PATTERNS OF VERBAL COMMUNICATION IN CHILDREN WITH SPECIAL NEEDS

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The social interactions between children with special needs, learning disabilities and/or attention deficit disorder (ADHD), were investigated. The children were observed in groups of three/four while creating a cooperative art project. During this activity, their interactions were recorded and coded for patterns of verbal communication. Verbal communication was evaluated through statements reflecting requests for information and materials; helping/cooperation/giving; consideration/positive reinforcement; competitiveness; intrusiveness; rejection; self-image; neutral statements; and persuasiveness. Results indicated that children with special needs tended to engage in a greater frequency of helping/cooperative/giving statements as opposed to any other verbal statements. Specifically, positive statements as opposed to negative statements classified their verbal interactions. These children also appeared to demonstrate more internalizing behaviors than externalizing behaviors. The influence of children’s behaviors on children’s verbal statements was examined. Results indicated that children who evidenced a disability in reading or language appeared to engage in a greater frequency of cooperative or helping statements than their non-disabled peers. Intrusive tendencies may be associated with the following: presence of a reading disability, absence of ADHD, and absence of a disability in written expression. Additionally, the conversations of children with a disability in mixed receptive language tended to evidence a greater frequency of neutral statements when compared to their peers without a disability. Externalizing behaviors also appeared to be associated with increased use of considerate and encouraging statements. Findings also suggested that intellectual ability may be related to children’s verbalizations, but unrelated to children’s
behaviors. Intellectual functioning appeared to be directly related to children’s use of rejecting statements.

Upon comparing these findings to previous literature on the social communication between children with and without special needs, it is unclear whether children with special needs evidence a shared communicative culture or ability to interpret communication patterns, which results in more positive communicative interactions. This study has implications for appropriate educational placement, the formation of children’s friendships, and the social communication of children with special needs.
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CHAPTER 1

INTRODUCTION

The ability to meet the needs of diverse learners is a challenge in today’s educational system. Specifically, many researchers, educators, and parents have strived to gain a thorough understanding of the emotional, psychological, and cognitive functioning of children with special needs or learning disabilities, including gifted children with special needs. Research has indicated that children with learning disabilities exhibit emotional, behavioral, and interpersonal difficulties (Bryan, 1978). Many of these difficulties have been associated with communication deficits including expressive language, responsiveness, effective communication strategies, and interpretation of social cues (Bryan, 1977; Mathinos, 1988, 1991; Speckman, 1981). These communication deficits impact children’s peer relationships, social behaviors, and the responses they elicit from others (Bryan, 1974a; Bryan, 1977; Bryan, 1988; Bryan & Wheeler, 1972; Davis & Rimm, 2004).

However, of the studies that have examined the social communication of children with learning disabilities, many of these studies do not focus on the dyadic interactions between children with learning disabilities. Rather, these studies have investigated the communicative differences between children with and without a learning disability (Bryan, 1974c; Bryan, 1977; Mathinos, 1988, 1991). It is therefore necessary to further explore the verbal patterns of social communication demonstrated by children with special needs or learning disabilities. In addition, gifted children with learning disabilities are a relatively underrepresented population in this research. However, in order to fully understand these linguistic patterns, it is necessary to be aware of the communication abilities and behaviors of children with learning disabilities, gifted and non-gifted, as well as how they are perceived by their peers. In addition, a general
understanding of children’s communications and peer relationships, as well as how these relationships can influenced and be influenced by children’s development of oral language skills and pro-social behaviors is also important. This literature will be reviewed throughout the course of this paper.

Children with Special Needs

Special needs children are children who have received a prior diagnosis of an emotional, behavioral, or cognitive disorder. Within the educational setting, many children with special needs are those children who have received a learning disability diagnosis. According to the Individuals with Disabilities Education Improvement Act of 2004 (U.S. Department of Education, 2004), a reauthorization of the Individuals With Disabilities Education Act (IDEA, 1997), a diagnosis of a disability is based on the following definition:

The term “child with a disability” means a child (1) with mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance (referred to in this title as `emotional disturbance’), orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities; and (2) who, by reason thereof, needs special education and related services. (Section 602)

More specifically, with regards to children aged 3-9 years, under this Act, the State and the local educational agency, are permitted to include:

A child who is (1) experiencing developmental delays, as defined by the State and as measured by appropriate diagnostic instruments and procedures, in 1 or more of the following areas: physical development; cognitive development; communication
development; social or emotional development; or adaptive development; and (2) who, by reason thereof, needs special education and related services. (Section 602)

A learning disability is diagnosed when a child’s achievement in reading, written expression, or mathematics is statistically lower than expected given that child’s intellectual functioning (Diagnostic and Statistical Manual of Mental Disorders IV-TR; DSM-IV TR; APA, 2000). As defined under IDEA (2004), this learning difficulty must also interfere with the child’s academic or daily functioning. In order to assess for a learning disability, formal testing is conducted using standardized instruments. As part of the assessment, the child’s school level and age are also examined in order to determine the child’s level of achievement and intelligence.

Prevalence

The prevalence rates for learning disabilities in children range from 2-10% (APA, 2000). The variability of these prevalence rates is highly significant. Namely, this range suggests there is inconsistency in the understanding and identification of learning disabilities. However, regardless of the actual unique prevalence rate, these rates are large enough to be noteworthy. Currently, 5% of children attending public schools in the United States have been diagnosed with a learning disorder. These children typically attend special education or remedial programs within the public education system. Some children with these disabilities attend private schools, which are specifically designed for children with learning differences. In order to supplement their learning at school, many children with learning disabilities also work with speech and language therapists, psychologists, and specialized tutors outside of school.

Comorbidity

Many children with special needs or learning disabilities also receive a comorbid diagnosis of attention deficit disorder (ADD; APA, 2000). ADD is a behavioral disorder
characterized by severe difficulties sustaining attention and/or impulsivity or hyperactivity (APA, 2000). These difficulties are more intense and occur more frequently than is expected for children at a given developmental level. Additionally, as part of the diagnostic criteria for ADD, these difficulties must interfere with the child’s functioning in at least two settings. ADD is diagnosed in 3-7% of school-age children.

Patterns of Communication in Children with Learning Disabilities

Children with learning disabilities have been found to evidence emotional, behavioral, and interpersonal difficulties (Bryan, 1978; Gaddeyne, Ghesquiere, & Onghena, 2004; Purvis & Tannock, 1997). In particular, these difficulties are apparent with regard to emotional engagement, expressive language, and interpretation of the nonverbal communication of others (Bryan, 1977; Mathinos, 1988; Mathinos, 1991; Purvis & Tannock, 1997; Speckman, 1981). In order to gain a thorough understanding of the communication patterns and difficulties of children with learning disabilities, knowledge of communicative competence, conversational techniques, and the prevalence of communication disorders are necessary. Specifically, children’s proficiency in such aspects of communication can influence their interactions with others and their verbal exchanges (Purvis & Tannock, 1997).

Communicative Competence

Previous research suggests that children with learning disabilities have trouble in social situations because of their undeveloped or inappropriate communication processes. Thus, they may evidence different verbal competencies when compared to children without a learning disability (Mathinos, 1988; Purvis & Tannock, 1997). Specifically, children with learning disabilities appear to be less competent communicators when compared to their peers. Hymes (1974) defined “communicative competence” as involving knowledge of grammatical rules in
verbal communication, as well as an understanding of the correctness of certain statements at particular times. More specifically, knowledge of grammatical rules was conceptualized as an intrinsic understanding, which could be measured by the appropriateness of the children’s verbal expressions. According to Hymes (1971), children who are competent verbal communicators have an understanding of sentence purpose, organization, and meaning. They also possess a vast knowledge of the social world and how to interpret it. Thus, competent communicators are able to appropriately adapt their linguistic style in order to meet new social circumstances and rules (Hymes, 1974). Lastly, they understand the ways in which this knowledge and understanding interact within social situations (Hymes, 1971). Overall, communicative competence involves an awareness of social cues, understanding of environmental contexts, and linguistic skills.

The communication competence of children with learning disabilities was examined by Mathinos (1988). The study explored the communicative characteristics and abilities of fourth and fifth grade boys, ages 9-13 years, with and without learning disabilities. The children were assessed in dyads, which were matched according to a learning disability diagnosis or no learning disability diagnosis. The children’s dyadic observations where then observed. Results indicated that boys with a learning disability evidenced greater confidence in describing familiar figures as opposed to more abstract figures. Boys with a learning disability also demonstrated less success and competence in creating comprehensible and discerning descriptions when compared to their peers without a learning disability. Similarly, boys with a learning disability utilized less advanced techniques when attempting to continue a conversation in comparison to their peers. For example, interactions between boys with a learning disability involved longer periods of silence than the interactions of their peers without a learning disorder. These interactions typically involved low levels of engagement. Overall, the boys with a learning
disability were less successful in understanding mutual exchange within verbal communication when compared to their peers without a diagnosis (Mathinos, 1988).

Similarly, another study examining language abilities in children with attention deficit disorder, reading disabilities, and children without disabilities yielded similar findings (Purvis & Tannock, 1997). For this investigation, language ability was assessed using instruments to examine semantic understanding of language and recall of a narrative. The participants included 50 male children between the ages of 7 to 11. Similar to Mathinos’s findings (1988), results also indicated that boys with ADHD experienced marked difficulty scrutinizing the accuracy of their statements, as well as organizing their verbal statements. They often engaged in off-topic references, which make it difficult to maintain the reciprocity of a conversation and for the listener to comprehend the speaker’s inherent message. These boys also tended to misinterpret information and to substitute words, which are unrelated to the context. Additionally, for boys who possessed a reading disability evidenced marked difficulties in receptive and expressive semantic tasks. Boys who evidenced both ADHD and a reading disability demonstrated difficulties inherent to both ADHD and reading disability. Overall, the challenges of boys with a reading disability are characterized by difficulties in basic semantics, whereas the challenges experienced by boys with ADHD are characterized by difficulties in higher order processing.

Conversational Techniques

Dyadic interactions are mutual and they require that both conversational partners are engaged and responsive. However, for children with learning disabilities, conversational engagement can be difficult. Namely, because these children demonstrate difficulties in communicative competence, they are less able to understand the grammatical structure within verbal exchanges and to assess and respond appropriately to varying social contexts. As a result,
the conversational techniques utilized by children with learning disabilities may be less predictable and effective (Hymes, 1971; Mathinos, 1988; Purvis & Tannock, 1997). These communicative techniques have been examined in research studies investigating the dyadic interactions between children with learning disabilities and children without learning disabilities.

Characteristically, research has measured communication success in by examining the presence or absence of characteristics associated with appropriate communication in dyadic interactions (Hymes, 1974; Mathinos, 1988). These characteristics include an understanding of verbal cues, grammatical structure in verbal expression, as well as the ability to interpret communication situations. An individual must be able to determine what responses or statements are necessary and acceptable in given social situations. In addition, appropriate communication involves engagement, an understanding of the mutuality of conversations, communicating ideas effectively, and the ability to sustain a conversation. A good communicator will also evidence knowledge of sentence meaning, organization, and purpose.

Upon examination of such characteristics, it seems that children with learning disabilities may exhibit different verbal messages and conversational techniques when compared to children without a learning disability. Namely, children with learning disabilities tend to produce less complex messages (Speckman, 1981). These messages also tend to be difficult to interpret. Specifically, these children produce fewer descriptions and are less clear in identifying the subject of their messages. For example, children with learning disabilities, ages 7-11 years, tend to generate verbal messages or instructions which are often inconsistent, repetitive, unclear, or irrelevant to the topic of conversation (Markoski, 1983; Speckman, 1981). Similarly, these children are also less likely to begin a verbal conversation or to introduce new topics into the conversation (Friel-Patti & Conti-Ramsden, 1984). When interacting with others, elementary-
aged children with learning disabilities also appear to be more competitive in their conversational approach and to produce more statements requesting assistance or information when compared to their peers without a learning disorder (Bryan, Wheeler, Felcan, & Henek, 1976; Markoski, 1983). Overall, children with learning disabilities appear to utilize less effective conversational techniques.

In order to better understand the verbalizations of children with learning disabilities, Mathinos (1991) examined conversational techniques in the dyadic interactions of children with and without learning disabilities. The study sample consisted of children aged 9-12 years, who made-up two participant groups, with and without a learning disability. Each child with a learning disability was matched with a child without a learning disability. Within the study, methods of engagement, or the extent to which verbalizations reflected responsiveness to their partner and offered information, were examined. Results suggested that children with learning disabilities utilized techniques to elicit engagement that were similar to their peers without a learning disability. For example, they used techniques to maintain the conversation, such as providing greater information and responding to the others statements. However, children with learning disabilities used these techniques less frequently and more erratically when compared to their peers without learning disabilities. As a result, the partners of children with learning disabilities were less informative and responsive when compared to the partners of children without learning disabilities (Mathinos, 1991). It appears that the restricted interaction style of the children with learning disabilities elicited a similar restricted style from their partners without learning disabilities.

Children with learning disabilities have been found to exhibit similar constrained conversational techniques in group-settings. Namely, they appear to have difficulties engaging
with group members and eliciting responses from others (Bryan, Donahue, & Pearl, 1981). For example, when engaged in small group decision-making tasks, these children were less persuasive in getting their group members to recognize their ideas. These children also tended to agree with the ideas of others and were less likely to argue with other children over their ideas when compared to children without a learning disability (Bryan et al., 1981). They are also more likely to request information regarding the opinions of others of task directions (Markoski, 1983). Overall, it seems that communicating in group situations may be challenging for children with learning disabilities.

Wiener and Harris (1993) examined the social communication between children with and without learning disabilities while engaged in a cooperative task. The children were asked to create an original object with their team members. They were observed twice for 10 minutes. For one of the observations the children were in dyads and for the other observation the children were in groups of 6. Results of the dyadic interactions indicated that children with learning disabilities tended to respond less frequently to the conversational initiations of others, unless the statement necessitated a response, when compared to their peers without learning disabilities. In addition, these children were less likely to try to begin a conversation, except when asking for an explanation, when compared to their peers without a disability. Examination of the conversations within the group of 6 indicated that boys with a learning disability were more likely to make self-centered statements, disagree with others, and use competitive language when compared to their peers. Similarly, boys with a learning disability offered ideas, directions and instructions, and responded to the other children less frequently than their peers without a disability. In contrast, girls with learning disabilities tended to be more withdrawn in the group interaction. Namely, they were less likely to begin conversations, offer ideas and opinions, and make statements
reflecting group membership, when compared to girls without a disability. Similarly, their opinions or conversational initiates were responded to, recognized, and accepted less frequently than girls without a disability.

*Communication Disorders*

Many young children evidence Communication Disorders, which affect their ability to communicative effectively, respond appropriately, and engage in social interactions. These disorders often involve impairments in expressive language, receptive language, and patterns of speech. The DSM-IV identifies several communication disorders (APA, 2000). For example, expressive language disorder (ELD) is characterized by expressive language ability that is substantially lower than nonverbal intellectual functioning and receptive language skills. As a result, these children tend to experience marked difficulty remembering words and generating sentences. In addition, they evidence extremely limited vocabulary skills and make errors in tense when communicating. Prevalence rates for ELD suggest that between 3-5% of all school-aged children experience this disorder (APA, 2000). The disorder is more prevalent in boys than girls. The symptoms of ELD usually appear by the age of four, as challenges with all aspects of language. When children experience marked difficulty with both expressive and receptive language, a diagnosis of mixed expressive-receptive language disorder (ERLD) may be given. In addition to symptoms of ELD, these children experience difficulties in processing what they hear. Namely, they do not accurately interpret what was said to them.

Another communication disorder, phonological disorder (PD), involves difficulty in comprehending speech (APA, 2000). Specifically, children with this disorder usually evidence challenges organizing and understanding sounds at a developmentally appropriate level. These children are often unable to decode new words, recognize letter sounds, or pronounce letter
sounds accurately. They also demonstrate difficulties in spelling, reading, and clarity of speech. Prevalence rates suggest that PD more common in males. Across all children, the rates are as follows: 10% below the age of 8 and 5% above the age of 8.

*Learning Disabilities and Communication Disorders*

It may be that the communication difficulties commonly experienced by children with learning disabilities are evidence of these communication disorders. For example, it appears that for children who have ADD/ADHD, prevalence of comorbid communication and language disabilities may be high (Purvis & Tannock, 1997). However, their language difficulties are often hidden by their attention problems (Green, 1998). In addition, research indicates that a large percentage of children with learning disabilities also manifest communication deficits. Gibbs and Cooper (1989) examined the prevalence of communication disorders using standardized assessment measures in 242 children (178 male and 64 female), aged 8-12, who had been diagnosed with a learning disability. Results indicated that 96.2% of the sample evidenced a difficulty in language, hearing, or speech. Of the 242 children, 90.5% exhibited a deficit in language. In addition, voice disorders were found in 12% and disorders of fluency were evident in 1.2% of the children (Gibbs & Cooper, 1989). Overall, the high rate of concordances between learning disabilities and communication disorders implies that linguistic difficulties may be a defining component of learning disabilities.

*Linguistically and Culturally Diverse Children*

Although children’s communication can be affected by the presence of a learning disability, for culturally and linguistically diverse (CLD) children, the interaction amongst these factors still remains unclear (Cummins, 1984, 1989; Ortiz, 1997). Research in the area of CLD children with disabilities is very limited, thus, it is not completely clear how to best describe the
communication or these children, nor how to best serve these children (Saenz, Fuchs, & Fuchs, 2005). As a result, these children are often misdiagnosed, referred for unnecessary special education services, or not provided with appropriate services (Baca & de Valenzuela, 1998). The line between bilingualism and special education is often unclear and sometimes overlapping. In particular, these challenges exist in two domains. First, CLD children are over-represented in special education because they are misdiagnosed as learning disabled when they are actually second language learners (Ortiz, 1997; Yates & Ortiz, 1995). Secondly, these children are often under-represented in special education because their academic difficulties and communication challenges are attributed to learning a second language or cultural differences, and their disability is overlooked (Cummins, 1984, 1989; Yates & Ortiz, 1995). Thus, it is often unclear whether a communication disorder or a learning disability is present, or if linguistic and cultural differences are the source of concern (Cummins, 1989). There is no clear distinction between a bilingual education and special education for a bilingual child.

In order to better serve CLD children and to understand their academic and communication abilities, it is important to differentiate children’s cultural, linguistic, and personal differences from disabilities or impairments (Cummins, 1984, 1989; Ortiz, 1997). In particular, educators should compare CLD students’ performance to that of other CLD students from similar backgrounds and language, which are demonstrating steady progress in order to determine if the child is performing significantly different from his or her peers. More specifically, comparing a child’s performance to other children who have been given similar opportunities and instruction in English. It is also important to gain an understanding of the child’s cultural environment including acceptable socialization strategies, behavioral tendencies, and parenting techniques. This information can be used to differentiate cultural factors from
disabilities. In particular, knowledge and incorporation of children’s culture and language is associated with academic and emotional growth (Cummins, 1984). Additionally, Yates and Ortiz (1995) argue that children must be assessed in their dominant language and that a child’s ability in their native language should be compared to the child’s performance in English. The child’s dominant language is the language in which the child is most proficient (Ortiz & Garcia, 1990). They argue that a child may receive a diagnosis of a learning disability only if that disability is evidenced in their dominant language, not English (Yates & Ortiz, 1995). In particular, when English assessment measures are utilized efforts should be taken to ensure that lack of English proficiency is not the cause of the child’s difficulties. Observing children’s spontaneous communication can also help to evaluate children’s ability to respond appropriately, comprehend the communication of others, maintain a conversation, demonstrate language fluency, as well as children’s ability to interact in culturally and socially acceptable ways within conversational settings (Damico, 1991). In addition, using an advocacy model of assessment, whereby academic concerns are seen as by-products of the child’s interactions with the dominant culture, as opposed to problems with the child may also serve to prevent misdiagnosis or cultural bias (Cummins, 1989). Overall, it is necessary to gain an understanding of how CLD children are treated in terms of special education and disability diagnosis in order to assure that these children are receiving the services they need and that they are not been misdiagnosed or overlooked.

In addition, Cummins’s (1980) argued that we must give CLD children the opportunity to develop language proficiency in the second language; that this development takes time and must not be rushed. Specifically, he postulates that language proficiency has two levels, in which a child’s skills develop. The first level, basic interpersonal communicative skills (BICS), involves non-academic and cognitively undemanding skills. They are characterized by the communicative
skills that are used in daily conversations. BICS include simple games, one-on-one interactions, simple questions, and vocational activities (“Basic Interpersonal Communicative Skills,” 2006). These skills require little contextual cues. For students learning a second language, it takes 2 years for mastery of BICS to occur. Thus, these children need opportunities to learn a second language with the assistance of cues in order to develop the skills necessary for basic communication. Children must not be rushed through this level, or they will become overwhelmed. The second level is cognitive academic language proficiency (CALP). CALP is characterized by academic and cognitively demanding activities and enable a child to draw conclusions, making predictions, and draw inferences. CALP skills include oral presentations, creating models, high level comprehension tasks, math computation exercises, and academic debates or discussions. CALP involve those skills necessary for academic success and literacy development. CALP is thought to take 5 to 7 years to develop in a second language. This time is much greater than that which is usually allocated for CLD children in the school system to demonstrate language proficiency.

Regarding these English language learners, if a student has not developed CALP, without the assistance of contextual cues, much of the general instruction within school will be cognitively overwhelming and unhelpful (Garcia, 1999). Thus, for these children to learn and manage difficult tasks, contextual cues must be a necessary part of generalized instruction. Tutorial programs and peer-mentoring programs can assist in offering contextual cues such as visuals, reading materials appropriate to the child’s level, and one-on-one assistance for children within the BICS level of language proficiency (Baca & Valenzuela, 1998; Saenz, Fuchs, & Fuchs, 2005). For example, peer-assisted learning strategies (PALS) a classwide peer tutoring strategy in which both child partners develop literacy skills has proven to be very successful. A
study examining the effectiveness of PALS among native Spanish-speaking children with
learning disabilities, who were paired with their peers, yielded positive findings (Saenz, Fuchs,
& Fuchs, 2005). Namely, for the native Spanish-speaking children, involvement in PALS was
related to increased reading comprehension.

In creating an appropriate environment for instruction, children can become empowered
by those educators who see themselves as facilitators for giving a child a second language and an
opportunity to relate to the dominant culture (Cummins, 1989). In contrast, educators who view
their role as replacing a child’s first language and culture with that of majority are more likely to
hamper the child’s growth. Empowering children allows children to generate their own
knowledge and propel their own learning; they are but solely dependent upon direct instruction
(Cummins, 1984).

In particular, the most successful teaching model for teaching bilingual children is an
interactive/experimental model (Cummins, 1989). In this model, the teacher and student share
the responsibility in the child’s learning; the child is thus an active agent in developing their
knowledge. In particular, children are encouraged to work cooperatively and to engage in goal
setting. There are pivotal steps a school should take to develop this model. First, the child’s
language and culture should be recognized in the school curriculum (Cummins, 1984). Secondly,
participation of the child’s cultural community is necessary to not only empower the child, but
also empower the child’s support system. Third, the educator should use intrinsic motivators to
help the child become an active agent in his or her learning and development of knowledge.
Fourth, diagnostics and assessment should be built upon an advocacy model. In this model, the
children’s academic challenges are viewed as a product of the child’s interactions with the school
environment as opposed to a problem with the child. Taken together, helping children to develop
an intercultural framework can lead to student empowerment and ultimately academic growth, enhanced confidence, and motivation to succeed.

Behavioral Observations and Descriptions of Children with Learning Disabilities

The communication problems that children with learning disabilities manifest, may lead to difficulties interpreting and demonstrating socially appropriate communicative behaviors when interacting with others (Bryan, 1977). Bryan (1977) conducted a study to examine the nonverbal comprehension abilities of children with and without learning disabilities in grades 3-5. The children were asked to match actions, which they observed on videotape, with a series of descriptive statements. Findings suggest that children with learning disabilities appear to experience greater difficulty in correctly comprehending nonverbal communication when compared to their peers without a learning disability. Thus, they may not respond in the most effective manner; reading social cues inaccurately and responding in ways that may be inappropriate to the situation, rude, or offensive. In addition, research indicates that these children engage in clear actions of social inconsiderateness. These actions may include interruptions, aggressive communication, and a lack of turn-taking. Namely, because these children lack the awareness and understanding of social cues and other forms of nonverbal communication, they may respond with socially inappropriate behavior. Research on the communication patterns of CLD children has also yielded similar findings (Ortiz, 1997).

A series of studies have been conducted to examine the behavioral differences between children with and without a learning disability diagnosis (Bryan, 1974a; Bryan & Wheeler, 1972). In particular, these studies focused on the cognitive functioning of children in kindergarten through sixth grade regular classrooms. Results of one study indicated that male children with learning disabilities were found to spend more time engaged in off-task activities
and less time engaged in assigned activities, when compared to their peers without a learning disability (Bryan, 1974a). In addition, children with learning disabilities were also two times more likely to be disregarded by their classmates or teachers when compared to their peers without a LD (Bryan, 1974a; Bryan & Wheeler, 1972). Thus, it appears that the behavioral difficulties that children with learning disabilities experience, may lead to social problems and possible rejection by their peers.

In addition, both parents and teachers have been found to describe the behavioral responses of children with learning disabilities different than children without these disabilities. Oncu, Oner, Oner, Erol, Aysev, and Canat (2004) examined the behavioral symptoms of children with ADHD as reported by teacher and parents. Results indicated that children with ADHD were described by their parents as evidencing greater problems in social ability and attention when compared to the descriptions made by parents of a child without ADHD. Additionally, these parents also reported that their child had more internalizing and externalizing problems than the parents of a child without ADHD. Similarly, teachers described their students with ADHD has evidencing greater social, attention, and externalizing problems than their students without ADHD. Thus, it appears that children with ADHD evidence greater behavioral challenges than their peers. It is unclear whether the social deficits often experienced by these children have led greater internalizing or externalizing behaviors in an effort to deal with social rejection or incompatibility.

