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An examination of the spontaneously generated and retold narratives produced by gifted/learning disabled adolescents from an integrated perspective of language development

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AN EXAMINATION OF THE SPONTANEOUSLY GENERATED AND RETOLD NARRATIVES PRODUCED BY GIFTED/LEARNING DISABLED ADOLESCENTS FROM AN INTEGRATED PERSPECTIVE OF LANGUAGE DEVELOPMENT

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by
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DEDICATION

This volume is lovingly dedicated to the memory
of my grandparents,
Clarence and Clara Manuel Moore,
who dreamed this dream for me many years ago,
but could not be here to see it become a reality.
We love you Mama and Pop.

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ABSTRACT

Few studies have examined the narrative abilities of gifted children with learning disabilities. This study investigated the ability of eighth-grade gifted children with learning disabilities (gifted/LD) to produce oral and written narratives by comparing their stories to those produced by gifted peers with no learning deficits (nonLD/gifted). It was hypothesized that evidence of difficulty generating the stories relative to the macrostructure (organization of ideas across sentences) and the microstructure (organization of ideas within sentences) would be exhibited by the gifted/LD population.

Twenty, 13-year-old eighth-graders served as subjects in the present investigation. All were identified as gifted by their local school system and were enrolled in the gifted program at the time of their participation in the study. Ten of the subjects met criteria for the gifted/LD group and ten met criteria for the nonLD/gifted group. Each subject produced stories under four different conditions, including a spontaneously generated oral story, a spontaneously generated written story, a retold oral story, and a retold written story. The stories produced by the gifted/LD subjects were compared to their gifted peers for differences in thirteen dependent measures of story length, episodic integrity, story grammar components, and sentence complexity.

Differences in the mean number of occurrences of each of the thirteen variables under both oral and written story generation conditions were found. The results of MANOVAs applied to each condition revealed that only the overall spontaneously generated oral stories told by the gifted/LD subjects reliably differed from those produced by the nonLD/gifted subjects at the $p<.05$ level of significance. Results of the univariate analyses indicated that these differences were not accounted for by any one element of story macrostructure or microstructure but rather that the stories differed across multiple dimensions, each of which contributed to the overall difference.

The significant results of this study suggest that the language of gifted/LD children does differ from that of nonLD/gifted peers when narrative language is examined. Results are discussed relative to the limitations of the study and implications for future research.

INTRODUCTION

Language ability is often cited as a major indicator of superior intelligence in children because of the positive relationship between high-IQ and standardized measures of language, such as the Peabody Picture Vocabulary Test-Revised (Dunn & Dunn, 1981) and the verbal subtests of the Weschler Intelligence Scale for Children-Revised (Weschler, 1974) (Maker, & Udall, 1981; Schiff, Kaufman, & Kaufman, 1981; Silverman, 1989; Templin, 1957, 1958; Whitmore, 1985). However, many high-IQ children, despite excellent performance on standardized language tests, exhibit learning deficits in language-related academic areas, including reading, writing, and spelling.

The learning problems of gifted children cannot be traced to overall cognitive deficits, causing many researchers and practitioners in gifted education to attribute academic problems to perceptual difficulties, such as visual perceptual dysfunction and/or visual-motor integration deficits (Suter & Wolf, 1987; Whitmore, 1980). Perceptual dysfunction explanations have been rejected by other theorists (de Hirsch, 1981; Larsen, Rogers, & Sowell, 1976; Liberman, Mann, Shankweiler, & Werfelman, 1982; Myers, & Hammill, 1976; Vellutino, 1979; Vellutino & Scanlon, 1986) as failing to identify the language problems that underlie learning disability. Vellutino (1979) and Vellutino and Scanlon (1986) proposed that visual perceptual problems are

part of the symptomatology of the language disorder that underlies a learning disability. They argued that linguistic ability is a better predictor of reading and academic performance than perceptual abilities since performance on tests of perception do not predict academic achievement (de Hirsch, 1981). Larsen, Rogers, and Sowell (1976) supported this stance with the finding that many children who perform poorly on tests measuring perception do well in school, while others who perform well on tests of perception experience considerable difficulty mastering academic subjects.

The view that language deficits underlie learning disabilities is potentially problematic when applied to the gifted population. The superior performance of gifted/-learning disabled children on measures of language appear to contradict the theory that there is a linguistic basis for the learning problems exhibited. However, an alternative explanation is that the measurement instruments used to identify these disorders have not been sufficiently sensitive to the types of language deficits exhibited by this population. This study will explore this explanation by examining the language of gifted children with learning disabilities for evidence of these more subtle indications of linguistic difficulty.

