr>
<tr>
<td>Level 4</td>
<td>5.60</td>
<td>5.82</td>
<td>11.47</td>
<td>5.63</td>
</tr>
</tbody>
</table>

* p < .05; ** p < .01
Hypothesis 2

This hypothesis was that teacher’s ratings of students’ social competence will be positively correlated with levels of pragmatic language skills in terms of information and responsiveness. This hypothesis was tested by analyzing the relationships between social skills and overall information and social skills and overall responsiveness scores. Pearson Product Moment correlation coefficients were employed across the RD and NRD groups respectively to determine whether an interrelationship existed between these skills. The correlations indicated no significant correlation between pragmatic language components and social competence for either the RD or NRD groups. None of the coefficients were statistically significantly different from zero.

The correlation between social skills and information for RD (r=0.014) was low and non-significant. The correlation between social skills and responsiveness (r=0.063) was also non-significant (See Table 6). A similar non-significant result was found in the correlation between social skills and information for NRD (r=0.125). The correlation between social skills and responsiveness for NRD (r=0.089) also was non-significant (See Table 7).

Although this indicates no relationship between the variables of interest, it is noted that all the correlates between information and responsiveness were high which means this may have obscured any separate associations. It was expected that social skills would be positively correlated with the information and responsiveness scores, because both information and responsiveness make pragmatic language easier in social situations. However, this expected relationship was not found. (See Tables 6 and 7)
Table 6

*Correlations between Social Skills, Information, and Responsiveness for the RD Group*

<table>
<thead>
<tr>
<th></th>
<th>Social skills</th>
<th>Information</th>
<th>Responsiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social skills</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td>0.014</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Responsiveness</td>
<td>-0.063</td>
<td>0.864**</td>
<td>1.000</td>
</tr>
</tbody>
</table>

** p < .01

Table 7

*Correlations between Social Skills, Information, and Responsiveness for the NRD Group*

<table>
<thead>
<tr>
<th></th>
<th>Social skills</th>
<th>Information</th>
<th>Responsiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social skills</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td>0.125</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Responsiveness</td>
<td>-0.089</td>
<td>0.676**</td>
<td>1.000</td>
</tr>
</tbody>
</table>

** p < .01
CHAPTER 5
DISCUSSION

This study considered the relationship between pragmatic language skills and social competence of students with reading disability (RD) and students without reading disability (NRD). Specifically, the present study aimed (a) to characterize the nature of pragmatic language engagement evidenced by reading disability (RD) students and non-reading disability (NRD) students during dyadic interaction and (b) to evaluate the relationships among levels of engagement and students’ social competence.

The results of the study provide partial support for the hypothesis, that reading disabled students differ from non-reading disabled students in terms of pragmatic language. However, this was true only in terms of level of responsiveness. Generally, these results concerning RD and NRD differences in pragmatic language responsiveness support the findings of prior research.

Further analysis indicated significant differences between the reading disability (RD) group and non-reading disability (NRD) group in terms of individual responsiveness levels. While the non-reading disability (NRD) group gave more Level 4 responses (M=11.49), the reading disability (RD) group was found to give more Level 2 responses during six minutes conversation (M=4.93). In accord with prior research (e.g., Mathinos, 1991), students without reading disability (NRD) employed more higher levels of responsiveness than did the students with reading disability (RD). Although, the reading disability (RD) students did employ the same levels of sophistication in terms of information, as compared with their non-reading
disability (NRD) peers, they were less successful in employing levels of sophistication in terms of responsiveness. As both reading disability (RD) and non-reading disability (NRD) students possess the same knowledge and information for conversational engagements, reading disability (RD) students did not employ their available pragmatics language information to elaborate on their responses during dyadic interaction.

The question that remains is why reading disability (RD) students were not able or did not know how to respond to their partners with the same level of responsiveness sophistication. One explanation is that reading disability (RD) students may possess the same knowledge and information for language interaction but may not have developed the strategies or appropriate skills for how and when to employ them (Bryan, 1974a; Bryan & Wheeler, 1972; Davis and Rimm, 2004). Donahue (1985) argues that the communicative style of children with reading disabilities does not necessarily reflect the selection of strategies that meet an alternative set of norms and goals for participation in interactions. The more limited use of engagement supporting utterances by children with reading disability may reflect a purposeful selection of a “safe” interactional style that does not place excessive demand on him or her or allow for rejection (Bryan, 1985).