Psychosocial functioning of children with learning disabilities has also been explored with regards to similarities and differences to their peers without a disability (Gadeyne, Ghesquiere, & Onghena, 2004). A study of psychosocial variables including motivation, social preference, self-concept, and behavioral disturbances among first graders indicated that
psychosocial factors serve as discriminators amongst children with and without a learning disability. Similar to the findings of Oncu, Oner, Oner, Erol, Aysev, and Canat (2004), the most differentiating factor was the level of attention challenges reported by the child’s teacher. In particular, teachers described children with learning disabilities as evidencing more challenges with attention than their peers without disabilities. Additionally, the compilation of all measured psychosocial variables were found to differentiate between these two groups of children. Namely, the most marked psychosocial difference amongst children with a disability and children without a disability existed for lower achieving children and children with a disability in spelling/reading. Similarly, poor self-concept was directly associated with low motivation for learning, unpopularity, and lack of academic achievement. Overall, research suggests that the challenges experienced my children with disabilities in the psychosocial domain may negatively affect their emotional well-being, as well as their interactions with others (Gadeyne, Ghesquiere, & Onghena, 2004; Oncu, Oner, Oner, Erol, Aysev, & Canat, 2004).

Social Abilities/ Responses of Children with Learning Disabilities

Previous research has suggested that children with learning disabilities evidence some interpersonal difficulties (Bryan, 1978). A meta-analysis of peer-reviewed articles published after 1990 was conducted to examine the social abilities of children with learning disabilities who are in inclusive classrooms (Nowicki, 2003). The full analysis involved 1,659 children with learning disabilities and 5,293 children without these disabilities. Of the 5,293 children, 527 were identified as low in academic achievement; the remaining 4,766 were considered average to high in achievement. All of the participants were in grades kindergarten through twelfth. Results of the meta-analysis suggested that children with learning disabilities were perceived as having less developed social skills by their teachers when compared to children with average to high
academic achievement. Specifically, these students were perceived as experiencing difficulties with self-control, aggression, asserting themselves, and cooperating with others. Similarly, classmates viewed children with learning disabilities as less socially competent when compared to children with average to high achievement. Results also indicated that many of the children with learning disabilities were aware of their academic difficulties. In addition, these children tended to report overall self-worth as low.

Children with learning disabilities evidence some difficulty interpreting social cues, eliciting responses from others, and handling social situations (Bryan, Wheeler, Felcan, & Henek, 1976; Speckman, 1981). Thus, the ways that children respond to social rejection and success was examined in a sample of fourth and fifth grade children with and without learning disabilities (Settle & Milich, 1999). The child participants were matched for gender to two confederate students. Each child experienced a responsive interface with one confederate and a socially rejecting interface with the other. After each interaction, the children were asked to complete questionnaires regarding their perceptions of themselves and the confederate child. Results indicated that the children with learning disabilities appeared to be more affected by the social interaction when compared to the children without a learning disability. Namely, their perceptions of themselves and the confederate after the socially rejecting interchange were more negative when compared to those of children without a learning disability. Similarly, their perceptions of themselves and the confederate, after the responsive interchange, were more positive when compared to children without a disability. It may be that children with learning disabilities are more sensitive to the social responses of others because they may use these responses as a means of appraising themselves and others during interactions.
Based on the challenges that children with learning disabilities often experience within the social domain, it is unclear what type of classroom environment would be most beneficial in enhancing their social relationships and functioning (Bryan, 1978; Bryan, Wheeler, Felcan, & Henek, 1976; Gadeyne, Ghesquiere, & Onghena, 2004; Nowicki, 2003; Oncu, Oner, Oner, Erol, Aysev, & Canat, 2004; Settle & Milich, 1999; Speckman, 1981). Thus, an investigation on the social outcomes of inclusion for children with and without a learning disability was conducted with 185 children in the third through sixth grades (97 males and 88 females) attending an urban school district (Vaughn, Elbaum, Schumm, & Hughes, 1998). A learning disability was diagnosed when the following conditions were met: there was a discrepancy between the child’s IQ and achievement, the child exhibited a deficit in processing, and there was evidence to ascertain that the disability was not due to another handicap or diagnosis. The children were receiving one of two teaching conditions as a class, which was determined by the school.

The two teaching conditions evaluated in this study, were co-teaching in an inclusive setting or consultation and collaboration in an inclusive setting (Vaughn, Elbaum, Schumm, & Hughes, 1998). The co-teaching condition involved a special education and a general education teacher co-teaching within the same classroom during the school day. The researchers described these classrooms as high in acceptance, but not always consistently high in expectations for children with learning disabilities. The special education teacher tended to teach in small groups or individuals, whereas the general education teacher used a whole-group approach. The consultation or collaborative condition involved a general education teacher, a part-time teaching assistant, and a special education teacher who only came 1-2 hours per day. The special educational teacher and the general education teacher co-planned each week and engaged in informal progress discussions daily. The special education teacher often lead lessons, made
adjustments for individual learning needs, worked with small groups, and worked with individual students to strengthen their understanding of language and math. The researchers described this environment as high in expectations and acceptance described this environment.

Results indicated that for children with learning disabilities, those in a consultation and collaboration evidenced substantial growth in quality of their friendships and in overall peer acceptance (Vaughn, Elbaum, Schumm, & Hughes, 1998). In both conditions, children with learning disabilities formed friendships with children of average to high achieving levels who did not have a disability. However, for those children in the consultation condition, there was an increase in the number of new friendships the child formed. It appears that the collaboration efforts between the two teachers may have provided greater opportunities for the children to experience success in the academic realm because their progress was more carefully monitored and planning was done in advance to account for individual needs. Previous research has suggested that there is a connection amongst children’s academic performance, sense of emotional well-being, and their social interactions (Bryan, 1978; Bryan, Wheeler, Felcan, & Henek, 1976; Gadeyne, Ghesquiere, & Onghena, 2004; Nowicki, 2003; Oncu, Oner, Oner, Erol, Aysev, & Canat, 2004; Settle & Milich, 1999; Speckman, 1981). Thus, it appears that an environment characterized by high expectations and acceptance may be the most beneficial for children with learning disabilities in inclusive settings.

Gifted Children with Learning Disabilities

A relatively underrepresented population in the research is gifted/talented children who possess a learning disability. These children are those that evidence extraordinary potential or ability despite having health issues or a disability (Brody & Mills, 1997; Nielson, 2002). These children are considered to have dual exceptionalities; gifts or talents and a disability. According
to Brody and Mills (1997) there are three implicit characteristics of gifted children with learning
disabilities. First, they demonstrate a marked discrepancy between their ability and their actual
performance. Second, they evidence great ability or talent in some area. Lastly, they experience
great difficulty in processing. Together these characteristics classify children known as twice-
exceptional.

The research on this population is limited due to challenges in identification that result
from this dual-diagnosis. Namely, many of these children are misdiagnosed or not provided with
the appropriate educational opportunities to meet their dual needs (Brody & Mills, 1997; Reis &
Ruban, 2005). In particular, there appears to be three kinds of gifted students with disabilities,
based on how they are identified and treated in the classroom. First, the masked LD group, gifted
students who possess a learning disability are not identified as disabled because their giftedness
masks their difficulties (Olenchak & Reis, 2001). Namely, these children utilize their high ability
to compensate or hide their disability (Reis & McCoach, 2002). However, these children are
often described as experiencing great difficulty in school and underachieving. Often these
descriptors are thought to be a product of low motivation, laziness, or poor sense of self, rather
than an underlying disability.

A second group of children, the masked gifted, consists of those children with disabilities
who are not identified as gifted because their disability is so extreme or pervasive that it masks
their giftedness (Brody & Mills, 1997; McCoach, Kehle, Bray, & Siegle, 2001). Namely, it is
often difficult to diagnosis giftedness because many of the traditional assessment measures and
observations are not applicable for students with sever physical or learning disabilities (Little,
2001). Thus, these children are not given an opportunity to demonstrate their ability either
because of their own limitations or because of the limitations in the identification and
understanding of giftedness in the children’s schools. Similarly, many educators may not look beyond a diagnosis of learning disabled, thus, the child’s gifts may never be revealed or noticed. In addition, many of these children are not identified as gifted because they are not provided with opportunities in which to demonstrate their talents or ability (Baum, Cooper, & Neu, 2001; Whitmore & Maker, 1985). Specifically, children who are receiving special education services may not be exposed to the arts, sciences, social studies, or other avenues of creative thought. Rather, the emphasis is placed on remediation and teaching core academic skills and material. When these children are given the opportunities for creativity thought, inquiry, decision-making, analysis, and higher-level thinking, their advanced intellectual abilities are easily uncovered. In particular, exposure to the arts provides these children with unique ways to express their gifts.

There is also a third group of students, the undiagnosed, whose disability and high ability appear to hide each other (Brody & Mills, 1997; King, 2005). Thus, they are not diagnosed as either gifted or having a disability. These children are often found in mainstream classrooms and are considered to be of average ability. They typically do not demonstrate difficulties to warrant a disability, nor excellent ability to warrant an investigation of talents or gifts. As a result of being unidentified in both spectrums, these children rarely realize their full potential or gain a true understanding of their own abilities.

It has been estimated that in the American educational system approximately 150,000 students with disabilities also evidence IQ’s above that of an average student (Little, 2001). In addition, of children considered to be of high IQ, about 30% demonstrate a discrepancy between their ability and performance in reading and 10% are reading at least two years below their grade level (Winner, 1996).
Meaning of Giftedness

In order to understand this unique population of children it is necessary to have knowledge of both children with learning disabilities, as previously described, and children with gifts and talents. Specifically, these children reflect traits of both groups. With regards to giftedness, there is no one definition that is accepted. According to the U.S. Office of Education (Marland, 1972) the gifted are defined as: those individuals who have been formally identified by a professional and who by way of their exceptional ability are capable of high performance. In order to meet their needs, these children require differentiated services than those which are normally offered within a school setting in order to fully reach their own potential and in society. In 1978, this definition was revised, and specified that gifted and talented children are identified in preschool, elementary, and secondary children as demonstrating great ability, indicative of high performance (U.S. Congress, Educational Amendment of 1978).

The federal definition of gifted and talented is used as a foundation for each state to develop its own more specific definition of “giftedness,” which are adopted by their relative school districts. For example, according to the state of Texas, a gifted and talented student is defined as: a student who performs at or shows the potential for performing at remarkably high level of accomplishment when compared to others of the same age, experience or environment (Texas Education Agency, 2000). In particular, a gifted student demonstrates high performance in intellectual, creative, or artistic areas; does extremely well in a specific academic arena; or exhibits strong leadership ability. Many states also adopt a cut-off system of giftedness, in which performance on measures of intellectual ability is utilized to determine the relative needs and placement of gifted and talented students. Namely, Gagne (2003) argued that giftedness was best defined by a child’s level of giftedness, as indicated by performance on a standardized measure.
of intellectual assessment: gifted (upper 15% of peers, +1 standard deviation), moderately gifted (upper 3% of peers, +2 standard deviations), highly gifted (upper .1% of peers, +3 standard deviations), and profoundly gifted (less than 0% of peers, +4 standard deviations).

**Differentiated Model of Giftedness and Talent**

Many educators and theorists have derived descriptors and models to explain or define giftedness. Gagne (2003) derived his differentiated model of giftedness and talent to further explain giftedness beyond performance on measures of intellectual assessment. He felt that gifts are a child’s ability or potential, which has not yet been cultivated. He believed that there were 5 scientifically supportable domains of giftedness: intellectual, creative, socioaffective, sensorimotor, and other. In contrast, he saw talents as actual performance and learned skills. According to Gagne, through the process of training and development, children’s ability or gifts become talent. This developmental process was not assured, but was affected by both intrapersonal and environmental catalysts, which served to transform a child’s gifts into talents. Intrapersonal catalysts included a child’s motivation (needs, initiatives, and perseverance) and a child’s temperament/personality (values, independence, self-esteem, and attitudes). The influence of people, events, and surroundings on a child’s development was considered environmental catalysts. Gagne felt that children developed different areas of talent including academics, games of strategy, technology, arts, social action, business, and sports/athletics.

First, it is necessary for parents and educators to be aware of a child’s gifts (Gagne, 2003). Additionally, the child must play an active role in its own development of talent. Educators and teachers need to support and encourage a child in their path to explore and develop their abilities. They serve to develop the child’s self-esteem, sense of independence, self-initiative, responsibility, and dedication towards developing their ability. If the child is not
motivated or feels incompetent or unsupported, he or she will never realize their potential and contribution to society.

Gagne (2003) also articulates the important role that an environment can have on shaping ability into talent. Namely, children identified as having great ability must be given the appropriate opportunities and support necessary to shape and develop their ability. For example, a child who at age 7 can read sheet music and play Bach may never realize his ability to compose and develop original scores if he is never provided with a piano to practice on, specialized piano lessons, exposure to varied composers, opportunities to attend musical performances, or support from his parents to develop his interest and ability. Similarly, if this child receives familial support, receives private piano lessons, attends musical performances around the country, is provided with continual sheet music, and is encouraged to explore his gifts, he may become the next Mozart. Thus, the importance of supporting a child’s ability through providing appropriate environmental opportunities is paramount.

Multiple Intelligences

Gardner (1999) conceptualized gifted children as possessing “intellectual gifts.” He explained that there were multiple intelligences and that the gifts occurred in one or more than one area of intelligence. In total, Gardner defined 8 intelligences. The first two, linguistic and logical-mathematical, are thought to represent more traditional intelligence. The later 6 intelligences are based on ability in more specialized non-academic areas and include: spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic intelligence. In general, Gardner felt that giftedness could exist beyond academics, and that children could evidence gifts in a multitude of social, emotional, aesthetic, or intellectual domains.
Gardner (1999) argued that because traditional intelligence measures only linguistic and logical-mathematical intelligence, the gifts and abilities of many children go unrecognized. In order to access for the other types of intelligence, a more open-ended, less-traditional definition of intelligence is needed. Additionally, more varied forms of assessment including observations and interviews with children, parents, and teachers are necessary to identify these gifts. According to Gardner, knowledge of a child’s “intellectual gifts” can allow teachers and parents to better understand the way a child learns and interacts with the environment. Specifically, a child who possesses bodily-kinesthetic intelligence will learn better when doing tasks involving physical movement, such as “Simon Says” to learn the names of the parts of the body. This child may also be more likely to move in their seat or need movement when cognitively engaged. In contrast, a child who possesses linguistic intelligence may prefer to discuss the parts of the body or make up a verbal pneumonic, such as “the knee bone is connected to the hip bone.” This child may also prefer to discuss topics or write essays, as opposed to creating artwork or building a diorama. Knowledge of a child’s gifts can also help parents and teachers to provide appropriate environmental opportunities to meet a child’s needs. For example, children who have been identified as possessing intelligence in the aesthetics arena may be encouraged to take after-school enrichment or specialized lessons to enhance their ability or shape a future career or interest.

**Triarchic Theory and Implicit Theory of Giftedness**

Similar to Gardner, Sternberg (2003) also saw intelligence as multifaceted. He created a theory of intelligence with both explicit and implicit components. According to his triarchic theory (Sternberg, 2003) there are three types of intelligence: analytic, synthetic, and practical intelligence. Analytic intelligence involves reading comprehension, reasoning, and academic
talent. Synthetic intelligence consists of intuitiveness, creativity, and insight. Practical intelligence involves one’s ability to utilize analytic and synthetic giftedness in daily life. In addition, practical intelligence involves wisdom, or the concern for the well being of others. Sternberg argued that a central facet of giftedness was the ability to manage the three types of giftedness and to use them appropriately.

This model conceptualizes giftedness as both high levels of traditional, analytic giftedness, and non-traditional, practical giftedness (Sternberg, 2003). Analytic giftedness represents giftedness as defined by high academic ability and traditional cognitive assessment. In contrast, synthetic giftedness would not be evident on such assessment measures. Rather, measures of interpersonal and intrapersonal ability and creativity would be more appropriate. Thus, this form of giftedness may not be readily apparent. Sternberg’s inclusion of synthetic giftedness suggests that giftedness is not merely a product of cognitive ability, as was once thought, but also of social and emotional ability. This conception would expand the parameters by which giftedness was defined, diagnosed, and identified. In addition, Sternberg’s practical giftedness is simple, yet undeniable absolute. Specifically, if an individual is gifted, but is unable to apply their giftedness in daily life and contribute to the betterment of society and others, than what benefit or use does their giftedness serve?

Sternberg (1995) also conceptualized the implicit theory of giftedness to explain giftedness as a product of culture. He argued that there are 5 necessary and sufficient conditions that all gifted individuals share in common. First, they must possess excellence in some attribute. Second, their high ability in this attribute must be rare amongst peers. Third, the exceptional attribute must lead to productivity. Fourth, the attribute must be demonstratable on at least one test. Lastly, the attribute of excellence must be of value in society. These conditions became the
basis for Sternberg’s (2003) conception of practical giftedness, as explained above. Namely, that giftedness must be useful or serve a purpose and it must contribute to society. If it does not, than the ability is no longer a gift, but an interesting characteristic.

Cognitive Abilities of Gifted Children with Learning Disabilities

Gifted children with learning disabilities more closely resemble the cognitive abilities of their gifted peers as opposed to their peers with learning disabilities (Nielson, 2002; Woodrow & Savage, 1994). Specifically, they demonstrate giftedness in the areas of oral communication, creativity, verbal comprehension, reasoning, motivation, abstract thinking, and problem solving (Daniels, 1983; Hansford, Whitemore, Kraynak, & Wingenback, 1987; Nielson, 2002; Weinfeld, Barnes-Robinson, Jeweler, & Shevitz, 2005; Whitmore, 1980). They also evidence strong comprehension skills, vocabulary, enhanced math ability, and inquisitiveness in the form of questions (Eisenberg & Epstein, 1981; Nielson, 2002). In addition, these children exhibit greater levels of complexity, risk-taking, and imagination when compared to children with disabilities (Woodrow & Savage, 1994). Similarly, these children are characterized as having great imagination, strong curiosity, a good sense of humor, and ability or interest in a nonacademic area (Nielson, 2002). However, they are less creative in verbal responses when compared to gifted children. It is important to note, that the research does not suggest that there is a direct relationship between giftedness and increased emotional or behavioral disturbances (Garland & Zigler, 1999; Neihart, 1999).

Although gifted children with learning disabilities more closely resemble their gifted peers, they also possess many qualities in common with their peers with learning disabilities (Baum, Cooper, & Neu, 2001). For example, similar to their peers with learning disabilities, these children have been found to evidence dependency behaviors, poor self-concept, and
behavioral challenges. In particular, these children are often described as being easily distracted, impulsive, stubborn, aggressive, careless, and easily frustrated (Nielson, 2002). In addition, they also display processing difficulties, an external locus of control, and difficulty with organization and planning. These children also experience challenges in the areas of reading, short and long-term memory, and spelling, which are often evidenced by children with learning disabilities (Baum, Emerick, Herman, & Dixon, 1989; Nielson, 2002). Overall, the cognitive functioning of these children represents a combination of both giftedness and disability coexisting in one mind.

Social and Emotional Abilities of Gifted Children with Learning Disabilities

Children who possess both gifts/talents and a learning disability evidence characteristics in common with both populations. In particular, parents of these children have reported greater concern with their children’s emotional and social functioning than their cognitive abilities (Hishinuma, 1993; Winner, 2000). Specifically, research suggested that in mainstream classrooms, children with emotional disabilities are often rejected by their peers (Heward, 2000; Yewchuck & Lupart, 1993). Vespi and Yewchuck (1992) found that in general, gifted children with learning disabilities have a good self-esteem and positive self-concepts. Namely, they expect activities to be easy for them. However, when faced with a task that is in their area of disability, they usually experience fear of failure, anxiety, tension, and evidence defensiveness. Thus, it is not surprising that these children often report feeling less capable in school than both their learning disabled or gifted peers (Baum & Owen, 1988; Bong & Skaalvik, 2003). Research has also suggested that these children are more disruptive in class than their peers (Baum & Owen, 1988; Eisenberg & Epstein, 1981; Reis & McCoach, 2002). The researchers attributed these characteristics to the children’s feelings of social rejection, as well as frustration and anger often associated with giftedness.
Dual-Exceptionalities

Due to their dual-exceptionalities gifted children with disabilities are often marked with a feeling of inconsistency. In particular, they possess a great desire for perfection due to their giftedness (Olenchak, 1994; Reis & Renzulli, 2003). However, their area of disability often makes achievement difficult. As a result, these children often feel frustrated, resentful, and may develop problems in forming and maintaining relationships with others (Mendaglio, 1993; Shalev, Auerbach, Manor, & Gross-Tsur, 2000). Additionally, these children are very independent by virtue of their giftedness; yet, they often develop dependency behaviors to cope with their disability (Whitmore & Maker, 1985; Bouffard & Couture, 2003). Similarly, because of their giftedness these children usually have high expectations of themselves and their abilities. However, being labeled as learning disabled often leads teachers and peers to expect little and to lower their expectations of the child. Overall, these children have a tendency towards developing a low self-concept due to the discrepancies in their ability and their dual-exceptionalities (Olenchak, 1994; Vaughn, Elbaum, & Boardman, 2001).

These children also may experience social rejection due to the nature of their dual-exceptionality (Davis & Rimm, 2004). Specifically, they experience dual-labeling and low self-esteem due to the discrepancy that exists in their ability. As a result, they have a tendency for social withdrawal or develop a dependency on others. Similar to their peers with learning disabilities, these children may also evidence poor social skills. Thus, they may need social coaching to enable them to better read environmental cues and to utilize their senses in interactions. Namely, these children have a tendency to either brag about their ability or withdrawal completely (Halverson & Victor, 1976). In addition, it appears that in a classroom, gifted children with learning disabilities often daydream and may be passive, isolated, and
asocial when compared to their peers (Butter & Winne, 1995; Waldron, Saphire, & Rosenblum, 1987). Thus, it is important for gifted children with learning disabilities to socialize and interact with peers who possess similar dual-exceptionalities. Namely, these interactions will help the children to not feel alone in their diagnosis, as well as to promote acceptance (Davis & Rimm, 2004).

Risk and Resilience

Children who are twice-exceptional are often considered to be at-risk for the development of social and emotional difficulties (Robinson, 1999). Specifically, these children are often characterized as having hypersensitivity, poor self-concept, poor self-esteem, high anxiety, and self-criticism (Dole, 2000). Additionally, undiagnosed learning disabilities are considered a huge risk factor for maladjustment in gifted adolescents (Guyer, 1997). Namely, these children often develop poor self-esteem and experience confusion and personal suffering due to the stark differences in their abilities (Dole, 2000). At a greater risk are those individuals who possess a learning disability, but whose giftedness has been undiagnosed. These individuals often feel as though they were broken or have something wrong with them. This conception is socially constructed and as a result, in school little attention is paid to the gifts of these individuals or their potential (Baum, Owen, & Dixon, 1991).

However, these children have also been found to possess characteristics, which serve protective functions against the development of social and emotional problems. Namely, they evidence high intellectual ability, self-understanding, verbal fluency, self-concept, and an internal locus of control (Clark, 1992; Dole, 2000; Maker & Nielson, 1996). Working with the child to utilize these strengths to overcome their difficulties can empower the child and lead to more positive emotional and social development. In addition, this framework of focusing on the
child’s ability rather than their disability can lead to greater identification of the gifted and a more appropriate education to meet the child’s varying needs.

The Education of Gifted Children with Learning Disabilities

The education of gifted children with learning disabilities is a challenging task, which undoubtedly will require the combined effort of children, parents, teachers, schools, and governments (Little, 2001). Baldwin and Vialle (1999) outlined the framework for creating an appropriate education for these children. First, it is important that school administrators work with their staff to guarantee that guidelines and expectations in gifted education are put into practice in each classroom. Secondly, teachers must realize that gifted education is a global responsibility for all educators, regardless of their specialization. Thirdly, the families of these children must seek to provide them with constant support and encouragement. It is important that the emotional, social, and cognitive well-being of these children is a priority. Lastly, the government must articulate policy guidelines with regard to gifted education. These policies and guidelines must be indicative of the diverse needs of gifted students, as well as reflect an understanding of the variability in the identification of giftedness. The government must also offer a multitude of academic, social, and financial resources to assist these children.

A classroom’s environment and a child’s relative opportunities in that classroom can also play an important role in meeting the child’s diverse needs. Specifically, in order to build positive self-concept, self-esteem, motivation, and overall emotional well-being, it is paramount that an emotionally safe environment where children are respected and feel comfortable to express themselves is created (Nielson, 2002). In addition, attention must be given to the child’s strengths, weaknesses must be remediated, and the child’s emotional and social functioning must be examined (Higgins & Nielson, 1999). Namely, children who received services for both their
learning disability and their giftedness and children who received services for giftedness alone evidenced more positive self-concepts when compared to children who only received disability services (Nielson & Mortorff-Albert, 1989).