Language and Learning Disabilities

The existence of language problems in the learning disabled (LD) population is well-documented by research in

learning disabilities and communication disorders (Brinton & Fujiki, 1989; Fey, 1986; Gerber, 1993; Gibbs & Cooper, 1989; MacLachlan & Chapman, 1988; Merritt & Liles, 1987; Norris, 1991; Norris & Bruning, 1988; Ripich & Griffith, 1988; Roth & Spekman, 1988, 1989; Scarborough, 1990; Wallace & Liebergott, 1984). Vellutino (1979) maintained that children identified as learning disabled in the schools are actually language disordered. In one study of 200 LD children, 90.5% were found to have concomitant language problems (Gibbs & Cooper, 1989). Aram, Ekelman, and Nation (1984) found that nearly 70% of children treated for preschool language delays experienced academic difficulty in school, including placement in programs for learning disabilities. These percentages may be even higher if subtle language problems are considered.

Many of the superficial language problems observed in LD children can be identified through standardized language testing which largely focuses on language form, but such testing often fails to identify the more subtle language problems observed within connected discourse when content, form, and use must function in integration. Observation of these children as they engage in conversation and narration (i.e., discourse) may yield evidence of problems in language organization and expression that are not elicited in standardized discrete skill tasks.

Research examining discourse abilities in LD children has found this population to be less assertive than nonlearning disabled (nonLD) children within conversations (Bryan, Donahue, & Pearl, 1981). Their conversation also has been found to reflect problems with organization, cohesion, topic maintenance, and turntaking (Brinton & Fujiki, 1989; Craig & Evans, 1989; Fey, 1986; Liles, 1985; Mentis & Prutting, 1987; Ripich & Terrell, 1988). The narratives produced by LD children, including spontaneous and retold stories, have been shown to be shorter, less complete, less organized, and less cohesive than the narratives of nonLD children (Liles, 1985, 1987; MacLachlan & Chapman, 1988; Merritt & Liles, 1987).

Since language deficiencies have been shown to exist in the discourse of the general LD population, language deficiencies also may exist in a subgroup of that population, gifted children with learning disabilities. These deficiences, if they exist, are likely to be exhibited in narrative productions because they represent a complex, multidimensional language event in which many levels of structure and meaning must be coordinated to achieve a goal.

Defining the Gifted/LD Population

Gifted children with learning disabilities are generally referred to in the literature as either learning disabled/-gifted (LD/gifted), in which case the primary focus is on the learning disability with acknowledgment made of the child's

high IQ (Fox, Brody, & Tobin, 1983; Minner, 1990; Nielsen & Mortorff-Albert, 1989); or gifted/learning disabled (gifted/LD) where the child is viewed as gifted but exhibiting learning disabilities that inhibit achievement commensurate with intellectual potential (Baum, 1988; Berger, 1989; Boodoo, Frontera, Pitts, & Wright, 1989; Daniels, 1983; Gunderson, Maesch, & Rees, 1987; Suter & Wolf, 1987; Whitmore, 1989). In either case these children have been described as exhibiting characteristics of both the gifted and learning disabled populations.

Current estimates are that ten to fifteen percent of the total LD population is gifted (Bearden, 1989), a significant fact in light of the almost two million learning disabled individuals in this country (U.S. Department of Education, 1983). The incidence of learning disabilities in the gifted population has yet to be determined because the learning disabilities that occur in children identified as gifted are often camouflaged by their extreme giftedness (Suter & Wolf, 1987). In addition, there are an estimated 120,000 to 180,000 children in the United States who have been identified as both gifted and handicapped (Davis & Rimm, 1985). The handicapping conditions found in the gifted population are as varied as those in the general population, but learning disability accounts for the overwhelming majority of these handicaps (Prater & Minner, 1986).

Since a significant number of individuals may be gifted and learning disabled, and since language problems have been directly linked to learning disabilities, it is critical that researchers consider the possibility that gifted children with learning disabilities, like their nongifted LD counterparts, may have language problems.