In regards to Hypothesis 2, no relationships were found between social competence and either type of pragmatic language, responsiveness or information. All Pearson Product Moment correlation coefficients were non significant for the reading disability (RD) and non-reading disability (NRD) groups, indicating no significant correlation between pragmatics language components and social competence for the RD and NRD groups. It was expected that, based on the students’ disability and the nature of
their pragmatics language responsiveness, their social competence would be rated lower. One possible explanation may be the specific items in the SSRS, that seem to be outside of the typical every day interactions of these students. For example: “appropriately questions rules that may be unfair” or “attend to your instructions” which are more of the classroom management styles that may or may not be social competency in a broader sense. Other explanation maybe teachers perception of reading disabled students that they may tolerate their inappropriate social interactions. It should be noted however, that the coefficients for the reading disability (RD) group and the non-reading (N RD) disability group are based on less than thirty cases each and, therefore, may not be valid. Also the strong correlation between Responsiveness and Information may have obscured any differences.

Implications

These results may have implications for evaluation of students with reading disability (RD) in the classroom. If students with reading disability (RD) are less responsive during dyadic social exchange, they may be at a disadvantage in the classroom. Teachers who do not look for more subtle signs of language development will fail to see how these children may struggle with social cues or in social group. Research indicates that children with learning disabilities do not have available to them, or do not know how to employ pragmatic language strategies needed to monitor and maintain their own communication (e.g., see Torgesen, 1979; 1980). This is especially true for the meta-pragmatic skills needed during conversational interactions. Students with RD may not possess sufficient knowledge of strategies used in conversational interactions which may alter the goals they hold for such interactions (Carlson, 1997). The study of pragmatic
language competency will help to identify other areas of needed skills. Prior research
findings (Bergman, 1987) specific to the population with learning disabilities (RD)
suggest the presence of maladaptive social behaviors, unsatisfactory interpersonal
relationships, and subsequent poor social competency.

The result of this investigation is also explained in terms of the relationship of
social competency of students with reading disability (RD), compared to non-reading
disability students (NRD), and the degree at which the former group is at a greater risk of
developing deficits in social interaction, based on its pragmatic language deficits. In this
investigation, social competence was assessed using teacher rating only. While this
instrument has been demonstrated to have strong psychometric properties, future studies
to investigate social competencies and language ability would be strengthened through a
multi-assessment approach, to reduce the variability that can occur due to instrument or
method error. This could be accomplished by direct observation, in addition to the use of
rating scales that have been completed by more than one teacher as well as parent(s).
Another way to assess social competence might be through a student interview, regarding
social skills and competence which would lead to more comprehensive relationship
between pragmatics language and social skills.

Further, study of reading disability (RD) students’ socio-linguistic competence
and social competence is needed. Various language data collection procedures are also
important, because different situations can affect the frequency and complexity of
language performance.
Limitations

As with any investigation, there are limitations in the current study. First, limitations exist with respect to the use of a single school population. Work in this area suggests that empirical evaluation is needed for middle-school population. However, the use of only one school may have constrained the sample, thus generalizability of the results to the larger population may not be possible (Gay, 1996; Isaac & Mitchael, 1995).

In addition, the sample population of the study was limited to only sixth, seventh, and eighth-grade students who had been diagnosed with either a reading disability or no reading disability in one district. It is possible that a study administered to a significantly larger population might obtain different findings. Learning disability definitions and diagnostic criteria have also changed since the participants in this study were first identified. For example, the traditional means to identify children with learning disability has been through the discrepancy model which looks at the difference between ability as sometimes measured by a child’s scores on both subsets of an IQ evaluation (such as the Wechsler Intelligence Scale for Children (WISC-IV) and an evaluation of achievement as indicated by teacher evaluations and testing such as the Wechsler Individual Achievement Test (WIAT) and student’s grades (Fuchs, & Fuchs, 2006).