It is also important that these children are provided with appropriate services to accommodate all their needs and to help them to succeed. In particular, low self-regulation, lack of motivation, and poor self-concept is associated with underachievement in gifted children with learning disabilities (Reis & McCoach, 2000). Focusing on developing children’s ability and talent, rather than their disability can decrease risk for underachievement. Therefore, curriculum should allow for exploration of talent, while assisting children to cope with their academic weaknesses (Baum, Cooper, & Neu, 2001). For example, helping children to utilize their strengths to compensate for their weaknesses gives children a feeling of control and allows them to see the areas in which they excel. In addition, providing children with strategies and tools to help them compensate for their challenges can be extremely helpful (Dole, 2000). Providing these children with opportunities to solve real-world problems also helps to increase children’s confidence, while allowing the child to gain an sense of importance in the world (Baum, Cooper, & Neu, 2001). Lastly, teaching the child social and emotional strategies such as developing a child’s collaboration and leadership skills are also helpful in forming social relationships and enhancing self confidence (Nielson, 2002). Overall, educators want to be sensitive to the dual needs of the child, while also empowering the child to help itself and cope with their varying abilities.

Peer Relationships of Children with Learning Disabilities

Peer relationships are considered to be reciprocal in word and deed and involve individuals who view themselves as equals (Hartup, 1992). For young children, almost all of
their relationships revolve around their friends. These friendships typically involve children of their same gender (Hartup, 1983). Within these friendships, girls appear to express more emotions, whereas boys tend to be more assertive (Maccoby, 1990). However, for children with learning disabilities, the friendship components of reciprocity and expressive language can be very challenging. In particular, social skills deficits and communication problems can impede these children’s ability to communicate effectively with their peers. As a result, they often experience social rejection, difficulty forming and maintaining friendships, and challenges when trying to verbally engage other children. Namely, they experience greater ridicule from other children than do their non-disabled counterparts (Bryan, 1978). Thus, social communication plays a pivotal role in the creation and maintenance of friendships, as well as the development of a child’s social self and self-esteem.

Unfortunately, children with learning disabilities often develop loneliness, issues with self-esteem, and emotional problems in an effort to cope with this rejection (Heilman, 2000). Additionally, it appears that children’s awareness as to whether or not they are liked by their peers may influence their friendships over time (Graham, Cohen, & MacDonald, 1997). A longitudinal study examined how children’s awareness of liking was related to peer perception of social competence three-years later (Graham, Cohen, & MacDonald, 1997). When the study began the participant children were in grades 1-3, and when the study completed these children were in grades 4-6. Results indicated that children who initially evidenced awareness were viewed as socially competent by their peers three years later. However, children who were initially perceived as socially rejected, but had awareness were more likely to become socially competent three-year later when compared to their rejected peers who did not have this awareness. Overall, children who are aware of how they are perceived socially can positively
influence their future social status. This is the goal for most children with learning disabilities, as well as their teachers. Specifically, to help these children become aware of their social skills and the perceptions of others in an effort to cope with their social challenges and to form positive relationships with others.

*Characteristics of the Peer Relationships of Children with Learning Disabilities*

Children with learning disabilities report having as many friendships as children without learning disabilities (Wiener & Schneider, 2002). However, of these friendships, fewer are characterized as reciprocal or mutual, when compared to their peers without a learning disability (Tur-Kaspa, Margalit, & Most, 1999). Similarly, for these children attending the fourth through sixth grades, their friendships also appear to be less stable than their peers without disabilities (Wiener & Schneider, 2002). For example, these friendships are described as involving greater conflict and more difficulty resolving issues or disagreements within the friendships when compared to children without learning disabilities. Similarly, when compared to their peers without a learning disability, the friendships of children with learning disabilities are also characterized by less intimacy and contact with one another. This may be because children with learning disabilities often report having friends who are two or more years younger than the peers reported by children without learning disabilities. Others often perceive children who have friendships with younger peers as less mature. In addition, these children also more likely to form friendships with other children who have learning disabilities or learning problems reported by the teacher, when compared to their peers without a learning disability. It may be that these children choose friends who are similar to them, or it may be that because they are provided with greater exposure in their special education classes to these students, they are more likely to befriend them (Wiener, 2004).
Al-Yagon and Mikulincer (2004) examined the patterns characteristics of friendships of children with learning disabilities. The participants consisted of 98 children, ages 8-11 years, who had been diagnosed with a learning disability. There were also 98 matched control participants. All the participants were in mainstream classrooms in Israeli public schools. Results indicated that children with learning disabilities characterized their friendships as less secure than their peers without a learning disability. In addition, these children also reported greater feelings of anxiety and avoidance in their friendships, as well as greater self-reported loneliness and less confidence than their peers without a disability. However, findings indicated that a small subset of the children with learning disabilities, 13%, described resiliency traits including high confidence and little feelings of loneliness in their peer relationships. It is not clear, what characteristics or protective factors led to resiliency in this group. This finding further confirms the multidimensional nature of children’s friendships. Namely, possessing a learning disability does not characterize friendships in and of itself.

**Peer Popularity of Children with Learning Disabilities**

Children with learning disabilities have been found to evidence some difficulties with interpersonal relationships. As a result, they may be perceived less positively by their peers (Kuhne & Wiener, 2000). Peer popularity of children, in grades 4-5, with learning disabilities has been investigated in a series of studies (Bryan, 1974b, 1976). Within these studies, children were asked to nominate children in their class that were their friend or that they liked to play with. Children were also asked to indicate which children appeared nervous and were not their friends. These responses were coded on scales of social attraction and social rejection, respectively. Results suggest that children with learning disabilities are more likely to experience social
rejection when compared to their peers without a disability. These results were consistent over several years.

These same children were used in another study to examine the patterns of interaction between a child with a learning disability and a child without a disability (Bryan, 1974c). The children were grouped according to social status. Salient children were perceived equally on both social rejection and attraction. Rejected children received more nominations for rejection and Popular children received more nominations under attraction. Isolated children were children who received few nominations in either category. Each child was assigned to interact with a second grade student. Results indicated that children considered Salient or Rejected made the greatest number of verbalizations related to the assigned task. Thus, they were more likely to assist the younger student in doing the task. However, upon further analysis, the researchers concluded that the assistance of these children was actually served as an interference rather than help.

A later study examined the characteristics of children’s interactions to determine whether characteristics of social rejection and social attraction could be recognized (Bryan, Wheeler, Felcan, & Henek, 1976). The investigators observed the interactions of children, in grades 3-5, of children with a learning disability with their matched partner, a child without a learning disability (26 males and 4 females in total). For all children, their spontaneous conversations and the responses they elicited form others were recorded. Results suggest that competition and rejection creates competition and that children who desire assistance received it. In addition, the observations revealed that children with a learning disability were less likely to use cooperative statements and more likely to use competitive statements when compared to their peers (Bryan et
al., 1976). Thus, these children elicit competitive statements from others creating interactions that are characterized by rejection and opposition.

Later studies also found children with learning disabilities to be frequently rejected and less socially accepted when compared to their peers without a learning disability (Kavale & Forness, 1995; Kuhne & Wiener, 2000). In general, across children 9-12 years old, children with learning disabilities are viewed less positively than their peers without learning disabilities at both the start and end of the school year. Interestingly, it also appears that the popularity or status of children with learning disabilities declines over time (Kuhne & Wiener, 2000). Thus, they do not tend to be experience such rejection at the start of the school year. It also appears that level of peer rejection may be affected by the amount of time the child spends interacting in a mainstream classroom. Namely, children with learning disabilities who receive special education services within their classroom are more likely to be accepted than children who are pulled out of their classroom for remediation or special services (Wiener & Tardif, 2004).

Loneliness and Children with Learning Disabilities

Due to difficulties with social skills, conversational engagement, and peer rejection, children with learning disabilities often experience loneliness. In particular, they appear to experience loneliness more frequently than their peers without a learning disability (Margalit & Al-Yagon, 2002). This finding is particularly salient for children between the ages of 7 and 15 years of age. A study conducted by Margalit and Al-Yagon examined how children with learning disabilities, ages 9-15 years, cope with these feelings of loneliness. They identified two groups of children who experienced great loneliness. The first group of children was high externalizers. These children often experienced difficulty with aggression, social rejection, and self-control. The second group of children was high internalizers. The high internalizers were characterized as
withdrawn and having little difficulty with control. An examination of the coping strategies employed by these two groups to cope with their loneliness revealed that children who evidenced greater externalizing behaviors tended to use ineffective coping strategies to deal with their emotional frustrations. Namely, these children utilized aggressive means to display their unhappiness or they asked friends or teachers for assistance. In contrast, children who used internalizing behaviors often used more passive avoidant behaviors. Specifically, these children engaged in overeating, watching TV, crying, over-sleeping, and doing nothing as a means of coping.

Social Skills and Peer Relationships of Children with Learning Disabilities

There appears to be two models that seek to explain the social skills and friendships of children with learning disabilities (Wiener, 2004). The first model, a single-risk model, postulates that social skills deficits are directly related to learning disabilities. Specifically, such challenges are inherent to the disability. As a result of these deficits, these children often experience difficulties in the formation and maintenance of friendships. This social difficulty often leads to internalizing behaviors.

The second model, a multidimensional model, states that externalizing and internalizing behavioral problems stem from the presence of multiple risk factors for behavioral and social maladjustment (Wiener, 2004). This model appears to be a stronger model for explaining the variability in children’s risk and resilience in developing social-emotional problems, as well as the diversity in their behaviors. Namely, poverty, a diagnosis of ADD/ADHD, inappropriate educational services, problematic parenting, and English as a second language all contribute to such problems and serve as risk factors. In particular, second language learners are often misdiagnosed as disabled, receive inappropriate services, or are overlooked, all of which leads to
greater academic, communication, and social challenges (Ortiz, 1997). In contrast, helping
cchildren to form positive friendships, develop feelings of closeness to the teacher, and to be
securely attached has been associated with decreased risk for social or behavioral problems.

**Peer Relationships and Children’s Oral Language**

The social environment and peer relationships appear to have an affect on all children’s
oral language. Specifically, children tend to vary their linguistic techniques based on their
relationship with their conversational partner. Jones (2002) examined this relationship in a
sample of seven and eight year-old children (18 males and 18 females) who were matched for
gender into pairs. The children used in this study were not second-language learners and were
not diagnosed with a learning disability. The children were observed during a writing task in peer
dyads and non-peer dyads. Non-peer dyads consisted of children who were recognizable to one
another or children who were “non-friends.” Each individual child’s oral language during these
interactions was recorded and transcribed. These verbal interactions were coded based on ten
mutually exclusive categories: negotiation, directing, agreements, conflicts, conflict resolutions,
emotion terms, reading, social regulation, meta-cognitive language, and literate language (Jones,
2002).

Results indicated that negotiation was utilized more frequently among peers, when
compared to non-peers. Additionally, there was also more discussion of conflicts in the peer
relationships. With regard to communicative approach, two methods of peer assistance were
employed in the children’s dyads. First, some children used social regulation in their
conversations. Namely, these children offered verbal support in an effort to help their peer.
Secondly, some children used more directives and told the other child what to do. Overall,
children in the peer dyads used more self-regulation in their verbal exchanges, whereas children
in the non-peer dyads used more directives in their verbalizations. Similarly, the verbal language peers involved more emotional terms when compared to the verbalizations of non-peers. In addition, female peers utilized more meta-cognitive and literate language when compared to female non-peers. Overall, it appears that the cooperation and mutuality of friendships influences children’s oral language (Jones, 2002).

Peer Culture and Development of Children’s Pro-Social Behaviors

Children actively construct the world around them and form a peer culture (Corsaro & Eder, 1990). This peer culture involves a series of shared ideas, beliefs, and activities that are created from children’s daily interactions with their world. Within this peer culture, children’s perceptions of social behaviors and ways of responding to the world develop (Avgitidou, 2001). Therefore, this peer culture may serve as a positive influence in helping children learn to identify and exhibit socially appropriate behaviors.

Avgitidou (2001) examined the impact of peer culture and friendship relationships on children’s development of pro-social behavior. The children, ages 3-5, all attended a Greek kindergarten. In order to understand their perceptions of social behaviors and their methods of interacting with others, the children were observed for one year in their classrooms, given semi-structured interviews, and initial assessments. From the observations, several traits of children’s peer culture emerged. These traits included: empathy, friendship, membership in a social network, play, positive behaviors, and continuance of similar social interactions outside of school. It appears that these qualities of peer culture may influence how pro-social behaviors develop. Specifically, in friendships characterized by empathy, there was no dominant partner. Rather, this mutual friendship served as an environmental context where children could develop and learn to understand pro-social behaviors (Avgitidou, 2001).
The Present Study

Purpose of Study

The purpose of the present study was to examine the verbal social communication patterns of children with special needs such as statements of helping, rejection, competition, self-worth, consideration, intrusiveness, and persuasiveness. Specifically, the researcher investigated the patterns of verbal social communication displayed by children, ages 5-9, during a cooperative group art project. This population was chosen because children with special needs are often the most challenging to teach (Green, 1999). Specifically, these children utilize different communication techniques and verbal messages than children without these special needs (Speckman, 1981). However, by gaining an understanding of their social relationships and communicative strategies, educators may gain insight as to how to teach these children.

In order to fully conceptualize the social interactions of children with special needs, this study utilized a quantitative model of data collection. Specifically, children’s interactions and conversational exchanges were observed and coded. This study aimed to provide a description of individual differences in linguistic techniques, social behaviors, and social awareness in an effort to better understand communication amongst children with special needs. Namely, research indicates that children’s verbal and social exchanges are best understood in the context that they occurred (Wilkinson & Dollaghan, 2001). This is because children adapt their speech pattern, tone, and word usage in order to match their current social context. Therefore, in an effort to meet their linguistic goals, children constantly sample and reject a multitude of communication strategies (Wilkinson & Dollaghan, 2001). Thus, the goal of this study was to identify these verbal communication strategies, as well as the verbalizations that children formulate in a particular social context, a cooperative activity. By developing an understanding of the verbal
social communication patterns of these children, educators may be better equipped to meet these children’s needs through enhancement of social skills and the development of more effective communication strategies. Similarly, an understanding of the verbal social communication of these children has implications for the appropriate placement of individual children in inclusion or homogeneous settings. In particular, how a child’s cognitive ability, giftedness, may influence their placement setting. In addition, knowledge of these children’s social communication has implications for the formation of friendships, as well as the positive emotional experiences that result from having a friend.

Rationale for Study

This study examined the verbal communication patterns of children with learning differences, gifted and non-gifted. For the purposes of this study, a learning difference was defined by a diagnosis of ADD and/or a learning disability. Giftedness was defined according to a child’s Full Scale performance on a measure of cognitive ability or IQ. Specifically, children evidencing scores 1 standard deviation or more above average, IQ’s greater than or equal to 115, were classified as gifted. No highly gifted, learning disabled students were available for this study. This study focused on the group interactions of children with learning differences. In particular, the verbal behaviors of each conversational partner that are demonstrated during the interaction was investigated.

Although many studies have been conducted regarding the social communication patterns of children with learning disabilities, the focus has not been on the interactions between two or more children with learning disabilities. Of the studies that have been conducted in this area of research, they have examined the interactional differences between children with and without a learning disability (Bryan, 1974c; Bryan, 1977; Markoski, 1983; Mathinos, 1988, 1991;
Nowicki, 2003). Namely, these studies focus on comparing the verbal and nonverbal communication patterns between these two groups of children. Similarly, many studies have investigated the different types of communication techniques that are employed by children with learning disabilities. Specifically, they have examined the communicative competence of these children (Mathinos, 1988). These studies describe the characteristics of verbalizations expressed by children with learning disabilities, the reactions they receive from their conversational partners without learning disabilities, and their level of social awareness (Bryan, Wheeler, Felcan, & Henek, 1976; Bryan, Donahue, & Pearl, 1981; Friel-Patti & Conti-Ramsden, 1984; Markoski, 1983; Speckman, 1981). However, the influence of giftedness or cognitive ability on a child with a learning disability’s social communication has not been explored. Most of these studies suggest that children with learning disabilities evidence deficits in areas pertaining to expressive language, interpretation of nonverbal communication, verbal clarity, responsiveness, and understanding of grammatical rules (Bryan, 1977; Markoski, 1983; Mathinos, 1988, 1991; Speckman, 1981).

Of these previous studies on social communication, the way that children with learning disabilities interact with one another has not been explored. Specifically, it is unclear if children with learning disabilities exhibit different patterns of verbal communication when interacting with other children with learning disabilities as opposed to how they interact with children without a disability. In particular, whether or not these children experience the same communication difficulties with children with learning disabilities as they do with children without these disabilities, as reported in the research. Or, conversely, do they evidence positive communicative interactions, which are similar to those of their peers without learning differences. Additionally, it is unclear whether these difficulties negatively affect the interaction
or if a mutual relationship is created based on these shared communication difficulties. Also, it is unclear whether the cognitive ability of these children influences their social communication. Overall, this study aims to contribute to the research by examining the verbal communication patterns that may emerge amongst children with learning differences. Additionally, this study also intends on examining the cognitive ability and internalizing and externalizing behaviors displayed by children with learning differences, as well as their understanding of social situations. The present study attempted to contribute to a basic understanding of some of these concerns.

1. It was hypothesized that the interactions amongst children with learning differences would evidence a greater frequency of positive verbal statements (helping/cooperation/giving, consideration), as compared to negative verbal statements (competitiveness, intrusiveness, rejection, self-image).

2. It was hypothesized that intellectual functioning is directly related to the positive communicative statements. Namely, children of higher intellectual functioning utilize a greater frequency of statements reflecting helping/cooperation/giving and consideration, when compared to their peers of lower intellectual functioning (Daniels, 1983; Hadary, Cohen, & Haushalter, 1979; Whitmore, 1980; Woodrum & Savage, 1994).

3. It was proposed that externalizing behaviors would be directly related to the use of negative verbal communication strategies. In particular, children with learning differences who evidence greater externalizing behaviors would be more likely to utilize negative verbalizations as compared to their peers who evidenced greater
internalizing behaviors (Bryan, 1974a; Bryan, 1977; Bryan & Wheeler, 1972; Oncu et al., 2004).

Overall, it is important to explore the verbal communication patterns between children with learning disabilities because research suggests that peer relationships can be instrumental in the development of oral language and pro-social behaviors (Avgitidou, 2001; Jones, 2002). However, children with learning disabilities, who are intellectually average, below average, or gifted, are often rejected or perceived less positively by their peers without a learning disability (Bryan, 1974c, 1976). Thus, they may not experience the benefits of friendship as readily as their peers may. Therefore, for these children, formulating a friendship with peers who experience their same communication challenges may be extremely positive. Namely, a shared understanding, acceptance, or ability to interpret communication patterns may exist between them. As part of this understanding, the communication difficulties associated with having a learning disability may no longer serve as a challenge. As a result, these children may develop their own peer culture or relationship, which may provide them with the same friendships opportunities and benefits of children without a learning disability.

Definition of Terms

For the purposes of this study, the following definitions of terms were utilized:

1. Learning Difference/ Disability: Diagnosed, according to DSM-IV TR criteria (APA, 2000), when standardized assessment reveals a significant discrepancy between a child’s intellectual ability and their actual performance. A learning difference was defined by a learning disorder in one or more of the following cognitive areas; written expression; mathematics; reading; spelling; expressive language; dyslexia; written expression; mixed receptive language; language;
speech; dysgraphia; or not otherwise specified. Additionally, a diagnosis of ADHD was also considered a learning difference due to the high comorbidity with cognitive disorders.

2. Giftedness: Defined according to Gagne’s (2003) levels of giftedness utilizing performance on a measure of cognitive ability or IQ. To meet the needs of this study, giftedness was based on a child’s Full Scale IQ score on the Wechsler Intelligence Scale for Children®- Fourth Edition (WISC-IV®; The Psychological Corporation, San Antonio, TX). Children evidencing an IQ score greater than or equal to 115 were classified as gifted. Specifically, children with an IQ of 115-130 were considered gifted and children with an IQ above 130 were considered highly gifted.

In describing children with dual-exceptionalities, giftedness and a learning disability, there seems to be three groups of children based upon how they are diagnosed and treated within the classroom setting (Brody & Mills, 1997; Olenchak & Reis, 2001).

1. Masked LD Group: Gifted students who possess a learning disability are not identified as disabled because their giftedness masks their difficulties.

2. Masked Gifted Group: Children with disabilities who are not identified as gifted because their disability is so extreme or pervasive that it masks their giftedness.

3. Undiagnosed Group: Children whose disability and high ability appear to hide each other; they are not diagnosed as either gifted or having a disability.

Children’s behaviors were evaluated using the Child Behavior Checklist™ (CBCL™; ASEBA, Burlington, VT). Both the parent and the teacher completed versions of the CBCL
(Achenbach, 1991) in order to describe behavioral competencies and problems over the last 6 months. The following behavioral classifications were utilized:

1. Internalizing Behaviors: Behaviors characterized by anxiety, depression, withdrawal, and somatic complaints.

2. Externalizing Behaviors: Behaviors characterized by rule-breaking and aggression.

Within the contexts of this study, social communication and the nature of the cooperative art project was also be specifically defined.

1. Social Communication: Any verbal statement initiated by one child to engage and/or elicit a response from another child.

2. Communication Techniques: Children’s efforts, methods, and purposes for engaging others.

Social communication was evaluated using an observational technique developed by Bryan and Bryan (1978), Bryan, Wheeler, Felcan, and Henek (1976), and later utilized in a study by Markoski (2001) to describe interactions between children with and without learning disabilities. Based on this technique, statements were coded for category and frequency of occurrence for each child. Eight categories of verbalizations were coded, based on the original coding system developed by Bryan and colleagues (1976; 1978) and one additional category, persuasiveness, which was discussed in the Markoski (1983) study. The categories were as follows:

1. Request for Information and Materials: Statements requesting advice, directions, permission, how to do something and request for materials.

3. Consideration/ Positive Reinforcement: Social niceties (please, thanks, how are you?), positive comments about someone’s acts/ looks.

4. Competitive: Statements indicating the child is comparing his performance to another child’s.

5. Intrusiveness: Statements indicating bossiness, taking over, shouting orders.

6. Rejection: Negative affect or negative opinion statements about recipient. Implies anger, irritability, or impatience.

7. Self-Image: Statements indicating boasting, self-derogatory comments, personal defense and positive personal reference.

8. Neutral Statements: Statements of facts, which are neutral in nature.

9. Persuasiveness: Statements indicating that the child is trying to convince another to accept his or her ideas.

In order to fully understand children’s verbal social communication, conversational themes were also identified. Conversational themes included topics that are frequently discussed during interactions. The children were engaged in a relatively unstructured task, a cooperative art project. For the purposes of this study, an unstructured task was defined as any task that is not planned or fully executed by the teacher; the children are not provided with specific guidelines. An unstructured task was selected as the observational event because it provides the children with the opportunity to demonstrate greater autonomy in their use of behaviors and verbal language when compared to tasks that are specifically defined and supervised by others.
In an effort to meet the needs of this study, children were assigned to groups of 3 or 4 during the unstructured task. The unstructured task was defined by a cooperative art activity. The children were given a multitude of art materials and asked to create a new creature using these materials. The art activity was relatively unstructured and provided the children with the opportunity to interact with their peers while engaged in a multitude of artistic tasks at their own discretion. The children were encouraged to interact with others in their group to create a collective project. Thus, the children were provided with an opportunity to work and/or play together.
CHAPTER 2

METHOD

Participants

The participants in this study included 17 children with diagnosed learning differences. These children reside in the Dallas metropolitan area and are attending The Winston School, a private school for children with learning disabilities, during the 2005-2006 school-year. The children ranged from age 5 to 9 years, with a mean age of 7.88 years ($SD = 1.05$). The mean, sample sizes, standard deviation, observed minimum, observed maximum, skewness, standard error, kurtosis, and percentages across child age are displayed in Table 1.

Eleven of the children were male (64.7%); and 6 were female (35.3%). Of the sample, 13 were European American (76.5%), 2 were Hispanic American (11.8%: one Mexican American and one Latino), and 2 were African American (11.8%). The children’s parents self-classified themselves as Mexican American and Latino. The children were currently attending grades 1-3 (2 in grade 1 (11.8%); 2 in grade 2 (11.8%); and 13 in grade 3 (76.5%)). Of the sample, 9 are attending their first year at Winston (52.9%), 5 are in their second year (29.4%), and 3 are in their third year (17.6%). With regards to years in special education, 8 children have received 0-1 years (47.1%), 5 have received 2-3 years (29.4%), and 4 have received 4-5 years of special education (23.5%). Parental ethnicity was as follows: mother (13 European American (76.5%), 2 Hispanic American (11.8%), and 2 African American (11.8%)) and father (12 European American (70.6%), 2 Hispanic American (11.8%), and 3 African American (17.6%)). Regarding language proficiencies 16 of the children speak English only (94.1%) and 1 child speaks Spanish and Spanish is spoken in his home (5.9%).
Within the sample, 1 was a single-parent family (5.9%), 11 were married families (64.7%), 1 was separated (5.9%), and 4 were divorced families (23.5%). The number of siblings for each participant child was also calculated: 2 had none (11.8%), 12 had one sibling (70.6%), 2 had two siblings (11.8%), and 1 had four siblings (5.9%). Of the children with siblings, 9 had older siblings (60%), 5 had younger siblings (33.3%), and 1 had a twin (6.7%).

The average age of the participants’ parents was 39.88 (SD= 5.93) for mothers and 44.07 (SD=6.30) for fathers. Across education, the average number of years was 15.59 (SD= 1.62) for maternal education and 16.12 (SD=3.71) for paternal education; indicating that on average both parents were college graduates. The average annual family income was 148,846 (SD= 126,362); incomes ranged from 40,000 to 500,000 per year. Due to the large standard deviation across income and the large standard error (SE= 35,046), the median income of 90,000 was used as the cut-off to determine high or low Socioeconomic Status (SES). Those families with incomes greater than or equal to 90,000 are considered to be of upper SES and those families with incomes below 90,000 are considered to be of lower SES. Of the sample, 6 (35.3%) participants were of lower SES, 7 (41.2%) were of upper SES, and 4 (23.5%) were of unknown SES. Sample sizes and percentages for all demographic variables (gender, ethnicity, grade, years at The Winston School, years in special education, language proficiencies, parental ethnicity, type of family structure, siblings, birth order, SES) are displayed in Table 2.