The Measurement of Language

Given their high performance on standardized language and intelligence tests and their inferior performance in language-related academic areas, high-IQ children with learning disabilities have come to be viewed as a paradox in the gifted education literature (Fox & Brody, 1983; Silverman, 1989; Tannenbaum & Baldwin, 1983; Wolf & Gygi, 1981). However, the paradox may be more apparent than real if the nature of standardized measures of language is examined. Standardized tests are based on three assumptions that have been challenged by recent research, that is: 1) the skills measured by language tests are accurate indicators of language development; 2) the skills measured by language tests are accurate predictors of learning failure and success; and 3) standardized language tests are ecologically valid methods of language assessment (Damico, 1991, 1992).

Problems Inherent in Standardized Tests

The assumptions on which language testing are based have been challenged for a variety of reasons. The first assumption, that language tests accurately measure language

development, is based on the belief that language can be described according to its component skills or products. Evolving from Chomsky's (1957) model of language, language has been viewed as a specific, biologically determined behavior that is separate from cognition and from its social context of use. In this view, language development consists of the acquisition of an increasingly more complex set of rules that govern the meaning of the lexicon (i.e., semantics), the order in which words can be combined (i.e., syntax), and the coding of words for speech (i.e., phonology). These rules are seen as separate systems, and consequently can be isolated into discrete components and subskills for purposes of testing and teaching.

This view has been challenged by research showing that analyses based on form were not able to capture the meaning of many child utterances, even though the meaning and purpose are clear in context (Bloom, 1970). This research suggests that language development and production are inextricably embedded within a context of use, so that cognition, social interaction, and language form an integrated and inseparable system. Theories that ignore the influence of context misrepresent what children know, are able to perform, or what they experience difficulty coordinating in a context of use (Antinucci & Parisi, 1973; Bloom, 1970; Damico, 1991). A broader theory of language that accounts for language used in

context requires a view of the entire "speech act", and not just the form of the sentences (Searle, 1969).

The second assumption, that the skills measured by language tests predict academic achievement, has also be challenged. Tests of construct validity have shown that many of the language skills targeted by standardized language tests (e.g., Test of Language Development (Hammill & Newcomer, 1988), Peabody Picture Vocabulary Test (Dunn & Dunn, 1981)) are not reliable predictors of either language development or learning ability (Damico, 1991; Damico, Oller, & Storey, 1983; Norris, 1985; Westby, 1984). Because language tests typically sample isolated fragments of language, such as morphemes and word meanings at the single-word or sentence-level, language problems that surface during discourse, or connected language, are frequently missed (Damico, 1985; Damico, Oller, & Storey, 1983; Oller, 1979; Wallach & Lee, 1981; Wallach & Liebergott, 1984; Westby, 1984).

The third assumption, that standardized language tests have ecological validity, is questioned in that the tasks used to assess language on standardized tests are unlike the use of language in natural communicative contexts (Westby, 1992). Language is used to share meaning in order to influence the beliefs, behaviors, or attitudes of others within a social context (Arwood, 1983). The contrived tasks found on standardized tests are devoid of meaning and purpose

and only measure language-like behaviors that indicate very little about the conditions under which a child can or cannot function as a successful communicator.

Examination of vocabulary and grammatical structures such as morphemes in isolation yields, at best, an incomplete picture of language ability. Language tests designed to examine isolated linguistic fragments (e.g., grammatic structures) or specific skills (e.g., auditory discrimination, grammatical closure) frequently overlook critical aspects of the communicative process (Haynes, Pindzola, & Emerick, 1992). The study of linguistic forms, such as grammatical structures, can be achieved only by considering the role that content and use play in the selection of those forms. Competent language users automatically adjust the linguistic form of their utterances to accommodate changes in discourse demands, but the potential for these contextual interactions is systematically eliminated within standardized testing.

Alternatives to Standardized Tests

An alternative to standardized discrete-point testing is descriptive assessment. Descriptive assessment focuses on an integrated unit of discourse, such as a narrative, rather than separate linguistic components (Halliday & Hasan, 1976; Westby, 1984). Descriptive assessment samples contextualized language use by observing children as they engage in conversation or storytelling, so that the information is

selected, organized into discourse and its component sentences, and expressed using the vocabulary, word order, and paralinguistic elements necessary for communicating the intended meaning and achieving the intended goal. Once obtained, the integrated unit of discourse can be examined according to any aspect of form, content, and/or use while still remaining whole. Descriptive assessments result in more ecologically valid methods of language assessment than tasks that never require integrated processing or communicative social use (Haynes, Pindzola, & Emerick, 1992; Merritt & Liles, 1989). They constitute viable alternatives to standardized language testing and have been shown to differentiate between high and low achievers (Klecan-Aker & Kelty, 1990; Liles, 1985; Norris, 1985; Norris & Bruning, 1988; Page & Stewart, 1985; Roth & Spekman, 1986, 1989; Scott, 1988; Silliman, 1989; Strong, 1989; Strong & Shaver, 1991; Tuch, 1977).