Recently there have been new approaches for learning disability identification. For instance, the Response to Intervention (RTI) approach has been developed as an alternative to identifying learning disabilities with the ability-achievement discrepancy model. Proponents claim that the RTI process brings some clarity to identification of Specific Learning Disability (SLD). RTI seeks to prevent academic failure through early intervention, frequent progress monitoring, and increasingly intensive research-based
instructional interventions for children who continue to have difficulty (Shinn, 2007). 
This raises the possibility that some of the participants in this study might not be 
considered learning disabled by current standards).

Several methodological limitations to the study also existed. For example, the 
teachers in the study were quite aware of the students who have a reading disability. This 
knowledge might have influenced ratings of social competence. However, this was 
overcome somewhat by having one art teacher rate all of the students. Another 
methodological limitation is that the conversational situations employed here might not 
be representative of real-life situations. For this reason, care was taken to plan dyadic 
interactions to represent common middle-school topics and situations. The setting and the 
fact that the two students did not know one another may have limited their comfort level 
and typical language use. As familiarity with one’s conversational partner has been 
identified previously as a factor influencing learning disabled children’s success in 
communicative interactions (e.g., Pearl, Donahue & Bryan, 1981), this also may have 
played a role in this study.

Even though the semi-structured dyadic interaction more closely resembled 
regular daily communicative interactions, it is quite possible that subjects viewed dyadic 
interaction as novel and removed from their actual experiences communicating with 
others. It is unlikely that any subject has had an opportunity or desire to talk with a peer 
about only one topic for 6 minutes. Most typical interactions are about a range of topics. 
The lack of any relationship among the measures of social skill and pragmatics may have 
resulted from subjects viewing the communication tasks as novel and unrelated to
anything that normally arises in their lives. That is, the communication tasks, if viewed as
artificial by the subjects, may have encouraged them to display a style of communication
far different behaviorally than that which would be displayed in more natural settings

Finally, the sample size in this study represents a major limitation, since the thirty
students selected may not represent the true RD and NRD population. The small sample
size most likely had a negative influence on the power calculations, which in turn may
have impacted the lack of statistical significance of some factors in the analysis. The
result was not entirely unexpected. In this study the samples were matched for grade
levels and gender in one school in attempt to explore how reading disability affects
pragmatic language and social skills of the middle school children. However, by
controlling for such variables, it was also likely removing some of the explanatory
variance and in turn, decreasing effect sizes (McNamara, Willoughby, Chalmers, &
YLC-CURA, 2005). Previous research has indicated that girls with reading disability
demonstrate verbal skills inferior to those of boys with reading disability (e.g., Eno &
Woehlke, 1980; Ryckman, 1981; Vance, Singer, & Engin, 1980). Due to the composition
of the reading disability population, it was not possible to acquire the same number of
male and female students, since majority of special education students are male. The
availability of a more diverse group would have strengthened the comparison value of the
study.
Implications for Further Research

Research in the area of pragmatics should continue to help define the linguistic and social deficits to be remediated for children with reading disability (RD). New studies are needed with larger and more representative samples to determine how the population of students with reading disability (RD) and non-reading disability (NRD) differ in regards to pragmatic language and social abilities. Naturalistic assessments that evaluate pragmatic language competence in all areas and the use of multiple sources of data are needed to provide a wealth of information about the functioning of students who have a learning disability. Further research also is needed to emphasize the importance of developing more precise diagnostic assessments that can focus on students’ unique social needs in regards to critical areas of language intervention in the classroom.

It is critical to look at pragmatics and its impact on social skills across a life span. There has been accumulating evidence that learning disabilities persist into adulthood and that language difficulties become more apparent with age (White, 1992). Additional studies are needed to further investigate if pragmatic language difficulties are a causative factor in later reading, writing and social difficulties (Vogel & Adelman, 1990). In this study, due to public school district policies regarding confidentiality, videotaping was not permitted. Videotaping pragmatic language samples would provide more comprehensive information for non verbal categories of pragmatic interactions, such as facial expression, turn taking and proximities.