With regards to the cognitive, behavioral, and emotional functioning of the participant children, the average Full Scale IQ was 113 (SD= 15.32). This mean is near the cut-off score for gifted of 115, as defined by this study. Thus, the participant children are an intellectually above-average sample. IQ scores ranged from 90 to 139. Examination of IQ scores indicates that 10 children (58.8%) are considered to be of normal intellectual ability (IQ’s of 80-114) and 4
children (23.5%) are considered gifted (IQ’s of 115-130) and 3 children (17.6%) are considered highly gifted (IQ’s above 130). Of the sample, the frequency of learning disabilities and ADHD across participants are as follows: 8 reading (47.1%), 3 language (17.6%), 3 math (17.6%), 1 expressive language (5.9%), 4 dyslexia (23.5%), 8 written expression (47.1%), 2 mixed receptive language disorder (11.8%), 1 not otherwise specified (5.9%), 2 speech (11.8%), and 11 ADHD (64.7%). In addition, 2 children have received a diagnosis of Asperger’s Disorder, 1 child has received a diagnosis of Depression, and 1 child has been diagnosed with Seizure Disorder. Comorbidity of disorders was high in the sample; 77% of the children who received a learning disability diagnosis, also received a diagnosis for at least one other type of learning disability. Similarly, 73% of children with ADHD evidenced a comorbid diagnosis with at least one type of learning disability. On average, the children attend less than one therapy, social skills training, or other therapeutic program (\(M=63, SD=.89\)). The sample sizes and percentages across child cognitive, behavioral, and emotional functioning (Full Scale IQ, type of learning disability, and diagnosis of ADHD) are displayed in Table 3.

Setting: The Winston School

School Description and Philosophy

The study was conducted at Winston School in Dallas, Texas (See Appendix B.2). The Winston School is a private school for children with learning differences. These learning differences are defined by the presence of a learning disorder, Attention Deficit Disorder (with or without hyperactivity), or both. Children must be identified as learning different, using formal testing, to be admitted to the school. The school defines a learning difference or disability in accordance with the DSM-IV TR (APA, 2000), rather than IDEA (2004) criteria. The school
begins in first grade and continues through twelfth grade. The school is divided into three levels: lower (grades 1-6), middle (grades 7-8), and upper (grades 9-12).

Winston School’s philosophy statement is, “The Winston School, bright children who learn differently.” The school seeks to provide children with the opportunity to work at their own levels, as well as to receive more individualized instruction to meet their learning needs. Similarly, the school believes that these children are not learning disabled, rather they are learning different. The children are taught that every individual is unique and has different needs. The school also works very hard to provide a safe learning environment where all children are accepted and appreciated. In order to best meet individual learning needs, the school maintains a 1:8 teacher to student ratio.

Faculty

The school has 222 students and 63 employees (7- administration, 38- faculty, 4-office, 8- counseling and testing center, 5- maintenance, 1-nurse). All members of the faculty have Bachelor’s degrees and many have Master’s degrees. The school principal has a Ph.D. in education, the head of the lower and middle school has a M.Ed. degree, and the head of upper school has an M.S. degree. The teachers range in age from early twenty’s to mid-sixties. With the exception of two individuals, all of the faculty and school heads are Anglo-American. Of the faculty, 59% are females and 41% are males.

Students

All the 222 students attending Winston School have received a diagnosis of a learning disability, Attention Deficit Disorder (with or without hyperactivity), or both. Many of the students have also received additional diagnosis with regard to their emotional or physical functioning. It should be noted that many of the Winston students are also moderately to highly
gifted, evidencing IQ’s above 140. These students attend Winston in an effort to have their dual needs met through enhancement of their gifts and remediation in their area of disability. However, the IQ scores of the participants in this study ranged from 90 to 139 with an average IQ score of 113. The ethnic composition of the students is approximately 87% Anglo-American, 7% African American, 5% Hispanic American, and 2% other races. The socioeconomic status of most of the students’ families is middle to upper class. This is because the school tuition ranges from 13,990 to 17,750 per year. Almost all of the families pay full tuition, but a few students receive scholarships.

Facilities

The school building is two stories and contains a gymnasium, a cafeteria, art and photography classrooms, computer and language labs, a music room, and a Testing and Evaluation Center. The facilities are well maintained and are equipped with state-of-the-art computer equipment. Additionally, the fine arts and music programs have many resources to offer the students. Counselors are also on staff to help the children and inform the teachers of each student’s individual needs. In addition, diagnosticians are employed to assist in evaluating the students mental health and in formulating individual learning plans for the teachers. The core academic classes are self-contained for lower school students with the exception of Science classes, which are held in a separate a classroom.

Physical Location

Winston School is located in Dallas, Texas. The school resides in the middle of an upscale neighborhood. Namely, the homes within a 10-mile radius of the school range in price from the two hundred thousand to over two million. The school is situated directly off an interstate that travels north and south. The school is located 15 minutes north of downtown
Dallas, the business district and main city. Across the street from the school is a Dallas Public Library.

Regional Location

The Winston School is located in Dallas, Texas. Dallas is a metropolitan city, Dallas Fort-Worth Metroplex, and is home to many corporate offices. Dallas also has two major airports, one international and one regional. Dallas has a population of 1,188,580, which is 49.6% female and 50.4% male (2000 Census). The population by age group is as follows: under 5 year (8.3%), 5-9 years (7.6%), 10-14 years (6.7%), 15-19 years (6.9%), 20-24 years (8.9%), 25-34 years (19.8%), 35-44 years (15.5%), 45-54 years (11.1%), 55-59 years (3.7%), 60-64 years (2.8%), 65-74 years (4.5%), 75-84 years (3.0%), and 85 years or older (1.1%). The population by ethnicity is as follows: Hispanic (35.6%), Anglo-American (34.6%), African-American (25.6%), Asian (2.7%), Native American (0.3%), and other races (1.2%). In the city of Dallas, the median household income is $52,300.

Measures

Demographic Information

The child’s parent completed a demographics questionnaire after consent and assent to be in the study was obtained (See Appendix A). This questionnaire was used to assess parental and child age, gender, socioeconomic status (SES), and ethnicity. In addition, information regarding child grade in school; number of years at The Winston School; language proficiencies; diagnosis (cognitive, emotional, and behavioral); intellectual functioning (IQ); number of years in special education programs; and involvement in extracurricular and/or therapy, social skills training, or other therapeutic programs was gathered. Lastly, information pertaining to parental education
level, siblings and relative ages (birth order), annual family income, and family structure was examined.

Cognitive Ability

The Wechsler Intelligence Scale for Children®- Fourth Edition (WISC-IV®; The Psychological Corporation, San Antonio, TX) was used as a measure of the child’s cognitive ability in order to assess level of giftedness. This information was obtained from school records and was not directly assessed by the researcher. The WISC-IV (Wechsler, 2003) is a revision of the prior edition, the Wechsler Intelligence Scale for Children- Third Edition (WISC-III; Wechsler, 1991). It contains 11 subtests and 5 supplementary subtests, which provide a measure of general intellectual functioning, Full Scale IQ, and four index scores: Verbal Comprehension Index, Perceptual Reasoning Index, Working Memory Index, and Processing Speed Index. The four index scores of the WISC-IV replaced the Verbal Scale IQ, Performance Scale IQ, and the original four index scores of the WISC-III (Wechsler, 1991). For the purposes of this study, the Full Scale IQ score was utilized to access level of giftedness. The individual index scores were not used in this study because 1 child was given the WISC-III and 5 children were given other measures of assessment, thus index scores were not comparable.

The Verbal Comprehension Index Scale is made of subtest scores for Comprehension, Vocabulary, Similarities, Information, and Word Reasoning. The Perceptual Reasoning Index is made of subtest scores for Picture Completion, Block Design, Picture Concepts, and Matrix Reasoning. The Working Memory Index is made of Digit Span, Letter-Number Sequencing, and Arithmetic. The Processing Speed Index consists of Coding, Symbol Search, and Cancellation. The five supplementary subtests are Information (Verbal Comprehension), Word Reasoning (Verbal Comprehension), Picture Completion (Perceptual Reasoning), Arithmetic (Working
Memory), and Cancellation (Processing Speed). The Full Scale score is derived from subtest scores on the four indexes and the supplementary subtests. The WISC-IV was normed on 2,200 children ages 6:0-16:11 years that were representative of the United States. The sample had an equal proportion of females and males and reflected the ethnic composition of the United States. The test is normed across child age. Validity and clinical utility for the use of the WISC-IV has been established with special populations: gifted, mentally retarded, learning disabled, Attention Deficit/Hyperactivity Disorder, Expressive Language Disorder, Mixed Receptive-Language Disorder, Traumatic Brain Injury, Autism, Asperger’s Syndrome, and motor impairment. The WISC-IV has a standard deviation of 15 and an average IQ score of 100 (Wechsler, 2003).

The four index scores and the Full Scale all evidence superior internal consistency reliability of .81 or greater across all ages (Wechsler, 2003). The average internal consistency ratings across ages 6-16 are as follows: Full Scale .97, Verbal Comprehension .94, Perceptual Reasoning .92, Working Memory .92, and Processing Speed .88. The WISC-IV has concurrent validity, correlations between WISC-IV Full Scale and other intelligence tests are above .80. For example, correlations between the WISC-IV and WISC-III range from .60 to .82 across subtests, .70-.87 across indexes, and .87 between Full Scale scores. Average inter-correlations between the 16 WISC-III subtests, four indexes, and Full Scale indicate correlations ranging from .12 to .91. Subtest inter-correlations with the Full Scale range from .26 (cancellation) to .79 (vocabulary). Inter-correlations between the four indexes and the Full Scale are as follows: Verbal Comprehension .85, Perceptual Reasoning .86, Working Memory .76, and Processing Speed .70. In general, the subtests of the Verbal Comprehension Index are more highly correlated than the subtests of the other three indexes. The WISC-IV also evidences strong test-
retest reliability. Given a mean interval of 32 days, the average test-retest stability coefficients range from .67 to .85 across subtests; .79 to .89 across the four indexes; and .89 for Full Scale.

**Internalizing and Externalizing Behaviors**

The Child Behavior Checklist™ (CBCL™; ASEBA, Burlington, VT) was completed by the parent (CBCL 4-18) and Teacher Report Form (TRF) by the teacher, in order to assess the child’s behavioral competencies and problems within the past 6 months. The CBCL (Achenbach, 1991) uses a rating system to examine withdrawal, resistance, and internalizing/externalizing behaviors. The CBCL also indicates the child’s social problems and level of anxiety. The CBCL is a checklist of 113 items, which reflect behavioral problems, as well as a social competency checklist, which has seven parts. Response to items is based on a three options: 0= true of the child, 1= somewhat or sometimes true, 2= very true or often true. Items in the CBCL cluster into behavioral patterns, syndromes, which are similar to DSM-IV categories. The broad-band internalizing, externalizing, and total behavior scales was used in this study (Achenbach, 1991; Doll, 2002; Furlong & Wood, 2002).

The internalizing scale consist of scores on three subtests: anxious/depressed, withdrawn/depressed, and somatic complaints. The externalizing scale consists of scores on two subtests: rule-breaking behavior and aggressive behavior. The total symptom scale includes the subtests of both the internalizing and the externalizing scales as well as the following subtests: social problems, thought problems, and attention problems. Scores are converted to standardized T scores, based on gender and age, which reflect behavioral ranges; T scores below 60 are in the normal range, T scores between 60-63 are in the borderline range, and T scores above 63 are in the clinical range (Achenbach, 1991; Doll, 2002; Furlong & Wood, 2002).
The CBCL (4-18) is normed for children ages 2-18. Reliability estimates for resulting behavioral patterns, syndromes, across referred and non-referred average an internal consistency of .80 and one week test-retest reliability above .80. Inter-parental agreement coefficients average .66 overall and .76 for total problems. Reliability of broad-band behavioral scales has one-week test-retest and alpha internal consistency coefficients above .89; internalizing = .89 and .90, externalizing = .93 and .93, and total problems = .93 and .96, respectively. The CBCL (4-18) is empirically based and the behaviors included have been found to differentiate between normal and clinic-referred children. The CBCL (4-18) has concurrent validity, it is highly correlated with other measures of child behavior. The CBCL (4-18) also has discriminant validity; the Social Competency and Total Problems scores can differentiate between normal and clinic-referred children (Achenbach, 1991; Doll, 2002; Furlong, & Wood, 2002).

The TRF is normed for children ages 5-18. The 118 items on the TRF are based on the CBCL items. Reliability estimates for resulting behavioral patterns, syndromes, across referred and non-referred average an internal consistency of .87 and one week test-retest reliability of .88 for total problems. Each scale in the TRF has cut-points to distinguish between clinical and non-clinical samples (Achenbach, 1991).

Verbal Interactions: Observations

The verbal statements of each child, made during the cooperative art activity, were recorded by the videocamera. The videos were reviewed and coded on a chart using a nine category coding system developed by Bryan, Wheeler, Felcan and Henek (1976) and Markoski (1983). Specifically, Bryan and colleagues created the first eight categories. They derived the self-image category from Piaget’s (1955) work regarding egocentric speech. The categories of helping and consideration were developed from research suggesting that children who were
mean to others were rejected, whereas children who were nice to others tended to be well-liked (Hartup, 1970; Hartup, Glazer, & Charlesworth, 1967). The next five categories were created from previous studies conducted by Bryan (1974a; 1974b; 1974c). Markoski (1983) utilized Bryan and colleagues eight categories to explore the conversational interaction of children with learning disabilities. In addition, she also examined persuasiveness; as a result, this category was included in this study. The categories of verbal statements and relative definitions for observational coding were as follows (See Appendix B):

1. Request for Information and Materials: Statements requesting advice, directions, permission, how to do something and request for materials.


3. Consideration/ Positive Reinforcement: Social niceties (please, thanks, how are you?), positive comments about someone’s acts/ looks.

4. Competitive: Statements indicating the child is comparing his performance to another’s child.

5. Intrusiveness: Statements indicating bossiness, taking over, shouting orders.

6. Rejection: Negative affect or negative opinion statements about recipient. Implies anger, irritability, or impatience.

7. Self-Image: Statements indicating boasting, self-derogatory comments, personal defense and positive personal reference.

8. Neutral Statements: Statements of facts, which are neutral in nature.
9. Persuasiveness: Statements indicating that the child is trying to convince another to accept his or her ideas.

Bryan and colleagues (1976) and Markoski (1983) postulated that the categories are not all-inclusive of children’s verbalizations. Thus, they were often unable to reliably code certain statements that the children made. In addition, when developing the coding system they excluded uncommon verbalizations from their analysis. Inter-rater reliability was calculated to have a mean of 87.33%. Upon analyzing the data, the researcher noticed that the data was not normally distributed. Specifically, not all verbalizations were made at the same frequency. As a result, the data was transformed to square roots and these transformations replaced the original data for analysis (Walker & Lev, 1953).

For the purposes of this study, the relative frequency of each category of verbal interaction was assessed for each child. Additionally, two observers were provided with space on the chart to record notes regarding observed communication strategies or nonverbal communication. Samples of children’s verbal statements are presented in Appendix O.

Design and Procedure

School Permission

The Winston School was first contacted to ensure permission to collect data on school premises during school hours (See Appendix C). The Winston School was provided with forms that include a description of the purpose, procedure, possible risks, and the methods taken to ensure that confidentiality will be maintained. The examiner also described the risks, benefits, and confidentiality procedures with the Head of School, Head of Lower School, and the classroom teachers. When the school administration agreed to permit the study, to occur, a written letter of consent was obtained from the school. In addition, a signed letter of consent was
also obtained from the Head of School, Head of Lower School, and each of the classroom teachers whose students were participating in the study (See Appendices D and E).

When the full consent of The Winston School was obtained, the parents who have their children enrolled in grades one through three were contacted via a letter from the researcher (See Appendix F). This letter included a statement outlining that this study was being conducted with the consent of the University of North Texas, and was mailed by The Winston School along with a letter, created by the Head of Lower School, outlining the school’s consent to be part of the study. The letter invited the parents to attend a brief discussion of the potential study.

**Parental Consent, Child Assent, and Confidentiality**

Upon arrival, the parent was provided with a consent form, which will require a signature. The parent was asked to complete a consent form for their own participation as well as that of their child (See Appendix G). This consent form also permitted the child’s Winston teacher to complete a CBCL. In addition, the parent completed a waiver of assent form, which waives the assent of their child due to the child’s age, maturity, or psychological state (See Appendix H). The child was also asked to complete an assent form, to ensure that the child understands the study and is willing to participate (See Appendix I). The forms included a description of the purpose, procedure, possible risks, and the methods taken to ensure that confidentiality will be maintained. The examiner described the risks, benefits, confidentiality procedures, the concept of voluntary permission, and the right to withdrawal at any time to the child and their parents to ensure that all participants understand the study and how to answer any questions.

If the child and parent agreed to continue with the study, the child was assigned a 2-digit number, which served as his or her identity throughout the course of the study, in order to
maintain confidentiality. The Winston School Testing and Evaluation Center assigned these 2-digit numbers. The examiner was blind to the child’s identity. A list describing each child’s name and assigned number remained solely in the possession of The Winston School Testing and Evaluation Center.

The observations, which occurred as part of this study, were video-taped for coding purposes and the tapes were kept in a locked office in Florida. Upon completion of the project, all tapes were erased. All of the child’s information was kept strictly confidential.

Data Collection: Questionnaires

Upon obtaining consent and assent, the parent was provided with the demographics questionnaire and a CBCL to complete. For both of these measures, only the child’s assigned number served as their identity. The parent was also provided with an additional consent form, which permitted The Winston School Testing and Evaluation Center to provide the researcher with his/her child’s scores on relative intellectual testing (full scale IQ, verbal, and non-verbal abilities), as well as any cognitive, emotional, or behavioral diagnoses that the child may have (See Appendix J and K). The Winston School Testing and Evaluation Center had a list of each child’s name and assigned number. For all intellectual testing materials, the Center only put the child’s assigned number.

Data Collection: Coding Verbal Statements

In order to establish inter-rater reliability with regards to the Coding System for Verbal Interactions, two research assistants were trained using a mock video. This mock video was of two 10-year-old children, who are not part of the participant sample, who engaged in the cooperative art activity. Each assistant was presented, independently of the other assistant, with the coding system (See Appendix B) and examples of each category of verbal statements were
discussed with the examiner. The examiner as well as the assistant coded the mock interaction together. Upon watching the videotape together, coding choices were discussed with the examiner. This procedure occurred until consistency was achieved between the examiner and both assistants. When codes were consistent across the two assistants and the examiner, the assistants began coding the interactions of the child participants. For each child, both research assistants coded for verbal statements.

It should be noted that a second training involving two new research assistants was conducted. Specifically, reliability analysis among the original two research assistants revealed an alpha of .63 and Pearson’s r correlations across verbal statements ranged from -.05 to .76. There was also great variability in the total number of statements coded by each assistant ($M=38.47$, $SD=12.63$ and $M=79.12$, $SD=20.38$). As a result, the researcher did not feel that the original findings were reliable or credible. In order to improve reliability, the two new research assistants were given more in-depth training both independently and together by the researcher.

First, each assistant was presented with the coding system and definitions for each category of verbal statement, as well as relative examples were discussed. The examiner also presented “mock statements” in an effort to discuss what the relative coding should be and why. This procedure occurred again with both assistants together. Again, the examiner generated “mock statements” in order to discuss coding options. When both assistants appeared confident with the codes, they were presented with the mock video. Statements from the mock video were discussed as a team; the researcher and the two assistants coded together in an effort to clarify any confusion and to increase consistency in coding the verbal statements. Throughout this coding, the videotape was paused to discuss coding options and to clarify any misconceptions or confusions regarding coding. When the two research assistants and the examiner demonstrated
consistency across coding, the research assistants were presented with the videos of the child participants to code. The assistants coded these tapes independently and the examiner did not view these tapes. Reliability analysis between the two new research assistants revealed an alpha of .83 and Pearson’s r correlations across verbal statements ranged from .10 to .92. There was little variability in the total number of statements coded by each assistant; Pearson’s r was .92 ($M=58.35$, $SD=20.14$ and $M=56.29$, $SD=18.63$). Data from the two new research assistants will be used in the analysis.

Data Collection: Observations

The observations took place at The Winston School during the course of one day in the fall 2005 semester. The observations occurred during the school day, between 8:30am-3:00pm. The children were observed in a school classroom that was not in use. The child participants were observed during a cooperative art activity designed by the experimenter. The examiner video-recorded all the interactions, provided the directions for the cooperative art activity, and answered the children’s questions during the task. The children were randomly assigned to groups of 3-4, regardless of age or gender. For each group, a designated time to begin the cooperative art activity was assigned so that only one group is working at a time. Each group was assigned a 25-minute period to complete the activity; observations took place during this time. Each child was given a large card reflecting their 2-digit subject number, which they wore on their clothing throughout the observations. This number was the child’s identity for the experiment. The children were given these cards by the Testing and Evaluation Center and the Winston Faculty, who are aware of the children’s names having assigned each child a number for the study. Thus, the observers remained blind to the child’s true identity.
To introduce the cooperative art activity, a standardized set of instructions was read by the examiner (See Appendix L). Each group was given a multitude of art supplies and materials (See Appendix M). They were instructed to work together as a team to create a new creature. They were given one 25-minute consecutive time-frame to complete their creature. The only requirements were that the group give the creature a name, be able to describe what it looks like, and tell where it lives. These three requirements were posted on the wall and read aloud, so that the children could refer to them while working on their creature. The examiner provided instructions and materials for the art task. The examiner was present during the videotaped cooperative interactions; because of the children’s age, they may not be left unsupervised in a classroom for the duration of the task, and no one Winston School faculty member was able to supervise all group sessions. However, the examiner did not code any of the interactions, thus, it was thought that little observer bias would result. If the children had a question during the task regarding the use of materials, they were told “you may use anything on the table that you want.” If questions were asked regarding time throughout the task, the participants were told, “you have plenty of time.” The examiner also redirected questions by stating, “pretend that I am not here” or “keep-working.” If at anytime, the presence of the examiner was detected as either a distraction or an area of interest, the examiner asked the students to dismiss his/her presence and to continue as usual.

During the prescribed art activity time, the verbal exchanges of the participant children were recorded via audio videotape. One video camera was utilized; the camera was fixed in order to maintain the vantage point across all interactions. The camera recorded the interactions of the participant children while engaged in the activity; their verbal exchanges and social behaviors. It should be noted that the verbal exchanges that were recorded are those that video camera could
record from its position. Sample visuals of the creatures created by the children and their
descriptions of the creatures are located in Appendix N.

When all the activity interactions had been recorded, the research assistants individually
coded each child’s verbal exchanges during the 25- minute task. These interactions were coded
based on the verbal communication categories developed by Bryan and colleagues (1976; 1978)
and Markoski (1983).

Limitations

The results of this study are limited to a sample of 17 children, ages 5-9 years, with
special needs and above-average intellectual functioning. More specifically, results are
applicable to children attending a private school for children with special needs in North Texas.
These results are contingent upon the accuracy of parental and teacher reports and a sampling of
children’s observed verbal communication patterns during a nonacademic task.
CHAPTER 3

RESULTS

Descriptive Statistics

Descriptive statistics for all demographic information is displayed in Tables 1-6. For all continuous variables (child age; parental education level; intellectual functioning (IQ); annual family income; internalizing, externalizing, and total behaviors; and observed verbal statements (request for information, helping/cooperation/giving, consideration, competitiveness, intrusiveness, rejection, self-image, persuasiveness, neutral statements), sample sizes, means, standard deviations, observed minimum, observed maximum, skewness, standard error, kurtosis, and cumulative percentages were calculated (See Tables 1, 2-4). These statistics were also computed for all variable scales within each instrument (Child Behavior Checklist, Teacher Report Form) and are presented in Table 5. Average frequency data across raters for categories of verbal statements were also calculated and are displayed in Table 6.

Frequency of Behaviors

This descriptive data was used to evaluate the most commonly observed verbal statements and most commonly reported internalizing/externalizing behaviors across all children with learning differences. Results indicated that internalizing symptoms were reported more frequently by both the parent ($N=17$, $M=54.47$, $SD=10.13$) and the teacher ($N=17$, $M=52.71$, $SD=9.75$), when compared to parent ($N=17$, $M=58$, $SD=7.67$) and teacher ($N=17$, $M=53.88$, $SD=8.21$) reports of externalizing symptoms. Averages across behavioral scales indicated that both parent and teacher reports characterized children in the sample as evidencing internalizing and externalizing symptoms at a frequency within the normal range for their age group ($M<60$).
Table 1

*Child Age*

<table>
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<th>Descriptive Information</th>
</tr>
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<tbody>
<tr>
<td><strong>N</strong></td>
</tr>
<tr>
<td><strong>Mean</strong></td>
</tr>
<tr>
<td><strong>Standard Error</strong></td>
</tr>
<tr>
<td><strong>SD</strong></td>
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<tr>
<td><strong>Observed Minimum</strong></td>
</tr>
<tr>
<td><strong>Observed Maximum</strong></td>
</tr>
<tr>
<td><strong>Skewness</strong></td>
</tr>
<tr>
<td><strong>Kurtosis</strong></td>
</tr>
<tr>
<td><strong>Percentages</strong></td>
</tr>
<tr>
<td>25</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>75</td>
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</table>
### Table 2

**Demographic Information**

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<tr>
<th>Descriptive Information</th>
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<th>Percentages</th>
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<tr>
<td><strong>Child Gender</strong></td>
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<tr>
<td>Males</td>
<td>11</td>
<td>64.7%</td>
</tr>
<tr>
<td>Females</td>
<td>6</td>
<td>35.3%</td>
</tr>
<tr>
<td><strong>Child Ethnicity</strong></td>
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<td></td>
</tr>
<tr>
<td>European American</td>
<td>13</td>
<td>76.5%</td>
</tr>
<tr>
<td>Hispanic American</td>
<td>2</td>
<td>11.8%</td>
</tr>
<tr>
<td>African American</td>
<td>2</td>
<td>11.8%</td>
</tr>
<tr>
<td><strong>Child Grade</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Grade</td>
<td>2</td>
<td>11.8%</td>
</tr>
<tr>
<td>Second Grade</td>
<td>2</td>
<td>11.8%</td>
</tr>
<tr>
<td>Third Grade</td>
<td>13</td>
<td>76.5%</td>
</tr>
<tr>
<td><strong>Years at The Winston School</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Year</td>
<td>9</td>
<td>52.9%</td>
</tr>
<tr>
<td>Second Year</td>
<td>5</td>
<td>29.4%</td>
</tr>
<tr>
<td>Third Year</td>
<td>3</td>
<td>17.6%</td>
</tr>
<tr>
<td><strong>Language Spoken at Home</strong></td>
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<tr>
<td>English Only</td>
<td>16</td>
<td>94.1%</td>
</tr>
<tr>
<td>English and Spanish</td>
<td>1</td>
<td>5.9%</td>
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</table>

*table continues*
Table 2 (continued).