Narrative Discourse

Standardized language testing examines language in its least contextualized state. Reliance on such testing has often resulted in "missed diagnoses" of language-impaired children because many of their language problems are evident only when the complex act of generating contextually appropriate and extended discourse is required. A growing number of child-language investigators favor discourse-based assessment (Brinton & Fujiki, 1992; Damico, 1992; Klecan-Aker

& Kelty, 1990; Norris, 1985; Scott, 1988; Scott & Erwin, 1992; Silliman, 1989; Westby, 1992). The narrative, in particular, is often the unit of discourse studied because of evidence that language problems are more evident at this level of discourse than any other (MacLachlan & Chapman, 1988). MacLachlan and Chapman (1988), as well as Craig (1991), have speculated that the difficulty experienced by language-impaired children at this level may lie in the syntactic complexity and organization demands required for narratives compared to other levels of language, including conversation.

Narrative Thought and Competence

Narrative organization is not only a product of language, but also a mental structure used to process experience. Bruner (1975) considers narrative thought to be a primary mode of thinking that imposes organization on experience so that it can be recognized and interpreted in meaningful ways. Beginning in early development, children make sense of events by applying narrative structure and organization to them. Development is evidenced as they parse the more salient features of those experiences along narrative lines. This refinement enables children to recognize and order increasingly more complex and abstract features of the event (Norris & Hoffman, 1993). They learn to parse objects, actions, people that perform actions, and people that are the recipients of actions from the larger

events they experience. Later, they learn to interpret the actions performed by people in these events as goal-directed behaviors, inferring the internal motives and intents of the actors/agents.

Bruner (1975) contrasts narrative thinking with paradigmatic thinking, or thought that is characterized by mathematical and logical structures of organization. Such logico-mathematical thinking is reflected in the exploration, categorization, and comparison of objects along physical dimensions. Bruner argues that narrative and paradigmatic thought do not have different origins, but rather that logico-mathematical knowledge may actually result from the development of narrative thought. Categories of objects and comparisons between them emerge from the narrative structures in which they are embedded. Nelson's (1985) studies of preschool children suggest that the first abstract object categories developed by children are functional in nature with respect to fulfilling a role within common events. For example, one of the first object categories may be "things that are eaten at lunch time." Only later are objects such as bananas, hot dogs, applesauce, salami, and juice recategorized in classes such as "things that grow on trees," that is fruits, versus "things that were parts of animals."

Narrative thought is used to guide all aspects of daily living. People dream, remember, anticipate, hope, despair, love, hate, believe, doubt, plan, construct, criticize,

gossip, and learn in narrative. Narrative competence allows for a perception of the world consisting of actions and events ordered relationally, and beginnings and endings for these events are imposed consistent with narrative structure. Elements from the ongoing flow of events are selectively attended to according to narrative expectations, and causes, motives, feelings, and consequences are interpreted. Narrative thought is therefore essential if children are to function adaptively in the world, including appropriately interpreting what they see, hear, and read (Badon, 1993).

Norris and Hoffman (1993) point out that children who demonstrate difficulty with narrative thought and narrative language also will exhibit more generalized difficulties with expository (i.e., scientific or cultural knowledge organized around a topic) forms of thought and language. The knowledge needed to recognize and understand the events that motivate the plans and attempts necessary to achieve the bears' goal in Goldilocks and the Three Bears is the same knowledge that is needed to recognize and understand the events that motivated the plans and attempts necessary to achieve Columbus' goal of finding the new world in 1492.

The development of narrative thought is important to school success (Norris & Hoffman, 1993). Children with poorly developed language systems often demonstrate difficulty imposing order on their experiences (Norris & Hoffman, 1993). The difficulties that have been shown to

result include missed school assignments because of failure to plan for the completion of these assignments; difficulty comprehending and acquiescing to school rules, resulting in labels such as behavioral disorders; and an inability to consider the perspectives of the people around them, resulting in serious communication breakdowns with adults, as well as arguments and even altercations with peers (Norris & Hoffman, 1993).