In future studies it will be important to assess social competency related to pragmatic language through multiple means both within and outside of school. In fact
social competency and language should be measured during regular classroom academic interactions as well as during non academic tasks. Each of these situations should be investigated for their consequence on interpersonal interactions and academic performance (Lago-deLello, 1998). Systematic observations of initiating and receiving negative and positive social interactions during academic and non academic situations would be helpful for identifying whether certain students with or without reading delays use age-appropriate social and pragmatic language skills. This also would provide further knowledge of specific problem areas that could be targeted in a pro-social language-based curriculum.

Research also must address the conversational styles of learning disabled children from the perspective that observed behaviors may reflect an attempt on the part of these children to adapt as best they can to a given social situation. For example, pairing learning disabled children with much younger non disabled children in a communication task may give the disabled children an opportunity to display sophisticated strategies. That is, if placed in a nurturing and clearly dominant position – as a result of their “advanced age” – disabled subjects may feel more comfortable about taking an active and supportive role in the conversation and may display a wider range of techniques than has been previously observed (e.g., Allen, 1981; Siegman & Feldstein, 1978).
REFERENCES


York: Cambridge University Press.


Spekman, N. J. (1984). Dyadic verbal communication abilities of learning disabled and
normally achieving fourth- and fifth- grade boys. *Learning Disability Quarterly*, 139-151.


### Appendix A

**Pragmatics Coding System (PCS)**

**Information (scores 1-5)**
From low to high nature and amount of information

<table>
<thead>
<tr>
<th>Score</th>
<th>Scores definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reinforcer statement</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Simple statement</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Expanded</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Elaborated</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>Sophisticated</strong></td>
<td>5</td>
</tr>
</tbody>
</table>
## Responsiveness (scores 1-4)
From low to high nature and amount of responsiveness

<table>
<thead>
<tr>
<th>Score</th>
<th>Scores definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Off-Topic response</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Maintenance response</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Expanded response</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Relational response</strong></td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX B

Pragmatics Record Form (PRF)

<table>
<thead>
<tr>
<th>Utterance</th>
<th>Information (1-5)</th>
<th>Responsiveness (1-4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rater 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rater 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rater 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rater 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pair #_____  Date  Time

Cassette# ___  Sex _____  Grade_____
### Social Skills Rating System (Gresham & Elliot, 1990)

<table>
<thead>
<tr>
<th>Social Skills</th>
<th>How Often?</th>
<th>How Important?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Some times</td>
</tr>
<tr>
<td>1. Produces correct schoolwork.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2. Keeps his or her work area clean without being reminded.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>3. Responds appropriately to physical aggression from peers.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>4. Initiates conversations with peers.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>5. Volunteers to help peers on classroom tasks.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>6. Politely refuses unreasonable requests from others.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>7. Appropriately questions rules that may be unfair.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>8. Responds appropriately to teasing by peers.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>9. Accepts peers’ ideas for groups activities.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10. Appropriately expresses feelings when wronged.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11. Receives criticism well.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>12. Attends to your instructions.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>13. Uses time appropriately while waiting for your help.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>14. Introduces himself or herself to new people without being told to.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>15. Compromises in conflict situations by changing own ideas to reach agreement.</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Dear Parent or Guardian:

Your child is invited to participate in a study that will help us understand the relationship between language and social skills. Namely, this study will help us to understand children’s social skills as they relate to pragmatic language ability. This is a research-based study and is being conducted by Ali Adibi, a doctoral student studying at the University of Denver. This study has already been approved by the staff and administrators at your child’s school and by the Denver Public School District.

If you decide to allow your child to participate in this study, their involvement will include the following. Your child will be seen during one 20 minute session where he or she will be asked to carry on a six-minute conversation with another student. Students will be given a choice of four topics to discuss and their interactions during the session will be audio-taped. Also, your child’s art teacher will be asked to complete a social skills questionnaire about your child. Additional information as it relates to your child’s reading performance will be gathered by the researcher who is also the school psychologist of the school.

Your child will not miss any class instruction nor will there be any changes made to their programming or scheduling. In addition, this study will occur only during school hours at free periods or during special curriculum times. No names will be used in any reports or summaries. All the information obtained will be coded by numbers rather than by name to insure confidentiality. Participation by your child is completely voluntary and
will not affect your child’s grades or standing at school. The outcome of the study will not affect any services provided or to which your child is entitled. You or your child may choose to discontinue participation in this research study at any time without penalty.