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<thead>
<tr>
<th>Descriptive Information</th>
<th>N (17)</th>
<th>Percentages</th>
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<td>Language Spoken by the Child</td>
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<tr>
<td>English Only</td>
<td>16</td>
<td>94.1%</td>
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<td>English and Spanish</td>
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<td>5.9%</td>
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<tr>
<td>Years in Special Education</td>
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<tr>
<td>0-1 Years</td>
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<tr>
<td>2-3 Years</td>
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<td>29.4%</td>
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<td>4-5 Years</td>
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<td>Mother’s Ethnicity</td>
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<td>11.8%</td>
</tr>
<tr>
<td>African American</td>
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<td>11.8%</td>
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<tr>
<td>Father’s Ethnicity</td>
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<td>European American</td>
<td>12</td>
<td>70.6%</td>
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<td>Hispanic American</td>
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<td>11.8%</td>
</tr>
<tr>
<td>African American</td>
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<td>17.6%</td>
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<tr>
<td>Family Structure</td>
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<tr>
<td>Married</td>
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<td>Separated</td>
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<tr>
<td>Divorced</td>
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Table 2 (continued).

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<thead>
<tr>
<th>Descriptive Information</th>
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<th>Percentages</th>
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**Number of Siblings**

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<th>11.8%</th>
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<tr>
<td>1</td>
<td>12</td>
<td>70.6%</td>
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<tr>
<td>2</td>
<td>2</td>
<td>11.8%</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>5.9%</td>
</tr>
</tbody>
</table>

**Birth Order**

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<tr>
<th>No Siblings</th>
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<th>11.8%</th>
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<tbody>
<tr>
<td>Older Siblings</td>
<td>9</td>
<td>52.9%</td>
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<tr>
<td>Younger Siblings</td>
<td>5</td>
<td>29.4%</td>
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<tr>
<td>Twin</td>
<td>1</td>
<td>5.9%</td>
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**SES**

<table>
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<tr>
<th>Lower</th>
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<tr>
<td>Upper</td>
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<td>41.2%</td>
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<td>Missing</td>
<td>4</td>
<td>23.5%</td>
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Table 3

*Child Cognitive, Behavioral, and Emotional Functioning*

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<tr>
<th>Descriptor</th>
<th>N (17)</th>
<th>Percentages</th>
</tr>
</thead>
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<tr>
<td><strong>Full Scale IQ</strong></td>
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</tr>
<tr>
<td>Normal (less than 115)</td>
<td>10</td>
<td>58.8%</td>
</tr>
<tr>
<td>Gifted (greater than or equal to 115)</td>
<td>7</td>
<td>42.2%</td>
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<tr>
<td>Highly Gifted (above 130)</td>
<td>3</td>
<td>17.6%</td>
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<tr>
<td><strong>Learning Disability in Reading</strong></td>
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</tr>
<tr>
<td>No</td>
<td>9</td>
<td>52.9%</td>
</tr>
<tr>
<td>Yes</td>
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<td>47.1%</td>
</tr>
<tr>
<td><strong>Learning Disability in Language</strong></td>
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<td></td>
</tr>
<tr>
<td>No</td>
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<td>88.2%</td>
</tr>
<tr>
<td>Yes</td>
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<td>17.6%</td>
</tr>
<tr>
<td><strong>Learning Disability in Math</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>14</td>
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</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>17.6%</td>
</tr>
<tr>
<td><strong>Learning Disability in Expressive Language</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>16</td>
<td>94.1%</td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
<td>5.9%</td>
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</table>

*(table continues)*
### Table 3 (continued).

<table>
<thead>
<tr>
<th>Descriptor</th>
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</tr>
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<tbody>
<tr>
<td>Dyslexia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>13</td>
<td>76.5%</td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
<td>23.5%</td>
</tr>
<tr>
<td>Learning Disability in Written Expression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>52.9%</td>
</tr>
<tr>
<td>Yes</td>
<td>8</td>
<td>47.1%</td>
</tr>
<tr>
<td>Mixed Receptive Language Disorder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>15</td>
<td>88.2</td>
</tr>
<tr>
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<td>2</td>
<td>11.8%</td>
</tr>
<tr>
<td>Learning Disability Not Otherwise Specified</td>
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<td></td>
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<tr>
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<td>16</td>
<td>94.1%</td>
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<tr>
<td>Yes</td>
<td>1</td>
<td>5.9%</td>
</tr>
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<td>Disability or Impairment in Speech</td>
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<tr>
<td>No</td>
<td>15</td>
<td>88.2%</td>
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<tr>
<td>Yes</td>
<td>2</td>
<td>11.8%</td>
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<td>Diagnosis of ADHD</td>
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<tr>
<td>No</td>
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<td>Yes</td>
<td>11</td>
<td>64.7%</td>
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</table>
Table 4

*Child IQ, Parental Education, and Family Income*

<table>
<thead>
<tr>
<th>Descriptive Information</th>
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**Intellectual Functioning (Full Scale IQ)**

<table>
<thead>
<tr>
<th>$N$</th>
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<tbody>
<tr>
<td>Mean</td>
<td>112.7059</td>
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<td>Standard Error</td>
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<tr>
<td>$SD$</td>
<td>15.32</td>
</tr>
<tr>
<td>Observed Minimum</td>
<td>90</td>
</tr>
<tr>
<td>Observed Maximum</td>
<td>139</td>
</tr>
<tr>
<td>Skewness</td>
<td>.164</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-1.19</td>
</tr>
</tbody>
</table>

**Percentages**

| 25  | 100.50 |
| 50  | 108    |
| 75  | 125.50 |

**Maternal Education Level**

<table>
<thead>
<tr>
<th>$N$</th>
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</thead>
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<tr>
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<tr>
<td>Standard Error</td>
<td>.39</td>
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<tr>
<td>$SD$</td>
<td>1.62</td>
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*(table continues)*
Table 4 (*continued*).

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<tr>
<td>Skewness</td>
</tr>
<tr>
<td>Kurtosis</td>
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<tr>
<td>Percentages</td>
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<tr>
<td>50</td>
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<td>75</td>
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<td>Paternal Education Level</td>
</tr>
<tr>
<td>( N )</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>Standard Error</td>
</tr>
<tr>
<td>( SD )</td>
</tr>
<tr>
<td>Observed Minimum</td>
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<tr>
<td>Observed Maximum</td>
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<tr>
<td>Skewness</td>
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<tr>
<td>Kurtosis</td>
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*(table continues)*
Table 4 (continued).

Descriptive Information

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</tr>
<tr>
<td></td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>75</td>
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<table>
<thead>
<tr>
<th>Annual Family Income</th>
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</tr>
</thead>
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<td>13</td>
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<td>Mean</td>
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</tr>
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<td>Standard Error</td>
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<tr>
<td>$SD$</td>
<td>126,361.81</td>
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<tr>
<td>Observed Minimum</td>
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<td>Observed Maximum</td>
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<td>Skewness</td>
<td>1.97</td>
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<td>Kurtosis</td>
<td>4.58</td>
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<table>
<thead>
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<td>25</td>
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<tr>
<td>50</td>
<td>$90,000</td>
</tr>
<tr>
<td>75</td>
<td>$200,000</td>
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### Table 5

*Child Behaviors*

<table>
<thead>
<tr>
<th>Type of Behaviors</th>
<th>Internalizing</th>
<th>Externalizing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Parent Teacher</td>
<td>Parent Teacher</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>57.47 52.71</td>
<td>58 53.88</td>
<td>61.47 56.12</td>
</tr>
<tr>
<td>Standard Error</td>
<td>2.46 2.37</td>
<td>1.86 1.99</td>
<td>1.81 1.27</td>
</tr>
<tr>
<td>SD</td>
<td>10.13 9.75</td>
<td>7.67 8.21</td>
<td>7.46 5.25</td>
</tr>
<tr>
<td>Obs. Minimum</td>
<td>45 38</td>
<td>44 41</td>
<td>50 48</td>
</tr>
<tr>
<td>Obs. Maximum</td>
<td>77 68</td>
<td>72 66</td>
<td>76 64</td>
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<td>Skewness</td>
<td>.64 .02</td>
<td>.05 -.28</td>
<td>.03 -.18</td>
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<td>Kurtosis</td>
<td>-.867 -1.14</td>
<td>-.34 -98</td>
<td>-.55 -1.30</td>
</tr>
<tr>
<td>Percentages</td>
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<td></td>
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</tr>
<tr>
<td>25</td>
<td>50 44</td>
<td>51.5 47</td>
<td>56.5 50.5</td>
</tr>
<tr>
<td>50</td>
<td>54 55</td>
<td>60 55</td>
<td>62 56</td>
</tr>
<tr>
<td>75</td>
<td>67 59.50</td>
<td>62.5 59.5</td>
<td>67 61.5</td>
</tr>
</tbody>
</table>
Table 6

**Observed Verbal Statements: Average Frequencies Across Raters**

<table>
<thead>
<tr>
<th>Statement</th>
<th>RE</th>
<th>HE</th>
<th>CO</th>
<th>CM</th>
<th>IN</th>
<th>RJ</th>
<th>SI</th>
<th>PE</th>
<th>NS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>10.74</td>
<td>16.65</td>
<td>7.03</td>
<td>.06</td>
<td>3.76</td>
<td>7.29</td>
<td>3.85</td>
<td>.68</td>
<td>7.26</td>
<td>57.32</td>
</tr>
<tr>
<td>Stand. Error</td>
<td>1.05</td>
<td>1.38</td>
<td>.79</td>
<td>.04</td>
<td>.89</td>
<td>1.97</td>
<td>.54</td>
<td>.28</td>
<td>1.14</td>
<td>4.60</td>
</tr>
<tr>
<td>SD</td>
<td>4.34</td>
<td>5.67</td>
<td>3.26</td>
<td>.17</td>
<td>3.66</td>
<td>8.12</td>
<td>2.21</td>
<td>1.14</td>
<td>4.71</td>
<td>18.97</td>
</tr>
<tr>
<td>Obs. Min.</td>
<td>4.5</td>
<td>8.5</td>
<td>3.5</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>.5</td>
<td>0</td>
<td>1.5</td>
<td>27.5</td>
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<tr>
<td>Obs. Max.</td>
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<td>29.5</td>
<td>14.5</td>
<td>.5</td>
<td>15</td>
<td>36</td>
<td>7.5</td>
<td>4</td>
<td>18.5</td>
<td>111</td>
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<td>Skewness</td>
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<td>.65</td>
<td>1.36</td>
<td>2.61</td>
<td>1.92</td>
<td>3.07</td>
<td>.12</td>
<td>1.91</td>
<td>.97</td>
<td>1.51</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-.67</td>
<td>-.02</td>
<td>1.21</td>
<td>5.44</td>
<td>4.85</td>
<td>10.68</td>
<td>-.77</td>
<td>3.41</td>
<td>.26</td>
<td>3.36</td>
</tr>
<tr>
<td>Percentages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>7.25</td>
<td>11.5</td>
<td>4.5</td>
<td>0</td>
<td>1.25</td>
<td>3.5</td>
<td>1.75</td>
<td>0</td>
<td>3.75</td>
<td>46</td>
</tr>
<tr>
<td>50</td>
<td>10</td>
<td>15.5</td>
<td>6.5</td>
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<td>4.5</td>
<td>4</td>
<td>0</td>
<td>5</td>
<td>53</td>
</tr>
<tr>
<td>75</td>
<td>14.5</td>
<td>20</td>
<td>8.25</td>
<td>0</td>
<td>5.75</td>
<td>9</td>
<td>5.25</td>
<td>1.25</td>
<td>11.25</td>
<td>60.75</td>
</tr>
</tbody>
</table>

RE= Request for information  
SI= Self-image  
HE= Helping/cooperation/giving  
PE= Persuasiveness  
CO= Consideration  
NS= Neutral statements  
CM= Competitiveness  
IN= Intrusiveness  
RJ= Rejection
Frequency of Verbal Statements

Frequency data and percentages of statements produced across each category of verbal statements were examined to address the research question: What types of verbal statements do children with learning differences make while engaged in a cooperative task? In particular, it was hypothesized that the interactions amongst children with learning differences would evidence a greater frequency of positive verbal statements (helping/cooperation/giving, consideration), as compared to negative verbal statements (competitiveness, intrusiveness, rejection, self-image).

Results indicated that the average number of total statements made was 57.32 (SD=18.97) frequency data indicated that the most frequently produced category of verbal statements were helping/cooperation/ giving statements (N=17, M=16.65, SD=5.67; See Table 6). The frequency of occurrence across category of verbal statements was as follows: helping/cooperation/giving, requests for information, rejecting statements, neutral statements, consideration/ positive reinforcement, self-image statements, intrusiveness, persuasiveness, and competitive statements. Average frequency data for the categories of verbal statements are displayed in Table 6. Markoski (1983) also found competitive, consideration, intrusive, rejection, and self-image statements to occur infrequently using the same coding system. Similarly, Bryan, Wheeler, Felcan, and Henek (1976) found competitive and cooperative statements to occur infrequently. Summation of the number of positive statements (helping/cooperation/ giving and consideration/positive reinforcement statements) and negative statements (competitive, intrusive, rejecting, and self-image statements) revealed that children evidenced a greater frequency of positive statements (M=23.68) when compared to negative statements (M=14.97). Approximately, 41% of the total statements made were positive statements. Thus, the researcher’s hypothesis was supported.
Reliability Analysis

Reliability was calculated for the CBCL, TRF, and the observational measure of verbal statements. Alpha internal consistency reliability was high: CBCL \( \alpha = .72 \), TRF \( \alpha = .73 \), and the observational measure (average across raters) \( \alpha = .83 \). The univariate z-test was also calculated for all scale distributions to determine the significance of any deviations from the normal distribution using kurtosis/SE kurtosis \( > 1.96 \) and skewness/SE skewness \( > 1.96 \). Average frequencies across raters for the following scales were found to deviate from the normal distribution using kurtosis: competitive statements 5.44, intrusiveness statements 4.85, rejecting statements 10.68, persuasive statements 3.41, and total statements 3.36. Average frequencies across raters for the following were found to deviate from the normal distribution with regards to skewness: rejecting statements 3.07 and competitive statements 2.61.

Inferential Statistics

Group Membership and Demographics

A Chi-Square was run using membership in each of the five study groups as the independent variable and the demographic variables as the dependent variables to ensure equality of groups. Results indicated that there was a significant difference across the groups for speech disability or impairment, \( \chi^2(1, N=7) = 10.58, p = .032 \). Follow up comparisons approached significance for group 3 and group 1, \( \chi^2(1, N=7) = 3.13, p = .053 \), and group 3 and group 4, \( \chi^2(1, N=7) = 3.13, p = .053 \). Namely, 2 children in group 3 had speech disabilities and no children in groups 1, 2, 4, or 5 had a speech disability. There were no other significant differences across group for the demographics variables.
Gender Differences

For all frequency data (average frequency of verbal statements and total statements, internalizing behaviors, externalizing behaviors, and total behaviors), gender differences were examined. A series of independent samples t-tests was run using gender as the independent variable and the average frequency scores on the nine verbal statement categories (request for information, helping/cooperation/giving, consideration, competitiveness, intrusiveness, rejection, self-image, persuasiveness, neutral statements) and verbal statement total, two internalizing symptom totals (1 parental report total and 1 teacher report total), two externalizing symptom totals (1 parental report total and 1 teacher report total), and two total symptoms (1 parental report total and 1 teacher report total) as the dependent variables. Results indicated that there were no significant gender differences across internalizing, externalizing, or total behaviors as reported by either the parent or the teacher. There were also no significant gender differences across the nine verbal statements or the total number of verbal statements. Descriptive information pertaining to significant results is displayed in Table 7. For all analysis, alpha = .05; it should be noted that due to the number of t-tests that were conducted in this study, probability of making a Type II error is increased (Howell, 2002).
Table 7

*Descriptive Information for Significant Findings*

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender and Mother’s Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>6</td>
<td>14.33</td>
<td>1.51</td>
</tr>
<tr>
<td>Males</td>
<td>11</td>
<td>16.27</td>
<td>1.27</td>
</tr>
<tr>
<td><strong>Gender and Child’s Grade</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>6</td>
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</tr>
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<td>10.13</td>
</tr>
<tr>
<td>Teacher</td>
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<td>52.71</td>
<td>9.75</td>
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<tr>
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</tr>
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<td>61.47</td>
<td>.746</td>
</tr>
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<td>Teacher</td>
<td>17</td>
<td>56.12</td>
<td>5.25</td>
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<td>55.46</td>
<td>8.69</td>
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</tr>
<tr>
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<tr>
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<td>56.25</td>
<td>9.08</td>
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*(table continues)*
Table 7 (continued).

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<th>Variables</th>
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<th>Mean</th>
<th>Standard Deviation</th>
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<tbody>
<tr>
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<td></td>
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<td></td>
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<td>4.97</td>
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<td></td>
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<td>9.92</td>
</tr>
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<td>47.67</td>
<td>2.53</td>
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<td></td>
</tr>
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<tr>
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<td>6.04</td>
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<td>5.63</td>
<td>4.47</td>
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<td>1.65</td>
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</table>

*(table continues)*
Table 7 (continued).

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<tr>
<th>Variables</th>
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<th>Mean</th>
<th>Standard Deviation</th>
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<td>Disability</td>
<td>8</td>
<td>.13</td>
<td>.23</td>
</tr>
<tr>
<td>No Disability</td>
<td>9</td>
<td>1.89</td>
<td>1.22</td>
</tr>
<tr>
<td>Intrusive Statements and ADHD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD</td>
<td>11</td>
<td>2.32</td>
<td>2.29</td>
</tr>
<tr>
<td>No ADHD</td>
<td>6</td>
<td>6.42</td>
<td>4.39</td>
</tr>
<tr>
<td>Total Statements and Reading Disability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Disability</td>
<td>8</td>
<td>67.38</td>
<td>22.35</td>
</tr>
<tr>
<td>No Reading Disability</td>
<td>9</td>
<td>48.39</td>
<td>9.59</td>
</tr>
</tbody>
</table>
A series of independent samples t-tests was run across all additional demographic measures to investigate whether any gender differences (2 levels) are present. Descriptive information pertaining to significant results is displayed in Table 7. Results indicated a significant difference across mother’s level of education ($t(15) = 2.821, p = .013$). Namely, the mothers’ of males ($N=11, M=16.27, SD=1.27$) evidenced higher levels of education when compared to mothers’ of females ($N=6, M=14.33, SD=1.51$). Equal variances were assumed for this comparison ($F=.410, p = .532$). Additionally, gender differences regarding child’s grade approached significance ($t(10) = -2.206, p = .052$). Specifically, in the sample, female children may have been in higher grades ($N=6, M=3, SD=0$) than male children ($N=11, M=2.45, SD=.82$). Equal variances were not assumed for this comparison ($F=19.68, p < .001$). There were no other significant gender differences.

**Giftedness and Learning Disabilities**

A series of Independent Samples T-test were run to examine the relationships between giftedness (2 levels: gifted and normal) and learning disability diagnosis, 9 types (2 levels: yes or no), and ADHD (2 levels: yes or no). Results indicated that there were no significant differences across levels of giftedness for learning disability or ADHD.

A two-way contingency table analysis was also conducted to examine the relationships between giftedness (2 levels: normal and gifted) and learning disabilities, 9 types (2 levels: no and yes); and gender (2 levels: male and female). Results indicated that giftedness was unrelated to both learning disability diagnosis, for all 9 types, and gender.
Relationship between Parent and Teacher Reports

Correlations were conducted between the CBCL parent and CBCL teacher report and are displayed in Table 8. The correlations assessed if there are differences between parental and teacher reports of the same construct.
Table 8

Across Scale Correlations: CBCL and TRF

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-CBCL and I-TRF</td>
<td>.59*</td>
</tr>
<tr>
<td>E-CBCL and E-TRF</td>
<td>.44</td>
</tr>
<tr>
<td>T-CBCL and T-TRF</td>
<td>.14</td>
</tr>
<tr>
<td>I-CBCL and E-TRF</td>
<td>-.32</td>
</tr>
<tr>
<td>I-CBCL and T-TRF</td>
<td>-.07</td>
</tr>
<tr>
<td>E-CBCL and I-TRF</td>
<td>.13</td>
</tr>
<tr>
<td>E-CBCL and T-TRF</td>
<td>.28</td>
</tr>
<tr>
<td>T-CBCL and I-TRF</td>
<td>.57*</td>
</tr>
<tr>
<td>T-CBCL and E-TRF</td>
<td>.05</td>
</tr>
</tbody>
</table>

CBCL= Measure Completed by the Parent

TRF= Measure Completed by the Teacher

I= Internalizing Symptoms

E= Externalizing Symptoms

T= Total Symptoms

*Significant at the .05 level
Paired samples t-tests were run to examine differences between parent and teacher report of children’s behavioral functioning. Descriptive information pertaining to significant results is displayed in Table 7. Results indicated that there was a significant difference across parent and teacher report of internalizing symptoms (t (16) = 2.192, \( p = .044 \)) and total symptoms (t (16) = 2.590, \( p = .020 \)). Specifically, parents reported a greater number of internalizing (\( N = 17, M = 57.47, SD = 10.13 \)) and total symptoms (\( N = 17, M = 61.47, SD = 7.46 \)) when compared to teacher report of internalizing (\( N = 17, M = 52.71, SD = 9.75 \)) and total symptoms (\( N = 17, M = 56.12, SD = 5.25 \)). Externalizing symptoms were equally reported by parent and teacher (t (16) = 2.013, \( p = .061 \)).

A linear regression analysis was also conducted to examine the strength of the relationship between the CBCL and the TRF on internalizing, externalizing, and total symptoms. There was a direct relationship between the CBCL and TRF across internalizing symptoms (\( F(1, 15) = 8.19, p = .012 \)). There was not a significant relationship between the two measures across externalizing symptoms or total symptoms. The correlation between the CBCL and TRF on internalizing symptoms was .59. Approximately 35.3% of the variance in internalizing symptoms on the CBCL was accounted for by its relationship with the TRF. These two measures were not highly correlated, therefore; both measures were evaluated separately throughout the analysis (See Tables 8, 10, and 12).

**Inter-Rater Reliability using the Coding of Verbal Statements**

Correlations among the frequency ratings of the participants’ verbal statements across rater were conducted. Pearson’s r was calculated as an indicator of inter-rater reliability. The correlations assessed the variability in coding between the two raters on the categories of verbal statements. Inter-rater correlations ranged from .10 to .92 and are displayed in Table 9.
A linear regression analysis was conducted to examine the strength of the relationship between the frequencies of each category as coded by the two raters. There was a direct relationship between the two raters on the following: consideration/positive reinforcement ($F(1, 15) = 17.99, p < .01$), rejecting statements ($F(1, 15) = 53.18, p < .001$), neutral statements ($F(1, 15) = 54.73, p < .001$), and persuasiveness ($F(1, 15) = 7.81, p = .014$).

The correlations between the two raters across the categories of verbal statements were as follows: consideration/positive reinforcement .74, rejecting statements .88, neutral statements .89, and persuasiveness .59. Additionally, findings revealed that the relationship between the two set of ratings accounted for a moderate amount of the variance in verbal statements: 54.5% in consideration/positive reinforcement, 78% in rejecting statements, 78.5% in neutral statements, and 34.2% in persuasiveness. There was not a significant relationship between the two raters across statements of helping/cooperation/giving, request for information, intrusiveness, competitiveness, and self-image. However, the average frequency was low for competitive statements ($M = .06, SD = .17$), intrusiveness ($M = 3.76, SD = 4.6$), and self-image statements ($M = 3.86, SD = 2.93$) when compared to the other statements and relative to the average number of total statements ($M = 57.32, SD = 18.97$). This low frequency of occurrence was also found in the original studies using the observational measure for competitive and considerate statements (Bryan, Wheeler, Felcan, & Henek, 1976; Markoski, 1983). Markoski (1983) also found a low incidence of occurrence for intrusive, rejecting, and self-image statements. The inability to find a significant relationship between helping/cooperation/giving statements and requests for information statements across raters may be a result of the strong correlation between rater 1’s coding of helping/cooperation/giving and rater 2’s coding of requests for information, $r = .76$, 


which was significant at the .01 level. This high correlation indicates a difference in the way the coding was interpreted by rater 1 and rater 2 in terms of these two categories.