Narrative Structure

The structure of the narrative is a difficult mode of discourse because the relationships of meaning must be correctly formulated and coordinated within, between, and across sentences, referred to as narrative macrostructure and microstructure. Macrostructure refers to the level of text that yields information about its overall structure and organization or the propositions established across and between the boundaries of sentences (van Dijk & Kintsch, 1978). Microstructure refers to the propositions established within the boundaries of the sentences that make up the text (van Dijk & Kintsch, 1978).

Macrostructure

Examination of text macrostructure directs attention to the global discourse structures of the story, and the ability of the storyteller to organize propositions according to those structures. In a well-formed story, the internal organization is such that a macrostructure is discernible.

It is within this macrostructure that the overall theme or plot of the story is expressed.

The narrative is a highly contextualized form of natural language in which the characters, objects, and events are created through language. Language in this mode does not refer to objects or actions present within the physical environment, but rather to a mentally created environment. Its text creates a linguistic environment encompassing such elements as the temporal and spatial frame for the events, the objects, conditions, and events that comprise the story, and the participants occupying recognized social roles (Ong, 1982). The order and interactions between the elements of the narrative are described according to story grammars. Story grammars are comprised of a set of rules that describe the internal organization of stories. Well-formed stories conform to an idealized structure, while less complete stories lack one or more critical elements.

Although different versions of story grammars have been used to describe the structure of narratives, the episode unit is represented in all versions (Frederiksen, 1975; Labov, 1972; Mandler & Johnson, 1977; Meyer, 1975; Stein & Glenn, 1979; Thorndyke, 1977). Stein and Glenn (1979) described the complete episode structure as containing (a) an initiating event or internal response that motivates the protagonist to act; (b) attempt(s) that describe the actions the protagonist actually takes to resolve the situation; and

(c) a direct consequence that describes the results of the protagonist's efforts to resolve the situation. A story also may contain setting information (describing characters, locations, time, objects, and conditions) and the protagonist's reactions to the direct consequence. Although settings and reactions provide additional information in stories, neither are crucial to the completeness of the episode unit (Peterson & McCabe, 1983). In Stein and Glenn's (1979) grammar, two or more episode units constitute an episode system. In well-formed stories episode units connect with each other to form logical relationships that link characters and events. Stein and Glenn (1979) identified four independent types of relations that link episode units: The Then relation connects two episodes containing events that occur successively in time. The Cause relation connects two episodes in which a direct causal relationship exists between the events in the two episodes. The And relation connects two episodes containing events that occur simultaneously. An Embedded relation occurs when one episode is situated within another.

Story grammar analysis has been found to be particularly sensitive to the types of organizational difficulties evident in the narratives of LD children (Johnston, 1982; Liles, 1987; Merritt & Liles, 1987; Roth & Spekman, 1986; Weaver & Dickinson, 1979). Their narratives have repeatedly been found to be poorly organized and lacking critical elements of

episode structure (i.e., initiating event, internal response, attempts, or direct consequence).

Microstructure

Microstructure analysis draws attention to the propositions expressed within sentences of the narrative. Complex sentences are required to a greater extent at the narrative level than any other level of discourse (Craig, 1991; MacLachlan & Chapman, 1988). Very little is known about the development or use of complex sentences in the context of storytelling among language-impaired children (Skarakis-Doyle & Mentis, 1991), although the acquisition of these structures independent of their context of use has been studied extensively.

Propositions are abstract relationships of meaning. At the simplest level a proposition (p) establishes identity, and names a referent (p = X). More complex propositions occur when an argument (Y) is related to the referent in some relationship, such as X is Y (e.g., boy is playing), X cause Y (boy pushed over the boxes), or X not Y (boy isn't hungry). Sentences communicate one or more proposition and/or argument using grammatical structures such as adjectival or adverbial phrases, verb phrases, conjunctions, and embedded clauses. Specific grammatical structures and lexical items can be selected to express a proposition, either directly or indirectly. For example, a direct expression of a proposition might be "I'm tired", while an indirect

expression might be "It's been a long day." Children with language impairments have difficulty establishing the relationships of complex propositions when they are stated directly, and even greater difficulty interpreting and using indirect speech (Wiig & Semel, 1984).

Complex sentences are composed of both phrases and clauses. Clauses are independent units that contain both a subject and a predicate, and complex sentences must have at least one but can have more. Phrases are dependent units, lacking either a subject or predicate. They are embedded within sentences to combine additional information into the original proposition, and can include infinitive phrases that substitute for a noun (e.g., The girl likes to play tennis), prepositional phrases that modify a noun or a verb (e.g., The girl on the court plays tennis), or gerund phrases that embed information (Playing girls like tennis).