To overcome any risk of students feeling singled out, the researcher will ask students to come to the session at a designated time. Also to reduce the risk of missing important material, students will only be taken out of special subjects and not academic classes. Students typically enjoy participating in these unstructured conversations with a peer. However, if any student is uncomfortable verbalizing their ideas about the topic, they will be free to select another topic or to stop participation at any time. The examiner will always be in the room with students to closely monitor all conversations and also to insure everyone’s safety. The researcher is also the school psychologist at the school and thus is familiar to most students. Finally, all participants will be invited to a social gathering for a pizza party with the researcher/school psychologist at the end of the study.

Any information your child gives will remain entirely confidential. There are two exceptions to the promise of confidentiality. If information is revealed concerning suicide, homicide, child abuse or neglect, it is required by law that this be reported to the proper authorities. In addition, should any information contained in this study be the subject of a court order or lawful subpoena, the University of Denver might not be able to avoid compliance with the order or subpoena.

If you have any questions about this study or your rights as a participant you may contact Ali Adibi at Morey Middle School at 303-949-8321. If you have any concerns or complaints about how you were treated during the study, please contact Dennis Wittmer,
chair, Institutional Review Board at 303-871-2431, Sylk Sotto-Santiago, Research Compliance Manager at 303-872-4052, or Gloria Miller Ph.D. chair of my dissertation research, at 303-871-3340 at the University of Denver.

I would appreciate it if you would return the attached form to indicate whether you would like your child to have the opportunity to participate. Please return the form either way, so I know this information has reached you. Please fill out the form on the next page and return in the self-addressed stamped envelope within 7 days.

Again, your child’s help in this project would be greatly appreciated. I look forward to your reply.

Sincerely,

Ali Adibi, M.A.
School Psychologist
Denver Public Schools
Doctoral Candidate
University of Denver
(303) 949-8321
Ali_Adibi@dpsk12.org
Please read the following paragraph, and if you agree to allow your child to participate, please sign below and return this permission section to Ali Adibi in the enclosed stamped envelope within 7 days.

I have read and understand the purpose and plans of this project. I have asked for and received a satisfactory explanation of any language that I did not fully understand. I agree to allow my child, ________________________________, to participate in this study about pragmatic language. I understand that I or my child may withdraw our consent at any time. I have received a copy of this consent form.

_____ I agree to have my child audio-taped.

_____ I do NOT agree to have my child audio-taped.

________________________________________
Signature ________________________________

(Parent’s Signature)

Date ____________________

Print Name: ________________________________
Appendix E

Student Assent Form

Ali Adibi has explained this study to me, and I have asked for and received a satisfactory explanation of any language that I do not fully understand. I agree to participate in this study, and I understand that I may withdraw my consent at any time. I understand my participation in this study is confidential and will not affect my class activities or interactions. I have retained a copy of the permission and assent forms and have returned a signed copy of the assent for me.

My participation

I, _________________________________, agree to participate in this study. I understand that I may withdraw consent at any time.

Signature ______________________________________

(Student Signature)

Date ______________________

Print Name: _______________________________
Students are seated at a table across from each other. The observer states the following:

“I am going to give you four topics: television and movies, sports, hobbies and technology. You can choose any of the four topics as long as you can talk about it for 6 minutes. Your entire conversation will be audio-taped. The purpose of the study is to understand how children your age converse; I want you to talk about the topic you chose for six minutes without interruption, okay?”

The observer will hand the students the appropriate material and say, “these are the pictures related to your topic and a jar with blue and green labels inside it. One of you will pick a label; I will tell you who will start the conversation after I look at the colored label.”

Observer states: “If there are any questions please ask me before the start of your conversation. Remember, you are going to talk for six minutes without any interruption, okay?”

Observer states: “If either of you do not want to continue the conversation for any reason, you are free to leave the session without any penalty, any questions?”

Observer states: “If the conversation goes off topic, I will show you the picture of your topic as a reminder, and if you stop talking we may start all over or cancel the session. I will start recording when you start talking”