Overall, the frequency data from both raters was highly correlated for statements of consideration/positive reinforcement, rejection, neutrality, and persuasiveness. To account for the above mentioned concerns regarding statements of helping/cooperation/giving, requests for information, intrusiveness, competitiveness, and self-images, the researcher decided that an average of the frequency scores from both raters would be a more accurate indicator of children’s actual statements, as opposed to using frequency data or the codes from both the raters. Similarly, due to the high correlation between raters across total verbal statement totals, \( r = .92 \), it was not necessary to calculate the relative percentage of statements produced in each category as was done in the original study (Bryan, Wheeler, Felcan, & Henek, 1976; Markoski, 1983). Thus, frequency data from each rater across the five categories of verbal statements and overall statement totals were averaged to create an average frequency score. Therefore, the average frequency scores were used throughout the rest of analysis.
### Table 9

**Inter-Rater Correlations: Observational Measure (Frequencies)**

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requests for Information</td>
<td>.34</td>
</tr>
<tr>
<td>Helping/Cooperation/Giving</td>
<td>.30</td>
</tr>
<tr>
<td>Consideration/Positive Reinforcement</td>
<td>.74**</td>
</tr>
<tr>
<td>Competitive Statements</td>
<td>Too few cases</td>
</tr>
<tr>
<td>Intrusiveness</td>
<td>.27</td>
</tr>
<tr>
<td>Rejection Statements</td>
<td>.88**</td>
</tr>
<tr>
<td>Self-Image Statements</td>
<td>.10</td>
</tr>
<tr>
<td>Neutral Statements</td>
<td>.89**</td>
</tr>
<tr>
<td>Persuasiveness</td>
<td>.59*</td>
</tr>
<tr>
<td>Total</td>
<td>.92**</td>
</tr>
</tbody>
</table>

* Significant at the .05 level

** Significant at .01 level
Factor/Scale Correlations: Dependent Variables

Factor correlations between individual factors and total scores were examined for the CBCL, TRF, and the measure for categorizing verbal statements and are displayed in Tables 10 and 11. Average frequency scores from the observational measure were used.
Table 10

*Factor Correlations on the CBCL and TRF*

<table>
<thead>
<tr>
<th>Factor Comparisons</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBCL</td>
<td></td>
</tr>
<tr>
<td>Internalizing-Externalizing</td>
<td>.088</td>
</tr>
<tr>
<td>Internalizing-Total</td>
<td>.73**</td>
</tr>
<tr>
<td>Externalizing- Total</td>
<td>.68**</td>
</tr>
<tr>
<td>TRF</td>
<td></td>
</tr>
<tr>
<td>Internalizing-Externalizing</td>
<td>.31</td>
</tr>
<tr>
<td>Internalizing-Total</td>
<td>.57*</td>
</tr>
<tr>
<td>Externalizing- Total</td>
<td>.86**</td>
</tr>
</tbody>
</table>

* Significant at the .05 level

**Significant at .01 level
Table 11

*Factor Correlations: Average Frequencies on the Observational Measure*

<table>
<thead>
<tr>
<th>Factor Comparisons</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>RE-HE</td>
<td>.56</td>
</tr>
<tr>
<td>RE-CO</td>
<td>.30</td>
</tr>
<tr>
<td>RE-CM</td>
<td>.05</td>
</tr>
<tr>
<td>RE-IN</td>
<td>.21</td>
</tr>
<tr>
<td>RE-RJ</td>
<td>.39</td>
</tr>
<tr>
<td>RE-SI</td>
<td>.21</td>
</tr>
<tr>
<td>RE-PE</td>
<td>.25</td>
</tr>
<tr>
<td>RE-NS</td>
<td>-.06</td>
</tr>
<tr>
<td>RE-TS</td>
<td>.68**</td>
</tr>
<tr>
<td>HE-CO</td>
<td>.35</td>
</tr>
<tr>
<td>HE-CM</td>
<td>.11</td>
</tr>
<tr>
<td>HE-IN</td>
<td>.17</td>
</tr>
<tr>
<td>HE-RJ</td>
<td>.62**</td>
</tr>
<tr>
<td>HE-SI</td>
<td>.07</td>
</tr>
<tr>
<td>HE-PE</td>
<td>.43</td>
</tr>
<tr>
<td>HE-NS</td>
<td>.07</td>
</tr>
<tr>
<td>HE-TS</td>
<td>.84**</td>
</tr>
<tr>
<td>CO-CM</td>
<td>-.09</td>
</tr>
</tbody>
</table>

*(table continues)*
<table>
<thead>
<tr>
<th>Factor Comparisons</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO-IN</td>
<td>.15</td>
</tr>
<tr>
<td>CO-RJ</td>
<td>.31</td>
</tr>
<tr>
<td>CO-SI</td>
<td>.21</td>
</tr>
<tr>
<td>CO-PE</td>
<td>.41</td>
</tr>
<tr>
<td>CO-NS</td>
<td>-.01</td>
</tr>
<tr>
<td>CO-TS</td>
<td>.55*</td>
</tr>
<tr>
<td>CM-IN</td>
<td>-.05</td>
</tr>
<tr>
<td>CM-RJ</td>
<td>-.00</td>
</tr>
<tr>
<td>CM-SI</td>
<td>.15</td>
</tr>
<tr>
<td>CM-PE</td>
<td>-.22</td>
</tr>
<tr>
<td>CM-NS</td>
<td>.34</td>
</tr>
<tr>
<td>CM-TS</td>
<td>.11</td>
</tr>
<tr>
<td>IN-RJ</td>
<td>.26</td>
</tr>
<tr>
<td>IN-SI</td>
<td>.04</td>
</tr>
<tr>
<td>IN-PE</td>
<td>.08</td>
</tr>
<tr>
<td>IN-NS</td>
<td>-.28</td>
</tr>
<tr>
<td>IN-TS</td>
<td>.37</td>
</tr>
<tr>
<td>RJ-SI</td>
<td>.20</td>
</tr>
<tr>
<td>RJ-PE</td>
<td>.42</td>
</tr>
</tbody>
</table>

*(table continues)*
Table 11 (continued).

<table>
<thead>
<tr>
<th>Factor Comparisons</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>RJ-NS</td>
<td>-.23</td>
</tr>
<tr>
<td>RJ-TS</td>
<td>.80</td>
</tr>
<tr>
<td>SI-PE</td>
<td>-.05</td>
</tr>
<tr>
<td>SI-NS</td>
<td>-.12</td>
</tr>
<tr>
<td>SI-TS</td>
<td>.28</td>
</tr>
<tr>
<td>PE-NS</td>
<td>.07</td>
</tr>
<tr>
<td>PE-TS</td>
<td>.52</td>
</tr>
</tbody>
</table>

RE= Request for information  
RJ= Rejection  
HE= Helping/cooperation/giving  
SI= Self-image  
CO= Consideration  
PE= Persuasiveness  
CM= Competitiveness  
NS= Neutral  
IN= Intrusiveness  
TS= Total statements  

* Significant at the .05 level  
** Significant at .01 level
Correlations among Independent and Dependent Variables

Pearson’s r was calculated to examine the correlations among all independent variables, all dependent variables, and the correlations between the independent and dependent variables. Independent and dependent variable correlations above .50 are displayed in Table 12.
Table 12  

**Independent and Dependent Variable Correlations Above .50**

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Correlation</th>
</tr>
</thead>
</table>

**Correlations Across Independent Variables:**

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Age- Child Grade</td>
<td>.87**</td>
</tr>
<tr>
<td>Mother’s Age- Child Grade</td>
<td>.50*</td>
</tr>
<tr>
<td>Child Age- Mother’s Age</td>
<td>.50*</td>
</tr>
<tr>
<td>Mother’s Education- Program Involvement</td>
<td>.56*</td>
</tr>
<tr>
<td>Child Gender- Mother’s Education</td>
<td>-.59*</td>
</tr>
<tr>
<td>Group- Father’s Ethnicity</td>
<td>.55*</td>
</tr>
<tr>
<td>Child Ethnicity- Father’s Ethnicity</td>
<td>.80**</td>
</tr>
<tr>
<td>Mother’s Ethnicity- Father’s Ethnicity</td>
<td>.80**</td>
</tr>
<tr>
<td>Child’s Age- Father’s Education</td>
<td>-.75**</td>
</tr>
<tr>
<td>Child Age- Family Yearly Income</td>
<td>-.56*</td>
</tr>
<tr>
<td>Child Ethnicity- SES</td>
<td>-.55</td>
</tr>
<tr>
<td>Child Grade- Father’s Education</td>
<td>-.56*</td>
</tr>
<tr>
<td>Years in Special Education- Family Yearly Income</td>
<td>.51</td>
</tr>
<tr>
<td>Father’s Education- Program Involvement</td>
<td>.57*</td>
</tr>
<tr>
<td>Mother’s Education- Father’s Education</td>
<td>.73**</td>
</tr>
<tr>
<td>Mother’s Status- Father’s Status</td>
<td>.64**</td>
</tr>
<tr>
<td>SES- Father’s Ethnicity</td>
<td>-.67*</td>
</tr>
</tbody>
</table>

*(table continues)*
Table 12 (continued).

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father’s Ethnicity- Father’s Status</td>
<td>.64**</td>
</tr>
<tr>
<td>Child Age- Full Scale IQ</td>
<td>-.46</td>
</tr>
<tr>
<td>SES- Family’s Yearly Income</td>
<td>.66*</td>
</tr>
<tr>
<td>Child Ethnicity- Birth Order</td>
<td>.67**</td>
</tr>
<tr>
<td>Mother’s Age- Birth Order</td>
<td>-.79**</td>
</tr>
<tr>
<td>Mother’s Ethnicity- Birth Order</td>
<td>.67**</td>
</tr>
<tr>
<td>Father’s Ethnicity- Birth Order</td>
<td>.63*</td>
</tr>
<tr>
<td>Child Age- Reading LD</td>
<td>.57**</td>
</tr>
<tr>
<td>Child Ethnicity- Dyslexia</td>
<td>.53*</td>
</tr>
<tr>
<td>SES- Dyslexia</td>
<td>-.59*</td>
</tr>
<tr>
<td>Language Spoken by Child- Math LD</td>
<td>.54*</td>
</tr>
<tr>
<td>Child Age- ADHD</td>
<td>-.57*</td>
</tr>
<tr>
<td>Child’s Grade- Speech Disability</td>
<td>-.62**</td>
</tr>
<tr>
<td>Mother’s Age- Speech Disability</td>
<td>-.52*</td>
</tr>
<tr>
<td>Family Income- Speech Disability</td>
<td>.71**</td>
</tr>
<tr>
<td>SES- ADHD</td>
<td>.54</td>
</tr>
<tr>
<td>Expressive Language LD- Math LD</td>
<td>.54*</td>
</tr>
<tr>
<td>Reading LD- Disorder of Written Expression</td>
<td>.76**</td>
</tr>
<tr>
<td>Reading LD- ADHD</td>
<td>-.54*</td>
</tr>
</tbody>
</table>

*(table continues)*
Table 12 (continued).

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed Receptive LD - Language LD</td>
<td>.79**</td>
</tr>
</tbody>
</table>

**Correlations Across Independent and Dependent Variables:**

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Spoken at Home - InterP</td>
<td>.50*</td>
</tr>
<tr>
<td>Language Spoken by the Child - InterP</td>
<td>.50*</td>
</tr>
<tr>
<td>Mother’s Marital Status - TotalP</td>
<td>.57*</td>
</tr>
<tr>
<td>Father’s Marital Status - TotalP</td>
<td>.57*</td>
</tr>
<tr>
<td>Mother’s Age - ExterP</td>
<td>-.49</td>
</tr>
<tr>
<td>Language Spoken at Home - TotalP</td>
<td>.50*</td>
</tr>
<tr>
<td>Language Spoken by the Child - TotalP</td>
<td>.50*</td>
</tr>
<tr>
<td>Grade in School - CO</td>
<td>.49*</td>
</tr>
<tr>
<td>Grade in School - IN</td>
<td>.57*</td>
</tr>
<tr>
<td>Group Membership - CM</td>
<td>-.49*</td>
</tr>
<tr>
<td>Father’s Age - RE</td>
<td>.54*</td>
</tr>
<tr>
<td>Full Scale IQ - RJ</td>
<td>.49*</td>
</tr>
<tr>
<td>Reading LD - HE</td>
<td>.56*</td>
</tr>
<tr>
<td>Reading LD - IN</td>
<td>.49*</td>
</tr>
<tr>
<td>Reading LD - TS</td>
<td>.52*</td>
</tr>
<tr>
<td>Written Expression LD - IN</td>
<td>.56*</td>
</tr>
<tr>
<td>Mixed Receptive LD - NS</td>
<td>.66**</td>
</tr>
</tbody>
</table>

*(table continues)*
Table 12 (continued).

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD- IN</td>
<td>-.55*</td>
</tr>
</tbody>
</table>

**Correlations Across Dependent Variables:**

- ExterP- HE: -.50*
- ExterT- CO: -.65**
- ExterT- IN: -.53*
- ExterT- TS: -.49*

**Definitions:**
- **Group:** Group Membership for the Cooperative Task
- **Mother’s/Father’s Status:** Marital Status
- **Number of Programs:** Number of Extracurricular Programs and Therapies
- **LD:** Learning Disability
- **InterP:** Internalizing Symptoms Reported by the Parent
- **ExterP:** Externalizing Symptoms Reported by the Parent
- **ExterT:** Externalizing Symptoms Reported by the Teacher
- **TotalP:** Total Symptoms Reported by Parent
- **RE:** Request for information
- **HE:** Helping/cooperation/giving
- **CO:** Consideration
- **CM:** Competitiveness

*(table continues)*
Table 12 (continued).

IN= Intrusiveness
RJ= Rejection
SI= Self-image
PE= Persuasiveness
NS= Neutral
TS= Total statements

* Significant at the .05 level

** Significant at .01 level
Dependent Variables and Demographics

A series of t-tests and ANOVA’s were computed for each dependent variable to ensure that group membership (5 levels: 1, 2, 3, 4, or 5), child ethnicity (4 levels: European American, Hispanic American, African American, and other); family structure (8 levels; single, cohabiting, married, widowed-married, widowed, separated, divorced, and deceased); birth order (4 levels: has older siblings, has younger siblings, has older and younger siblings, has a twin); giftedness (2 levels: normal, gifted); number of years at The Winston School (3 levels: first year, second year, third year); years in special education (4 levels: 0-1 years, 2-3 years, 4-5 years, 6 years or more); SES (2 levels: lower, upper); child grade in school (3 levels: first, second, third); language proficiencies (2 levels: English only, Bilingual); type of learning disability (9 types (2 levels: no or yes): reading, language, math, expressive language, dyslexia, written expression, mixed receptive language disorder, not otherwise specified, and speech); and ADHD diagnosis (2 levels: no or yes) are not moderators, mediators, or covariates. For all t-tests and ANOVA’s, the dependent variables used were; nine average frequency scores for verbal categories (request for information, helping/cooperation/giving, consideration, competitiveness, intrusiveness, rejection, self-image, persuasiveness, neutral statements) and the verbal statement total, two internalizing symptom totals (parent and teacher report), two externalizing symptom totals (parent and teacher report), and two total symptoms (parent and teacher report). Descriptive information pertaining to significant results is displayed in Table 7.

Results indicated that there is a significant difference for internalizing symptoms as reported by the parent, across child ethnicity ($F(2, 14)=4.751, p=.027$). Namely, parents of Hispanic American children reported ($N=2, M=74.5, SD=3.54$) more internalizing symptoms than parents of European American children ($N=13, M=55.46, SD=8.69$). In addition, there was
a significant difference for internalizing symptoms (t (15)= -2.217, \( p=0.043 \)) reported by the parent and total symptoms (t (15)= -2.248, \( p=0.040 \)) reported by the parent across language spoken at home/ language spoken by the child. In particular, parents of who speak English and Spanish at home/ child who speak English and Spanish reported greater internalizing (\( N=1, M=77, SD=0 \)) and total symptoms (\( N=1, M=76, SD=0 \)) when compared to the internalizing (\( N=16, M=56.25, SD=9.08 \)) and total symptoms (\( N=16, M=60.56, SD=6.67 \)) reported by parents who speak only English at home/ children only speak English. It should be noted that only one child in the sample speaks English and Spanish, thus, these findings are weighted on one subject.

There was a significant difference across teacher report of internalizing symptoms for dyslexia (t (15)= -2.156, \( p=0.048 \)). Specifically, teachers rated children with dyslexia (\( N=4, M=61, SD=4.97 \)) as demonstrating greater internalizing symptoms when compared to children without dyslexia (\( N=13, M=50.15, SD=9.52 \)). Equal variances were assumed for this comparison (\( F=4.062, p=0.062 \)). In addition, there was a significant difference across parent report of internalizing symptoms for a learning disability in language (t (13.86)=3.94, \( p=0.002 \)). Namely, parents of children without a learning disability in language reported a greater number of internalizing symptoms (\( N=14, M=59.57, SD=9.92 \)) when compared to parents of children with a learning disability in language (\( N=3, M=47.67, SD=2.53 \)). Equal variances were not assumed for this comparison (\( F=5.321, p=0.036 \)).

With regards to verbal statements, results indicated a significant difference for rejection statements across child ethnicity (\( F (2, 14)= 3.99, p=0.043 \)). Post-hoc analysis using the Bonferroni indicated that Hispanic American children (\( N=2, M=20.25, SD=22.27 \)) utilized a greater frequency of rejecting statements when compared to European American children (\( N=13, M=5.73, SD=3.83 \), \( p<0.046 \)).
Findings also suggest that the presence or absence of a disability may be related to the type of verbal statements children make. For example, results indicated that there is a significant difference for helping/cooperation/giving statements across reading disability \( t(15) = -2.64, p = .02 \) and language disability \( t(15) = -2.52, p = .025 \). Namely, children with a reading disability \( (N=8, M=19.94, SD=5.82) \) evidenced greater frequency of helping/cooperation/giving statements when compared to children without a reading disability \( (N=9, M=13.72, SD=3.78) \). Equal variances were assumed for both comparisons. Similarly, children with a language disability \( (N=3, M=20, SD=0) \) evidenced greater frequency of helping/cooperation/giving statements when compared to children without a language disability \( (N=14, M=15.93, SD=6.04) \). Equal variances were assumed for both comparisons.

There was also a significant difference for intrusiveness across reading disability \( t(15) = -2.20, p = .04 \), written expression \( t(15) = -2.62, p = .019 \), and ADHD \( t(15) = 2.56, p = .022 \). For all comparisons equality of variances was assumed. Namely, children with a disability in reading \( (N=8, M=5.63, SD=4.47) \) evidenced greater frequency of intrusive statements when compared to children without a disability in reading \( (N=9, M=2.11, SD=1.65) \). In addition, children without a disability in written expression \( (N=9, M=1.89, SD=1.22) \) or ADHD \( (N=6, M=6.42, SD=4.39) \) evidenced a greater frequency of intrusive statements when compared to children with a disability in written expression \( (N=8, M=.13, SD=.23) \) or ADHD \( (N=11, M=2.32, SD=2.29) \). Additionally, a comparison for total statements across reading disability \( t(15) = -2.23, p = .052 \) approached significance. It may be that children with a reading disability \( (N=8, M=67.38, SD=22.35) \) utilize a greater frequency of overall verbal statements when compared to children without a reading disability \( (N=9, M=48.39, SD=9.59) \). Equal variances were not assumed for this comparison. A significant difference for neutral statements across mixed receptive language
disability ($t(15)=-3.38, p<.01$) was also found. In particular, children with mixed receptive language disability utilized a greater frequency of neutral statements ($N=2, M=15.5, SD=4.24$) when compared to children without this disability ($N=15, M=6.17, SD=3.62$). Equal variances were assumed for this comparison.

Results also indicated a significant difference for neutral statements ($F(4, 12)=3.28, p=.049$) and persuasive statements ($F(4, 12)=3.93, p=.029$) across group membership for the cooperative art activity. Post-hoc analysis using the Bonferroni did not reveal any significant differences, $p>.05$.

A significant difference was also found for intrusiveness across grade in school ($F(2, 14)=6.92, p=0.01$). Post-hoc analysis using the Bonferroni indicated that children in third grade ($N=3, M=9.17, SD=5.2$) utilized a greater frequency of intrusive statements when compared to children in first grade ($N=9, M=2.67, SD=1.98$), $p<.01$. Frequency of request for information statements was also found to significantly differ across years in special education ($F(2, 14)=4.51, p=.031$). Post-hoc analysis using the Bonferroni revealed that children who had attended special education programs for 2-3 years ($N=5, M=14.5, SD=3.79$) evidenced a greater frequency of requests for information when compared to children who attended special education programs for 0-1 years ($N=8, M=8.31, SD=3.89$), $p<.03$.

Additionally, a series of linear regression analysis were calculated to determine if there is any relationship between any of the dependent variables and involvement in extracurricular and/or therapy, social skills training, or other therapeutic programs; number of siblings; maternal and paternal education; and annual family income. There were no significant differences across demographics for internalizing, externalizing, and total symptoms for both parent and teacher report.
Results indicated that there was a direct relationship between number of siblings and use of competitive statements ($F(1, 15) = 7.01, p = .018$). The correlation between number of siblings and competitive statements was .56. Approximately 31.8% of the variance in competitive statements was accounted for by its relationship with the number of siblings a child has.

*Relationships between Intellectual Functioning and Child Behaviors*

A linear regression was conducted to examine the strength of the relationships between IQ and child behaviors: two internalizing symptom totals (parent and teacher report), two externalizing symptom totals (parent and teacher report), and two total symptoms (parent and teacher report). There was no significant relationship found between IQ and child behaviors, across both parent and teacher report.

*Relationships between Intellectual Functioning and Verbal Statements*

A series of independent samples t-tests, using $p < .05$, was conducted to examine the relationship between giftedness (2 levels: normal and gifted) and the average frequency scores for the nine verbal statement categories (request for information, helping/cooperation/giving, consideration, competitiveness, intrusiveness, rejection, self-image, persuasiveness, neutral statements) and the average total number of statements. Results indicated a significant difference across level of giftedness for frequency of self-image statements ($t(15) = -2.26, p = .039$).

Specifically, gifted children utilized self-image statements more frequently ($N = 7, M = 5.14, SD = 2.53$) when compared to non-gifted children ($N = 10, M = 2.95, SD = 1.48$). Equal variances were assumed for this comparison. There were no other significant differences across level of giftedness and category of verbalization utilized by the children. However, it should be noted that there was not much discrepancy between IQ scores for normal and gifted children; they
averages were very close and the average IQ for the sample approached the giftedness cut-off. In order to account for this concern, this analysis was rerun using only those children who were highly gifted (IQ greater than 130), not all the gifted children. Results did not indicate a significant difference across giftedness for use of self-image statements ($t(11) = -0.72, p > .05$). Thus, it does not appear that highly gifted children utilize more self-image statements than non-gifted students.

Linear regression analysis was also calculated to answer the research question: Is there a relationship between intellectual ability (IQ) and children’s verbal communication? It is predicted that children with greater intellectual ability will evidence more positive verbal communication, helping/cooperation/giving and consideration statements, than children with lower intellectual functioning. For the purpose of this analysis, the Full scale IQ was the independent variable and the average frequency scores for the nine verbal statement categories (request for information, helping/cooperation/giving, consideration, competitiveness, intrusiveness, rejection, self-image, persuasiveness, neutral statements) and the number of total statements were the dependent variables. Results indicated that there was a direct relationship between IQ and the frequency of rejection statements ($F(1, 15) = 4.72, p = .046$). The correlation between IQ and rejection statements was $.49$. Approximately, $23.9\%$ of the variance in rejection statements was accounted for by its relationship with IQ. This findings is in direct contrast to the researcher’s hypothesis, thus, hypothesis was not supported.

**Relationships Between Child Behaviors and Verbal Statements**

Regression analyses will also be used to examine the research question: Is there a relationship between children’s behaviors, internalizing and externalizing, and their verbal communication in children with learning differences. Two regressions were run for each of the
nine categories of verbal statements, one for each of the behaviors, to determine if internalizing or externalizing behaviors, are predictive of verbal communication in children with learning differences. In particular, it was hypothesized that children with learning differences who evidence greater externalizing behaviors will be more likely to utilize negative verbalizations as compared to their peers who evidence greater internalizing behaviors. The independent variables were the two internalizing symptom totals (1 parental report total and 1 teacher report total) for the first regression and the two externalizing symptom totals (1 parental report total and 1 teacher report total) for the second regression. The dependent variables were the average frequency scores on the nine verbal statement categories (request for information, helping/cooperation/giving, consideration, competitiveness, intrusiveness, rejection, self-image, persuasiveness, neutral statements) and the total number of verbal statements. Results indicated that there was a direct relationship between externalizing behaviors and use of consideration/positive reinforcement statements ($F (2, 14) = 5.26, p = .020$). The correlation between externalizing behaviors and use of consideration/positive reinforcement statements was .66. Its association with externalizing behaviors accounted for approximately 42.9% of the variance in use of consideration/positive reinforcement statements. There was not a significant relationship between internalizing or externalizing behaviors across use of any of the other verbal statements.
CHAPTER 4
DISCUSSION

Research Findings

The purpose of this study was to examine the social interactions among children with special needs, learning disabilities and/or Attention Deficit Disorder. Research findings indicated that the most commonly reported behaviors for these children were normal-range internalizing symptoms, characterized by anxiety, depression, withdrawal, and somatic complaints. Within the cooperative interaction, the children’s verbal communication reflected more positive statements than negative. Namely, approximately 40% of the children’s verbalizations were considered to be statements of helping, cooperation, and cooperation. Examples of these statements include: “oh, yeah that’s a good idea,” “we have to work together,” “do you need scissors,” and “remember, we are a team.” The children tended to use competitive and intrusive statements relatively infrequently. An example of one of these statements is “I don’t want wings, no wings.” Hispanic American children appeared to utilize a greater frequency of rejecting statements when compared to European American children. Intellectual ability also appeared to be directly related to children’s use of rejecting statements such as “you are not the boss.” Additionally, children with a disability in mixed receptive language appeared to use a greater frequency of neutral statements when compared to their peers without a disability.

General findings, suggest that children with special needs may evidence a shared communicative acceptance, which might result in more positive communicative interactions. This study has implications for appropriate placement of children with special needs and the formation of children’s friendships. Namely, that for children with special needs, it appears that
an opportunity to be an homogeneous environment at least part of the day may provide positive opportunities for the development of oral language, friendships, and emotional well-being.

Methodology

Coding from the two raters on the observational measures was highly congruent for consideration/positive reinforcement, rejecting, neutral, persuasive, and total statements. However, it should be noted that across statements involving requests for information, helping/cooperation/giving, intrusiveness, competition, and self-image the raters codes were not directly related. However, the average frequency of occurrence was low for competition, intrusiveness, and self-image statements; approximately 13% of the total statements were accounted for by these three categories. Additionally, there was a strong positive correlation between one raters coding of helping/cooperation/giving and the other raters coding of requests for information. This suggests that the raters interpreted these categories positively and may have overlapped the two codes. As a result of these concerns, all frequency data as reported by the two raters was averaged. The researcher felt that this average would be the most accurate indicator of the type and relative occurrence of verbal statements exhibited by each child. Due to the low reliability of requesting information, helping/cooperation/giving, intrusiveness, and self-image statements, broad interpretations and conclusions from significant findings could not be made.

Proportionality of Learning Disabilities

The relative frequencies of nine types of learning disabilities present in the current sample appear to be reflective of proportions within special education. In particular, the high comorbidity of 77% across learning disabilities is similar to previous research findings. Specifically, research suggests that approximately 90% of children who have been diagnosed with a learning disability also manifest a difficulty in language, hearing, or speech (Gibbs &
Cooper, 1989). Similarly, the high comorbidity between ADHD and learning disability, as found in the sample to be 73%, is consistent with previous research and diagnostic considerations of ADHD (APA, 2000).

**Associations Across Child Characteristics**

Research findings indicated that there was some variability in the groups children were assigned to complete the cooperative art task. Specifically, in one of the groups, two of the three children had received a diagnosis of a speech disability or impairment. This difference was statistically significant when compared to the other four groups; no other group had a child with a speech disability. Thus, the verbal interactions of this group may have been compromised by the challenges inherent to the children’s speech disability. Namely, research suggests that deficits in verbal communication may impact a child’s ability to verbally interact with others, the types of behaviors the child demonstrates, as well as the responses the child elicits from others (Bryan, 1974a; Bryan, 1977; Bryan, 1988; Bryan & Wheeler, 1972; Davis & Rimm, 2004).

Across the sample, it appears that a greater proportion of girls were in third grade when compared to the number of boys. Due to the small sample size and proportion of girls, gender does not appear to be equally represented across the grades. The lack of gender discrepancy across verbal statements is contradictory to a previous study, which found that boys engaged in a greater frequency of competitive and self-centered statements than girls (Wiener & Harris, 1993).

**Behavioral Characteristics of Children with Learning Disabilities**

In general, it appears that parents and teachers describe children with special needs as evidencing internalizing behaviors; such as anxiety, depression, somatic complaints, and withdrawal; at a greater frequency than externalizing; rule-breaking and aggressive behaviors (See Table 5). This finding is consistent with previous research which suggests that children with
learning disabilities often experience low self-worth, social rejection, academic difficulties, negative perceptions of the self, difficulty forming friendships, greater feelings of anxiety and avoidance in their friendships, greater self-reported loneliness, less confidence, and loneliness (Al-Yagon & Mikulincer, 2004; Bryan, 1974b, 1976, 1978; Margalit & Al-Yagon, 2002; Nowicki, 2003; Settle & Milich, 1999). It may be that this finding becomes more salient for children with disabilities as level of intellectual functioning increases. Specifically, it may be that gifted children with disabilities are at a greater risk for social difficulties when compared to average ability children with a learning disability (Baum, Cooper, & Neu, 2001; Bong & Slaalvik, 2003; Butter & Winne, 1995; Shalev, Auerbach, Manor, & Gross-Tsur, 2000). Additionally, the social skills deficits of children with learning disabilities may lead to challenges in forming and maintaining friendships (Weiner, 2004). As a result, the child may develop internalizing behaviors as a means of coping.

In addition, it appears that parents of Hispanic American children may be more likely to describe their children as demonstrating internalizing symptoms than parents of European American children. Similarly, parents of children who speak English and Spanish at home and whose child also speaks English and Spanish may tend to report greater internalizing and total behaviors when compared to the reports of parents who speak only English at home and whose child only speaks English. This finding is similar risk and resilience research, which suggests that children for whom English is a second language are at greater risk for developing behavioral problems (Weiner, 2004). However, it should be noted that there was only one child in the current sample that was bilingual, thus, it is unclear if this finding would be replicable in another study. Future research with a larger bilingual sample is needed to examine the influence of language proficiencies on children’s behaviors.
Research findings also suggest that teachers may perceive children with dyslexia as demonstrating greater internalizing symptoms when compared to children without dyslexia. This finding may be a product of the high value placed on reading and writing within a classroom setting, which may cause a child with dyslexia to experience anxiety, withdrawal, sadness, or physical discomfort. In addition, parents of children without a language learning disability may describe their children as evidencing a greater number of internalizing symptoms when compared to parents of children with a learning disability in language.

There appears to be great variability in reporting of children’s behavioral symptoms based on the source. In particular, parents may tend to describe their child as evidencing internalizing and total behavioral symptoms more frequently than teachers. However, parent and teacher reports across internalizing symptoms were directly related. Namely, 35.3% of the variability in parental report of internalizing behaviors was accounted for by its relationship with the teacher’s report of internalizing behaviors. In addition, parents and teachers appeared to characterize children’s externalizing behaviors similarly. It may be that externalizing behaviors are more objective and obvious, whereas the identification of internalizing behaviors is more subjective and may be a product of environmental context and the relationship the child has with the source. Namely, parents have more opportunities to see these behaviors at home, than a teacher does at school. In particular, helping children to form positive friendships, develop feelings of closeness to the teacher, and to be securely attached has been associated with decreased risk for social or behavioral problems (Weiner, 2004). Overall, parental and teacher reports for behavioral syndromes were not highly related. Therefore, it appears necessary to obtain information from both sources and to interpret this information independently of one
another. Specifically, it is important for the teacher to ask parents about behaviors observed at home, otherwise the teacher’s evaluation may underestimate the frequency of behaviors.

*Verbal Communication of Children with Learning Disabilities*

The researcher hypothesized that the interactions amongst children with learning differences would evidence a greater frequency of positive verbal statements as compared to negative verbal statements. This hypothesis was supported. Specifically, approximately 41% of the total verbalizations made by the children during the task were positive; evidenced by statements of helping, cooperation, and consideration. In particular, the most frequently occurring type if verbalization were statements of helping/cooperation/or giving. Examples of this type of statement include: “okay, let’s get to work,” and “guys we could put a few of these on.” This finding is inconsistent with previous findings, which indicated that children with learning disabilities are not very successful in getting other to recognize their ideas (Bryan, Donahue, & Pearl, 1981). It may be that children with learning disabilities are more confident interacting with other children with disabilities and are better able to assert themselves, work cooperatively, and problem-solve as a team when compared to how they interact with children without these disabilities. In addition, it might be anticipated that these children may use more positive statements given that they receive social skills training at The Winston School on the daily basis; they are better able to respond appropriately to social situations and to utilize more prosocial verbalizations and behaviors. Similarly, the children often reminded one another that they needed to “work as a team.” This reminder may have prevented children from engaging in a greater frequency of competitive and negative statements, while also serving to increase children’s cooperative tendencies. Due to the low incidence of negative verbalizations used by the children, combined with knowledge of their social skills training, and their use of
helping/cooperation/giving statements, it may be postulated that this training is actually effective.

These findings are in direct contrast to previous research on the verbal communication of children with learning disabilities (Bryan, 1977; Bryan, Wheeler, Felcan, & Henek, 1976; Bryan, Donahue, & Pearl, 1981; Butter & Winne, 1995; Friel-Patti & Conti-Ramsden, 1984; Markoski, 1983; Mathinos, 1988; Purvis & Tannock, 1997; Speckman, 1981; Weiner & Harris, 1993). In particular, these studies grouped children with and without learning disabilities and examined their communication. Results of these studies indicated that children with learning disabilities demonstrated low levels of engagement, less effective communication, greater requests for assistance, competitiveness, and little understanding of mutuality in conversations.

The findings of this study are in direct contrast to this literature. Namely, upon comparison to this prior research, it appears that children with learning disabilities may exhibit different patterns of verbal communication when interacting with other children with learning disabilities as opposed to how they interact with children without a disability. In particular, based on the high incidence of positive statements in their interactions, it appears that these children may not experience the same communication difficulties with children with learning disabilities as they do with children without these disabilities, as reported in the previous research. Rather, it appears that they may evidence positive communicative interactions, which are similar to those of their peers without learning differences. Therefore, it may be beneficial to allow children with learning disabilities to be grouped with other children with learning disabilities for at least some part of the school day. Overall, it seems that a mutual relationship and understanding may be created based on their shared difficulties.
Findings also indicated that the children did not use competitive statements and persuasive statements very frequently. These findings are inconsistent with research, which suggested that children with learning disabilities might have trouble understanding mutual exchange in verbal interactions and engage in competitive verbalizations (Bryan, 1977; Bryan, Wheeler, Felcan, & Henek, 1976; Mathinos, 1988; Purvis & Tannock, 1997; Weiner & Harris, 1993). However, the original studies using the observational coding measure also found a low incidence of occurrence for competitive, consideration, intrusive, rejection, and self-image statements (Bryan, Wheeler, Felcan, & Henek, 1976; Markoski, 1983). Therefore, it may be that the descriptors for coding these verbal statements are not as clearly defined as the other statements or that the coding system is not a strong measure for these types of verbal statements. Similarly, the positive level of conversational engagement, especially the support, evidenced by these children may be a strong indicator of positive peer relationships and friendships. Specifically, peer relationships are characterized by social regulation, or verbal support to assist one another (Jones, 2002).

Similarly, it has been suggested that children with learning disabilities are more likely to form friendships with other children who experience similar learning disabilities or challenges (Weiner, 2004). Thus, it may be that these children form a shared culture based on their experience of having a learning disability (Avigitidou, 2001). However, it should be noted that Hispanic American children were found to engage in more rejecting statements than European American children. It is unclear if this finding is a product of the small sample of Hispanic American children, or is evidence of cultural differences in communication styles (Ortiz, 1997). In particular, the linguistic fluency of Hispanic children who are also bilingual may have influenced their communication strategies. Similarly, it should be noted that verbal
communication in this study was interpreted in terms of how communication is defined by the majority culture, Non-Hispanic Americans.

Children’s use of verbal statements also appears to be related to the presence or absence of a learning disability. For example, children with a disability in reading or language appear to be more likely to utilize helping/cooperation/giving statements when compared to children without a reading or language disability. This finding is consistent with another study that indicated that children with learning disabilities often engage in competitive verbalizations (Bryan, Wheeler, Felcan, & Henek, 1976). Ironically, children with a disability in reading also tended to engage more frequently in intrusive statements as compared to their peers without a disability. It may be that these children use intrusion as a means to enter a conversation in order to be of assistance or help. It seems that children with a reading disability may engage in a greater frequency of verbal statements when interacting as compared to their peers without a reading disability. Additionally, children who did not possess a disability in written expression or ADHD may tend to use more intrusive statements when compared to children with a disability in written expression or ADHD. This finding is in contrast to research, which suggested that children with ADHD are described as evidencing greater social problems and externalizing behaviors than their peers without ADHD (Gadeyne, Ghesquiere, & Onghena, 2004; Oncu, Oner, Oner, Erol, Aysev, & Canat, 2004). It also appears that children with mixed receptive language disability may engage in more neutral statements when compared to children without this disability.

Findings suggest that children in higher grades may utilize intrusive statements more frequently than their younger counterparts. It may be that students in the younger grades are not as confident interrupting conversations or asserting their ideas, when compared to students in
higher grades. In addition, findings suggest that children who had attended special education programs for 2-3 years may evidence a greater frequency of requests for information when compared to children who attended special education programs for 0-1 years. It appears that attendance in special education schools combined with maturity, may help these children to feel more confident in asking for help and in asserting their positions. Namely, they may be given more opportunities to engage in cooperative tasks, may be taught positive social skills, and may be provided with guidance in developing their emotional well-being in such specialized environments. Similarly, previous research suggests that children with disabilities frequently utilize requests for information and helping statements when engaged in a task (Markoski, 1983; Mathinos, 1991).

The number of siblings a child has appears to be directly related to use of competition statements. It may that these children evidence a larger amount of competitive statements because of experiences they have in interactions with their siblings. Namely, children with siblings may experience episodes of “sibling rivalry” combined with a need to develop coping systems for sharing one’s possessions and parents.

*Intellectual Functioning/ Giftedness and Characteristics of Children with Learning Disabilities*

IQ and giftedness does not appear to be related to the frequency and presence of a learning disability or child behaviors; internalizing, externalizing, or total behaviors. This finding is consistent with previous studies, which have suggested that there is not a direct relationship between giftedness and increased emotional or behavioral disturbances (Garland & Zigler, 1999; Neihart, 1999).

The researcher hypothesized that intellectual functioning would be directly related to the positive communicative statements. Namely, children of higher intellectual functioning utilize a
greater frequency of statements reflecting helping/cooperation/giving and consideration, when compared to their peers of lower intellectual functioning. This hypothesis was not supported. Specifically, gifted students appeared to utilize more self-glorifying statements when compared to children who were not considered gifted. Similarly, IQ seems to be directly related to children’s use of rejecting statements. This is in direct contrast to the researcher’s hypothesis. It may be that because of their higher intellectual functioning, these children are more verbally apt, have better social skills, and are better able to interpret nonverbal cues, thus, they are more aware of things that happen around them and more successful in utilizing language to communicate their opinions. Also, children with learning disabilities have been found to engage in competitive verbalizations and to be more impulsive (Bryan, Wheeler, Felcan, & Henek, 1976; Purvis & Tannock, 1997). This finding combined with apt verbal and social abilities, may explain why a gifted child with learning differences utilizes a greater frequency of negative statements. Furthermore, because of their advanced abilities, these children may also feel more competent than their peers and are more secure in expressing self-praise, and conversely rejecting the ideas of others (Halverson & Victor, 1976). In particular, knowledge of their advanced abilities and the feelings of self-confidence that result, may lead them to feel that their ideas are better than those of others. According to Nielson (2002) gifted children with disabilities possesses an external locus of control. Thus, it may be that these children utilize a greater frequency of self-praise statements in an effort to elicit validation from others. However, highly gifted children were not found to utilize more self-glorifying statements than their non-gifted peers. It may be that because of the advanced conceptual and communication abilities of highly gifted children, they may be less likely to manifest the negative tendencies and verbalizations often associated with a
having a learning disability, where their non-gifted or mildly gifted peers may not be as successful.

However, it should be noted that the average IQ across all children approached the cut-off score for giftedness, thus, there was not much differentiation across IQ scores between children classified as gifted and children classified as non-gifted. Specifically, as a whole the children evidenced an above-average level of intellectual functioning and only a small proportion of the sample was highly gifted, thus, it is not clear whether or not similar findings would be replicable in a sample where there was marked differences in intellectual functioning between children classified as gifted and non-gifted.

Overall, these findings are inconsistent with previous research findings which suggested that gifted children or children with higher intellectual abilities evidence stronger communicative competence, verbal fluency, social skills, ability to interpret nonverbal cues, perspective-taking, and empathy (Daniels, 1983; Hadary, Cohen, & Haushalter, 1979; Whitmore, 1980; Woodrum & Savage, 1994). Thus, these children were expected to evidence greater communication skills and to be more sensitive to social situations and their peers. Therefore, it was proposed that these children would use positive statements when interacting. However, it may be that having high intellectual ability, while attending a specialized environment for children with disabilities, may lead a child to feel overconfident in their own ideas, even leading to rejection of the ideas of others. Thus, it may be that gifted children with learning disabilities experience more social challenges when compared to average ability children with a learning disability (Baum, Cooper, & Neu, 2001; Bong & Slaalvik, 2003; Butter & Winne, 1995; Shalev, Auerbach, Manor, & Gross-Tsur, 2000).
It was hypothesized that externalizing behaviors would be directly related to the use of negative verbal communication strategies. In particular, children with learning differences who evidence greater externalizing behaviors would be more likely to utilize negative verbalizations as compared to their peers who evidenced greater internalizing behaviors. This hypothesis was not supported. In particular, findings indicated that externalizing behaviors seems to be directly related to children’s use of statements of consideration and support. These findings are inconsistent with previous research that suggests that children with learning disabilities and children with externalizing symptoms may evidence greater social problems, less developed social skills, acts of social inconsiderateness, and have difficulties interpreting nonverbal situations (Bryan, 1974a; Bryan, 1977; Bryan & Wheeler, 1972; Oncu et al., 2004). It may be that because these children receive social skills training in school, including ways to control externalizing behaviors more positively, they may be less likely to demonstrate such negative verbalizations. In particular, most of the verbalizations made by the children during the cooperative task tended to be positive, not negative. However, it should be noted that the level of externalizing symptoms exhibited by children in this study was mild and within a normal range. It is unclear whether or not this hypothesis would be supported in a sample of children who evidenced sub-clinical and clinical levels of externalizing behaviors. In the present sample, it may be that these children were more active and physically engaged in the task, thereby leading to greater positive verbal interaction in an effort to complete the task.
Implications

The implications of this study are limited to a sample of 17 children, ages 5-9 years, with special needs and above-average intellectual functioning. More specifically, implications are applicable to children attending a private school for children with special needs in North Texas. Conclusions are contingent upon the accuracy of parental and teacher reports and a sampling of children’s observed verbal communication patterns during a nonacademic task.

It appears that the communication difficulties that exist between the interactions between a child with and without learning disabilities may not be as prevalent in the interactions of children with learning disabilities. It may be that these children feel more confident or comfortable when interacting with peers with the same emotional, cognitive, or behavioral challenges. Thus, their difficulties may enable children with special needs to form a shared communicative culture or ability to interpret communication patterns, which may result in more positive communicative interactions. This proposed shared understanding might lead to greater acceptance among them. Specifically, these children demonstrated assistance, helping and support through their verbalizations. Thus, they appear to be assisting each other in possibly developing their language and social skills. As a result, the experience of social rejection, which is often present in interactions between children with and without learning disabilities, may not be as prevalent in an environment with all children with learning disabilities. It should be noted, that this proposed shared understanding may also exist for gifted children with learning disabilities. Although, few participants in this study were highly gifted, it can be postulated that because these children also experience rejection and a sense of being different, similar to children with learning disabilities, they may also benefit from homogeneous environments where others understand them and experience their same challenges.
The positive communication that appears to exist between children with learning disabilities, including support, may serve to advance their linguistic abilities, conflict resolutions skills, and emotional expression. Similarly, the positive communication experiences these children have may serve as an environmental context for them to develop and learn to understand pro-social behaviors. In particular, friendships may emerge out of these positive social contexts. Namely, the children appear to be demonstrating prosocial behaviors and may also be developing their oral language skills within the context of their specialized environment (Avgitidou, 2001; Jones, 2002).

These findings have implications for appropriate placement of children with special needs. In particular, based on the positive communication demonstrated amongst children with learning disabilities in a homogeneous environment, it may be beneficial to group children with learning disabilities into homogeneous classrooms at least some of the time. Namely, these children may evidence more positive communication with one another than they do with children without their learning challenges. As a result, they may not experience the level of loneliness, rejection, and social isolation that they often experience in inclusive settings. In particular, these environments may assist children in forming friendships.

It appears, that giving these children the opportunity to be with one another may lay the groundwork for friendship formation and emotional gain. In particular, if these children are able to form a shared understanding and acceptance among them, evidenced by the positive ways they speak and work with one another, they may be more likely to form friendships. Friendships are the context for the development of oral language and social skills. Ultimately, it appears that through the development of this shared understanding and positive relationships, the children may develop greater self-confidence, self-esteem, and emotional strength. In may be that if the
child feels comfortable in an environment where their difficulty is seen as a commonality, their
difficulty may no longer serve to identify them. Rather, they may be able to be themselves, the
child, not the disability, and know that they are not alone.

Additionally, it appears that children with special needs may experience anxiety,

depression, somatic complaints, and withdrawal at a greater frequency than rule-breaking and
aggressive behaviors. In particular, As a result, it may be helpful for these children to receive
counseling services or social opportunities to develop friendships and security in social
relationships. Similarly, it seems that social skills training and an emphasis on utilizing strengths
to overcome weaknesses or disability, may help these children to feel more confident in their
abilities, to take responsibility for helping themselves learn, and increase their level of social
comfort and interaction.

Delimitations and Limitations

While this study can enhance understanding of communication patterns of children with
special needs, several limitations may be improved upon in later studies. It would be interesting
to repeat the current study utilizing a larger sample size. Specifically, using a sample with greater
diversity in terms of ethnicity, SES, intellectual ability, and more diverse educational settings. It
would also be beneficial to conduct a similar study using multiple private institutions for children
with special needs, as well as to examine other educational environments, such as inclusion and
pull-out programs, in an effort to explore their relationships to children’s verbal communication.
In addition, the children in this study receive daily social skills training, which may explain the
low incidence of negative verbalizations. It would be interesting to note communication
differences across children who do and do not receive such training.
It would also be helpful to sample children’s verbal communication over longer time periods, perhaps 60 minutes. Additionally, multiple-samplings of children’s communication patterns over several days or weeks may yield more detailed and conclusive findings. Additionally, observing children engaged in a multitude of tasks and comparing their communication patterns across structured and unstructured tasks, and across tasks with peers or tasks with younger/older children may offer new insights. In particular, it would be interesting to observe children’s communication during academic activities or tasks more directly related to school learning. Perhaps using a qualitative model of analysis would also increase the depth of understanding of individual interactions, whereby a greater multitude of verbal communication patterns could be included and evaluated. This would allow for greater understanding of the variability in children’s’ verbal communication.

In an effort to control the variability associated with observation and coding methods, it may be helpful to utilize a greater number of trained research assistants and a more operationally defined observational measure, in an effort to increase accuracy of coding. In particular, many of the statements in the observational measure were coded infrequently within this study and previous studies, thus they may not be accurate or necessary descriptors of children’s verbalizations (Bryan, Wheeler, Felcan, & Henek, 1976; Markoski, 1983). It may also be useful to transcribe the children’s verbal statements, and to utilize these transcriptions in coding analysis. Additionally, to manage concerns associated with archival data, establishing greater consistency in terms of the measure used to assess intellectual functioning and the child’s relative age of testing will also help to account for variability in scoring on assessment measures, as well as accuracy in the reporting of children’s IQ scores.
The observational nature of this study does not permit for causal relationships to be asserted. However, these shortcomings notwithstanding, this study does offer some important contributions to the understanding of the patterns of verbal communication evidenced by young children with special needs, which may help to form a basis for future investigation. These contributions involve realizing the importance of how grouping children with learning disabilities together, at least some of the time, can create a context for friendship formation, the development of positive social behaviors, and positive mutual communication.

Suggestions for Future Research

In order to fully understand the communication patterns of children with special needs, future investigations must be conducted. These studies should investigate the characteristics of friendships among children with special needs. Similarly, the potential benefits of friendships between two or more children with special needs should also be evaluated. Examination of children’s self-esteem, peer popularity, and perception of friendships in different educational setting for children with special needs would also be important. These findings may have implications for the development of friendships and self-esteem in terms of education placement. Namely, providing these children with the opportunity to create positive friendships may lead to positive emotional and cognitive well-being.

Additionally, exploration of how children with special needs, using various levels of special needs, interact with both children with and without special needs is needed in a combined study. Specifically, it is unclear whether children with special needs exhibit different patterns of communication or behaviors when interacting with other children with special needs as opposed to how they interact with children without such needs. In addition, research should examine if these children experience the same communication difficulties with other children with special
needs as they do with children without these needs. Namely, it is unclear whether the communication difficulties, that are characteristic of special needs children, negatively affect the interaction or if a mutual relationship is created based on these shared communication difficulties.

More in-depth studies of the verbal exchanges and behaviors that occur in the interactions of special needs children are also needed. Namely, it would be interesting to repeat this study utilizing children in mainstream classrooms, remedial pull-out problems, and specialized private schools in order to compare the verbal communication patterns expressed by children with special needs in different educational settings. These findings could have implications for appropriate placement and the development of positive social skills. Additionally, it would also be helpful to examine the influence of learning proficiencies/bilingualism, on children’s internalizing and externalizing behaviors, as well as their verbal communication. Results of this type of investigation can have implications for bilingual programming and inclusion.

Examining children’s self-esteem, awareness of non-verbal social communication, understanding of social appropriateness, and peer popularity could also contribute greatly to our understanding of the communication patterns of children with special needs. Perhaps these variables are associated with positive communication, confidence in verbal interactions, and likelihood of friendships.

It may also be interesting to examine the creativity demonstrated by children with special needs during a cooperative art activity. Specifically, many of the children within this study demonstrated great ingenuity and innovativeness in their use of materials. In particular, the children often combined materials, reformed materials, or used their imaginations to conceptualize one of their materials in a unique different manner. Similarly, these children were
also very creative in the describing the way their creature looked and where it lives (See Appendix N). It may be that the creativity of children with special needs varies as a function of their group members, with and without a learning disability, or it may be that these children demonstrate high creativity and artistic ability.

Summary

The purpose of this study was to examine the social interactions between children with special needs, learning disabilities and/or Attention Deficit Disorder. In order to investigate characteristics of children’s verbal statements, the children were observed in groups of three/four while creating a cooperative art project. During this activity, their interactions were recorded and coded for patterns of verbal communication. Verbal communication was evaluated through statements reflecting requests for information and materials; helping/cooperation/giving; consideration/positive reinforcement; competitiveness; intrusiveness; rejection; self-image; neutral statements; and persuasiveness. The most commonly reported behaviors for these children tended to be internalized behaviors; consisting of anxiety, depression, withdrawal, and somatic complaints. However, these behaviors were considered to be within the normal range of functioning.

Within the cooperative task, positive statements as opposed to negative ones appeared to be more characteristic of the children’s verbal interactions. In particular, approximately 40% of the children’s verbalizations were considered to be statements of helping, cooperation, and giving. Competitive and persuasive statements were used relatively infrequently. Hispanic-American children as opposed to European-American children tended to utilize rejecting statements more frequently. Externalizing behaviors appeared to be associated with increased use of considerate and encouraging statements. Level of intellectual functioning seemed to be
directly related to children’s use of rejecting statements. Children’s behaviors do not appear to be a function of intellectual ability or level of giftedness. However, it should be noted that there was little IQ differentiation between gifted and non-gifted children with learning disabilities in this study; there were few highly gifted children included. Thus, it is not clear if these findings would be evidenced in a sample with greater differentiation amongst children’s intellectual ability and level of giftedness.

Children’s verbal communication styles appear to be influenced by the presence or absence of specific learning disabilities. The conversations of children with a disability in mixed receptive language tended to evidence a greater frequency of neutral statements when compared to their peers without a disability.

Overall findings suggest that children with special needs may evidence a shared communicative culture or ability to interpret communication patterns, which might lead to more positive communicative interactions. This study has implications for appropriate placement and the formation of children’s friendships. In particular, that for children with special needs, it seems that opportunities to be in homogeneous environments for at least some part of the day, may offer positive opportunities for the development of oral language, friendships, and emotional well-being.
APPENDIX A

DEMOGRAPHICS QUESTIONNAIRE
Directions: Please answer the following questions with regards to your child.

1. What is your child’s age? (circle one)
   • 6
   • 7
   • 8
   • 9
   • 10

2. What is your child’s gender? (circle one)
   • Male
   • Female

3. What is your child’s ethnicity? (circle one)
   • European American
   • Hispanic American (please specify)_____________________
   • African American
   • Other (please specify)__________________________________

4. What is your child’s grade in school? (circle one)
   • First Grade
   • Second Grade
   • Third Grade

5. How many years has your child attended The Winston School? (circle one)
   • This is his/her first year
   • Second year
   • Third year

6. What language(s) is spoken at home? (circle one)
   • English only
   • English and other(s)______________________________

7. What language(s) does your child speak? (circle one)
   • English only
   • English and other(s)______________________________

8. How many years has your child been in a special education program or school for children with learning differences? (circle one)
   • 0-1 years
   • 2-3 years
   • 4-5 years
   • 6 years or more
9. Is your child involved in extracurricular and/or therapy, social skills training, or other therapeutic programs? (If yes, please circle all that apply.)
   • Individualized therapy sessions
   • Family therapy sessions
   • Social skills training
   • Anger Management
   • Biofeedback
   • Play therapy
   • Other(s)______________________________________________________________

Directions: Please answer the following questions with regards to the child’ s parents.

10. Mother’s age:______________

11. Mother’s ethnicity (circle one):
   • European American
   • Hispanic American (please specify)_______________________
   • African American
   • Other (please specify)______________________________________

12. Highest level of education achieved by mother (in years):______________
    (Examples: High School Degree: 12 years, College Degree: 16 years)

13. Which of the following best describes the mother’s marital status? (circle one)
   • Single
   • Cohabiting
   • Married
   • Divorced-remarried
   • Widowed-remarried
   • Widowed
   • Separated
   • Divorced

14. Father’s age:______________

15. Father’s ethnicity (circle one):
   • European American
   • Hispanic American (please specify)__________________________
   • African American
   • Other (please specify)_______________________________________

16. Highest level of education achieved by father (in years):______________
    (Examples: High School Degree: 12 years, College Degree: 16 years)
17. Which of the following best describes the father’s marital status? (circle one)
- Single
- Cohabiting
- Married
- Divorced-remarried
- Widowed-remarried
- Widowed
- Separated
- Divorced

18. Family’s yearly income? (round to the nearest thousand)_______________________________

19. Child’s siblings (please fill in):

<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Age</th>
</tr>
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<tbody>
<tr>
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</tbody>
</table>
APPENDIX B

OBSERVATIONAL CODINGS
### Codes of Verbal Statements:

<table>
<thead>
<tr>
<th>Codes of Verbal Statements:</th>
<th>Frequency of Occurrence:</th>
<th>Notes (Strategies/ Nonverbals):</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Request for Information and Materials</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Statements requesting advice, directions, permission, how to do something and request for materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Helping/ Cooperation/ Giving</strong></td>
<td></td>
<td></td>
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<tr>
<td>• Statements telling another how to proceed, socio-emotional and instrumental assistance, initiation of a joint cooperative act, offering and giving materials</td>
<td></td>
<td></td>
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<tr>
<td><strong>Consideration/ Positive Reinforcement</strong></td>
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<td></td>
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<tr>
<td>• Social niceties (please, thanks, how are you?), positive comments about someone’s acts/ looks</td>
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<td></td>
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<tr>
<td><strong>Competitive</strong></td>
<td></td>
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<tr>
<td>• Statements indicating the child is comparing his performance to another child</td>
<td></td>
<td></td>
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<tr>
<td><strong>Intrusiveness</strong></td>
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<tr>
<td>• Statements indicating bossiness, taking over, shouting orders</td>
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<tr>
<td><strong>Rejection</strong></td>
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<td></td>
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<tr>
<td>• Negative affect or negative opinion statements about recipient. Implies anger, irritability, or impatience</td>
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<td></td>
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<tr>
<td><strong>Self-Image</strong></td>
<td></td>
<td></td>
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<tr>
<td>• Statements indicating boasting, self derogatory comments, personal defense and positive personal reference</td>
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<td></td>
</tr>
<tr>
<td><strong>Neutral Statements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Statements of facts, which are neutral in nature</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Persuasiveness</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Statements indicating that the child is trying to convince another to accept his or her ideas</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

LETTER TO THE WINSTON SCHOOL ADMINISTRATION
August 22, 2005
Dr. Pamela Murfin
Head of School
The Winston School
5707 Royal Lane
Dallas, TX 75229

Dear Dr. Murfin:

My name is Joann Conde and I am a Doctoral student at the University of North Texas. I am currently working on my dissertation, which involves examining the patterns of social communication that are exhibited by children with special needs or “learning differences.” There is much that is unknown about how children with “learning differences” communicate and interact with one another. Specifically, it is unclear whether these children evidence different interaction styles with each other than they would in a mainstream classroom. It is my hope that this study will help contribute to this understanding, as well as to develop a better conception of the social relationships that exist among children with “learning differences.” Based on many of my experiences at The Winston School and with children with “learning differences” I am very motivated to contribute to our understanding of these children in an effort to provide them with the most appropriate and nurturing school and social environments.

I would like to conduct my research at The Winston School. Specifically, the school provides the children with a unique opportunity to interact with other children who also possess “learning differences.” This unique quality make The Winston School an ideal location for understanding the interactions amongst these children and to contribute this information to current research that is lacking in this very domain.

This study has been reviewed and approved by the Institutional Review Board (IRB) and College of Education at the University of North Texas. Attached you will find a copy of parental and child assent forms, which also addresses the purpose, procedure, confidentiality of results, risks and discomforts, freedom to withdraw, use of research data, and approval of this research.

Thank you for your time and consideration. Should you have any questions, please do not hesitate to contact me at **********.

Sincerely,

Joann M. Conde, M.S.
August 22, 2005
Rebbie Evans, M.A.
Head of Lower School
The Winston School
5707 Royal Lane
Dallas, TX 75229

Dear Ms. Evans:

My name is Joann Conde and I am a Doctoral student at the University of North Texas (UNT). I am currently working on my dissertation, which involves examining the patterns of social communication that are exhibited by children with special needs or “learning differences.” There is much that is unknown about how children with “learning differences” communicate and interact with one another. Specifically, it is unclear whether these children evidence different interaction styles with each other than they would in a mainstream classroom. It is my hope that this study will help contribute to this understanding, as well as to develop a better conception of the social relationships that exist among children with “learning differences.” Based on many of my experiences at The Winston School and with children with “learning differences” I am very motivated to contribute to our understanding of these children in an effort to provide them with the most appropriate and nurturing school and social environments.

I would like to conduct my research at The Winston School. Specifically, the school provides the children with a unique opportunity to interact with other children who also posses “learning differences.” This unique quality make The Winston School an ideal location for understanding the interactions amongst these children and to contribute this information to current research that is lacking in this very domain.

This study has been reviewed and approved by the Institutional Review Board (IRB) and College of Education at the University of North Texas. Attached you will find a copy of parental and child assent forms, which also addresses the purpose, procedure, confidentiality of results, risks and discomforts, freedom to withdraw, use of research data, and approval of this research.

Thank you for your time and consideration. Should you have any questions, please do not hesitate to contact me at **********.

Sincerely,

Joann M. Conde, M.S.
APPENDIX D

CONSENT FROM THE WINSTON SCHOOL ADMINISTRATION
I _________________________, as the Head of School for The Winston School, and representing The Winston School Board of Directors, consent to allow Joann M. Conde to conduct a study entitled “Patterns of Verbal Communication in Children with Special Needs” at The Winston School. I offer consent for the use of The Winston School facilities and assistance from the faculty and administration in completing this research. This consent will be valid for one year from the date of signature. I also assert that I have read the purpose of this project and the procedures, confidentiality of results, risks and discomforts, freedom to withdraw, use of research data, and approval of this research have been explained to me. I further understand that if I have any questions about this research and its conduct, I will contact one of the following:

Principal Investigator: Joann M. Conde, M.S.
UNT Doctoral Student, College of Education

Faculty Sponsor: Patsy Robles-Goodwin, Ed.D.
UNT College of Education

___________________________________   ________________
Signature of Head of School      Date Signed
I _________________________, as the Head of Lower School for The Winston School consent to allow Joann M. Conde to conduct a study entitled “Patterns of Verbal Communication in Children with Special Needs” at The Winston School. I offer consent for the use of The Winston School facilities and assistance from the lower school faculty and administration in completing this research. This consent will be valid for one year from the date of signature. I also assert that I have read the purpose of this project and the procedures, confidentiality of results, risks and discomforts, freedom to withdraw, use of research data, and approval of this research have been explained to me. I further understand that if I have any questions about this research and its conduct, I will contact one of the following:

Principal Investigator: Joann M. Conde, M.S.
UNT Doctoral Student, College of Education

Faculty Sponsor: Patsy Robles-Goodwin, Ed.D.
UNT College of Education

__________________________________    _____________ ___
Signature of Head of Lower School     Date Signed
APPENDIX E

CONSENT FROM THE WINSTON SCHOOL FACULTY
I _________________________, a faculty member of The Winston School voluntarily consent to participate in the study entitled “Patterns of Verbal Communication in Children with Special Needs: An Observational Study.” I have read the purpose of this project and the procedures, confidentiality of results, risks and discomforts, freedom to withdraw, use of research data, and approval of this research have been explained to me. I understand that I may stop answering questions, interrupt the procedure, or withdraw from the study at any time. I understand that if the information I share with the researcher indicates that I may be in danger to myself or to others, the proper authorities will be notified. I also understand that the information collected will be combined with information from other faculty and Winston parents for purposes of data analysis, and that neither I nor any of my students or my students’ families will be identified by name in any way. I further understand that if I have any questions about this research and its conduct, I will contact one of the following:

Principal Investigator: Joann M. Conde, M.S.
UNT Doctoral Student, College of Education

Faculty Sponsor: Patsy Robles-Goodwin, Ed.D.
UNT College of Education

___________________________________   ________________
Signature of Faculty Member      Date Signed
APPENDIX F

LETTER TO THE WINSTON SCHOOL PARENTS
Dear Parents:

My name is Joann Conde and I am a Doctoral student at the University of North Texas. I am currently working on my dissertation. My research topic is examining the patterns of social communication that are exhibited by children with special needs or “learning differences.” There is much that is unknown about how children with “learning differences” communicate and interact with one another. Specifically, it is unclear whether these children evidence different interaction styles with each other than they would in a mainstream classroom. It is my hope that this study will help contribute to this understanding, as well as to develop a better conception of the social relationships that exist among children with “learning differences.”

As many of you may know, I was privileged to have taught at The Winston School during the 2003-2005 school years. Based on many of my experiences at The Winston School and with children with “learning differences” I am very motivated to contribute to our understanding of these children in an effort to provide them with the most appropriate and nurturing school and social environments.

Thus, it is not surprising that I would like to conduct my research at The Winston School. Specifically, the school provides the children with a unique opportunity to interact with other children who also posses “learning differences.” This unique quality make The Winston School an ideal location for understanding the interactions amongst these children and to contribute this information to current research that is lacking in this very domain. It also provides a great opportunity to explore the unique relationships that the children at The Winston School share.

I am hoping that you and your child will be participants in this study. I will be having an informal meeting on **Tuesday, September 20th at 8:15am** at The Winston School to discuss this project with you and your child. At this time, I will address issues relating to the study’s purpose, procedure, confidentiality, use of research data, as well as the approval of this research. Please feel free to ask any questions or express any concerns at this time. I appreciate all your input and welcome any dialogue that you may have.

Thank you for your time and consideration. I look forward to meeting you and discussing the study on **Tuesday, September 20th at 8:15am**.

Sincerely,

Joann M. Conde, M.S.
APPENDIX G

ADULT/PARENTAL CONSENT FORM
Purpose of the Project:
The research project, with the support of the University of North Texas (UNT) and the College of Education, will examine the patterns of verbal communication exhibited by children with “learning differences.” The primary purpose is to observe the interactions among these children in order to better understand how children with “learning differences” communicate and interact with one another. In addition, questionnaires and assessment results will be used in order to understand how children’s cognitive, emotional, and psychological characteristics may shape these interactions.

Procedure to be followed in the Study:
I would like you to fill out two questionnaires that will tell me about you, your family, and your child. One of these questionnaires will specifically address types of behaviors exhibited by your child. This will take approximately 30 minutes. Also, if you agree, I will ask your child’s teacher to complete a similar questionnaire. In addition, I will contact The Winston School Testing and Evaluation Center to obtain information regarding your child’s scores on relative intellectual testing, as well as any cognitive, emotional, or behavioral diagnoses that your child may have. As part of the study, I will also be conducting an observation of your child, with 2-3 of his or her peers, engaged in a cooperative art project. This observation/project will take approximately 30 minutes and it will be video-recorded.

Anonymity of Subjects and Confidentiality of Results:
The information that you share with the researcher will only be available to other individuals working on this project. Further, the information you and other participants provide will be coded in such a way that does not identify you or your child by name. Specifically, your child will be assigned a 2-digit number, which will serve as his or her identity throughout the course of the study, in order to maintain confidentiality. The Winston School Testing and Evaluation Center will assign these 2-digit numbers. The examiner will be blind to the child’s identity. A list describing each child’s name and assigned number will remain solely in the possession of The Winston School Testing and Evaluation Center. The observations will be videotaped for coding purposes and the tapes will be kept in a locked cabinet in the researcher’s office in Florida. Upon completion of the project, all tapes will be erased. All of your information will be kept strictly confidential.

Risks and Discomforts:
As you share information about you, your family, or your child, your participation may make you feel uncomfortable at times. It is important for you to know that you do not have to answer any question that you do not feel comfortable doing so. In addition, your child may feel some discomfort being videotaped during the art project. At any time during the course of this study, you or your child may stop participating. Please note that if any of the information that you or your child shares with the researcher indicates that you or your child may be in danger to yourself or to others, the proper authorities will be notified.

Expected Benefits:
There is much that is unknown about how children with “learning differences” communicate and interact with one another. Specifically, it is unclear whether these children evidence different interaction styles with each other than they would in a mainstream classroom. This study will help contribute to this understanding, as well as to develop a better conception of the social relationships that exist among children with “learning differences.”
Freedom to Withdraw:
You do not have to answer any question that you do not feel comfortable doing so. You or your child may choose to stop your participation at any point during the study.

Use of Research Data:
The information from this project will be used for scientific or educational purposes. It may be presented at scientific meetings and/or published and reproduced in professional journals, books, or used for any other purpose that the University of North Texas’s College of Education considers proper in the interest of education, knowledge, or research. However, the information that will be collected will not be presented in any manner that will identify you, your child, or anyone else by name.

Approval of Research:
This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). Contact the UNT IRB at 940-565-3940 or sbourns@unt.edu with any questions regarding your rights as a research subject.

Participant’s Consent
I have read the purpose of this project. I have had a chance to ask questions and have them answered. I voluntarily consent for myself and for my child to be participants in this study. I understand that I may stop answering questions, interrupt the procedure, or withdraw from the study at any time. I also understand that the information collected will be combined with information from other individuals who have a child attending The Winston School for purposes of data analysis, and that neither I nor anyone else from my family will be identified by name in any way. I further understand that if I have any questions about this research and its conduct, I will contact one of the following:

Principal Investigator: Joann M. Conde, M.S.
UNT Doctoral Student, College of Education

Faculty Sponsor: Patsy Robles-Goodwin, Ed.D.
UNT College of Education

___________________________________   ________________
Signature of Participant/ Parent or Guardian    Date Signed

___________________________________   ________________
Signature of Principal Investigator     Date Signed
APPENDIX H

WAIVER OF ASSENT
The assent of ________________________________ (name of child) was waived because of

_______ Age

_______ Maturity

_______ Psychological state of the child

______________________________     ________________
Signature of Parent or Guardian     Date Signed
APPENDIX I

CHILD ASSENT FORM
Title of Study: Patterns of Verbal Communication in Children with Special Needs

Investigator: Joann M. Conde, M.S.

You have been chosen to take part in a study about how children with “learning differences” communicate and work with one another. If you agree to be in the study, you will complete an art project with several of your classmates. This project time will be videotaped and will only take 30 minutes. Your parent(s) will also be giving me information about you, themselves, and your family. If you agree, I will also contact your teacher so that she can tell me how you are doing at school. I will also contact The Winston School Testing and Evaluation Center to learn more about you and your “learning difference.”

I will not share any information about you with anyone else unless I think that you may hurt yourself or someone else or if I believe that someone is hurting you. Except for these times, all the information that I have about you will only be shared with the people working on this study.

If you have any questions or if anything upsets you, you may talk with me and I will answer any questions you have. Even if you decide to be in the study, you may stop at any time if you do not wish to continue to participate. By choosing to be in this study, you will help me understand how children with “learning differences” talk with one another and work together on a project. If you have any questions after the study is finished, you may call Joann Conde at **********.

If you want to be in the study, please sign this form to let me know that you understand what the study is about, you know who to ask if you have any questions, and that you understand that you can stop at any time.

I agree to be in the study.

___________________________________   _______________________
Signature of Subject       Date Signed

___________________________________   _______________________
Signature of Principal Investigator     Date Signed
APPENDIX J

CONSENT FOR DISCLOSURE OF RECORDS
I ________________________________(Parent or Guardian) consent for The Winston School Testing and Evaluation Center to release records on my child ______________________________(Child’s Name) to Joann M. Conde for the purpose of research study. I give my permission for The Winston School Testing and Evaluation Center to disclose information regarding my child’s scores on relative intellectual testing (full scale IQ, verbal, and non-verbal abilities), as well as any cognitive, emotional, or behavioral diagnoses that my child may have. I understand that my identity and my child’s identity will be protected and I have been explained the procedures regarding confidentiality.

___________________________________   ________________
Signature of Parent or Guardian     Date Signed
APPENDIX K

CHILD RECORDS: COGNITIVE, EMOTIONAL, AND BEHAVIORAL FUNCTIONING
Participant Number:______________________

**Intellectual Testing Results:**

- Full Scale IQ__________
- Verbal Scale IQ__________
- Performance Scale IQ__________

**“Learning Difference” (Please list all that apply):**

**Cognitive Functioning:**
1. ____________________________________________________________
2. ____________________________________________________________
3. ____________________________________________________________
4. ____________________________________________________________
5. ____________________________________________________________

**Behavioral Functioning:**
1. ____________________________________________________________
2. ____________________________________________________________
3. ____________________________________________________________
4. ____________________________________________________________
5. ____________________________________________________________

**Emotional Functioning:**
1. ____________________________________________________________
2. ____________________________________________________________
3. ____________________________________________________________
4. ____________________________________________________________
5. ____________________________________________________________
APPENDIX L

COOPERATIVE ART ACTIVITY: INSTRUCTIONS
Examiner:

Good morning/afternoon boys and girls. Today you are going to work together as a team to create a new creature. On the table you will see many different art supplies and materials (See Appendix M). You can make any type of creature that you want using any of the materials that you would like (point to the table with all the supplies). As a team, I want you to give the creature a name, describe what it looks like, and to tell me where it lives (point to the sign that bullets these three requirements). Remember that this is a team art project. What I mean by team is that I want you to work together to design the creature; you are only going to make one new creature. You will have 25-minutes to make your creature. I will tell you when you have 5-minutes left. Any questions?

Ready, set, go.

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20 MINUTES: COOPERATIVE ART ACTIVITY

Examiner: (after 20 minutes)

Five-minutes left, please start finishing your creature.

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Examiner: (after 25 minutes)

Please stop what you are doing. You have worked as a team and created a new creature. What is the name of your creature? What does a __________ (insert name of creature) look like? Where does a __________ (insert name of creature) live? Thank you for all your hard work.

You can go into the hall and a teacher will meet you.
APPENDIX M

ART SUPPLIES AND MATERIALS: PER GROUP
- Glue sticks-2
- Scissors-2
- Paperclips-10
- Tape-one roll
- Unsharpened pencils-4
- Toilet paper rolls-4
- Pipe Cleaners-12
- Markers- one pack of 8
- Colorful foam shapes-1 bag
- Colored Paper (Green, Blue, Red, Yellow, Black, Brown, White)- 2 of each color
- Shoebox and lid-1
- Plastic cups-6
- Paper plates-2
APPENDIX N

CHILDREN’S ART PROJECTS: SAMPLE VISUALS AND DESCRIPTIONS
One group created a “Plutian” which was from Pluto. The children described how the creature has a cape and one eye in the center of its head, which is filled with snot. The creature also had “two jet packs, which were powered by snot.” The children used foam shapes to represent the snot and put these foam shapes in two plastic cups, which were attached to a shoebox. Pipe cleaners were run from the outside of each cup to the other cup. These pipe cleaners were conceptualized as the transport systems for snot. They also stated that the creature had “wings out of pencils, which shoot lead, and guts hanging out the back.” The children also explained that the creature was 2-feet long from its legs to its antennae and that it “shows its DNA.” The DNA was represented by pipe cleaners coiled together on the back of the creature.
Another group created a “Turbo” which was from a planet named “Fireworld.” The children described the creature as a robot. They stated “it looks like a rocket with a jet pack on back, and sharp teeth. The jet pack was made from a paper cup taped sideways on a shoebox, with red pieces of paper symbolizing fire hanging from it. They described the creature as having “skinny arms and large hands.” “Pipe cleaners were used for arms and toilet paper rolls for hands. One hand is like a gun to suction things up and spit them out in another place.”
One group designed a “Rainbow Lizard”. This creature lives in a place “where it rains often; rainbows come after the rain, so it can get more rainbows on it (body).” Twisting pipe cleaners together created the rainbow colors. They described their creature as having many different colors, with stars and art-like designs.
APPENDIX O

SAMPLES OF CHILDREN’S VERBAL STATEMENTS
Requests for Information and Materials:

- Do you think we should put some fuel in here?
- Can we have a stapler?
- Do you guys think that we should poke a hole in there and then put antennas?
- Tape, I need a lot of tape

Helping/Cooperation/Giving:

- We need help getting the tape off
- Okay, let’s get to work
- Do you need scissors?
- Guys, we could put a few of these in there and that could be snot
- Remember, we have to work as a team
- How about we put this thing here?

Consideration/Positive Reinforcement:

- Oh, that looks radical
- Oh, yeah that’s a good idea
- Oh, good idea, good idea

Competitive:

- (Debate between two children over wanting wings or not; one child asked a third child whose idea he liked): (third child’s name) do you want wings (child responds no) see no wings

Intrusiveness:

- I don’t want wings, no wings
- We are putting these things on for eyes (ordering another child)
Rejection:

- You are not the boss
- (Child’s name) that is not what we wanted
- Don’t do that, we may not even do that

Self-Image:

- I have a good idea
- (Child’s name) I have a good idea

Neutral:

- Today is Friday, today is our library day
- I was in a magazine
- Guys, we are missing P.E.

Persuasiveness:

- Please, common, it’ll be fast, please
REFERENCE LIST


Higgins, D. & Nielson, M. E. (1999, April). Meeting the needs of twice exceptional students: Programs that work. Presentation at the Council for Exceptional Children Annual Convention, Charlotte, NC.


Robinson, S. M. (1999). Meeting the needs of students who are gifted and have learning disabilities. *Intervention in School and Clinic, 99*(34), 195-205.