Two or more clauses can be conjoined to form compound sentences (i.e., The girls like to play tennis and they play it on the court), or to subordinate one clause relative to another (i.e., The girls that play on the court like tennis). These complex structures begin to emerge during the preschool years, and continue to develop until grade twelve or beyond (Hunt, 1965; Loban, 1976; Stotsky, 1987). With age, children form increasingly more abstract logical and hierarchical links of time, causality, conditionality, and adversity between ideas which are expressed linguistically. At first

grade, children produce sentences with an average of seven words including an independent clause and its modifiers. By twelfth grade the average sentence includes dependent clauses and phrases, resulting in a mean length of twelve words (Loban, 1976; O'Donnell, Griffin, & Norris, 1967). Throughout these school years, children become more adept at using syntax as a means of expressing complex ideas with linguistic efficiency and fluency (Muma, 1978).

Summary

The population of gifted children with learning disabilities is largely an unidentified group, in part because their extreme giftedness enables them to compensate for language and learning problems, and in part because the language instruments used to assess this population have not been sufficiently sensitive to the problems exhibited by this group. Descriptive analysis procedures applied to contextualized units of discourse, such as narratives, offer an alternative means of evaluating the language of this population. These procedures have been used to examine the language of children with learning disabilities and consistent differerences in the organization and expression of their stories have been found. It is likely that since language deficiencies exist in the general LD population, language deficiencies also exist in the gifted subgroup of that population, and that these differences can be identified when language is considered at the level of narrative discourse.

REVIEW OF RELATED LITERATURE

Little research has been conducted on the population of children who are gifted and also exhibit learning disabilities. Typically, these children have been able to compensate for their language and learning problems sufficiently to maintain an above average level of academic achievement, or they have been labeled as underachievers or as students who lack the motivation to achieve at a level commensurate with their potential. This chapter will explore the research that has been conducted in the area of narrative discourse produced by children with learning disabilities. First, two studies that investigated the narrative abilities of gifted children with learning disabilities are examined. Secondly, since no studies were found that specifically examined narrative development in the gifted population, the narrative abilities of normally developing and LD children are discussed. Story grammar research and complex sentence development in the LD population are compared to normal development. Third, findings regarding contextual variables that have been shown to influence narrative performance are presented.

Narrative Productions of Gifted/LD Children

Only two studies investigating narrative discourse in gifted children with learning disabilities are reported in the literature. Weeks (1974) did a retrospective analysis of language data collected from a five-year-old, high-IQ

(IQ=139), learning disabled girl. The subject scored at or above age-level on all formal language tests administered, such as the Peabody Picture Vocabulary Test-Revised (Dunn & Dunn, 1981). A narrative elicited under retelling conditions was analyzed for grammatical maturity and accuracy of information recalled. This narrative was found to be comparable to the ones produced by older, high-IQ subjects, also studied retrospectively. This study revealed no evidence of differences in the retold narratives produced by the gifted/LD child and the older subjects. No report of an analysis of the narrative structure or fluency of expression was provided, nor were spontaneously produced narratives examined.

Ganschow (1986) examined written narratives obtained from three gifted subjects (elementary to college-age) with learning disabilities for spelling, sentence construction, and cohesion. Ganschow (1986) found that the subjects' writings contained, among other things, numerous invented spellings, simple sentence constructions, poor cohesion, and inappropriate coordination between clauses. Ganschow (1986) concluded that gifted children with learning disabilities in her study exhibited serious written language problems. Since no control group was included in the study, it is difficult to say whether these written language problems are unique to gifted children with learning disabilities, or, as some

researchers argue, characteristic of gifted children in general (Master, 1983; Mindell and Stracher, 1980).

Writing requires considerable mastery of both oral and written language conventions. Even high-achieving gifted children frequently exhibit poor writing skills (Master, 1983; Mindell & Stracher, 1980). In fact, Master (1983) found that gifted children's writing attempts frequently contain sentences described as monotonous and choppy, with paragraph construction that was in many cases comparable to or only slightly better than that of children with average intellectual abilities.

The limited number of studies, lack of spontaneously generated stories, and minimal number of subjects included in these investigations suggest that little is known about the narrative abilities of gifted children with learning disabilities. The discourse structures of orally produced narratives have not been examined, and the findings related to written narratives are inconclusive because of the lack of matched controls. Both studies cited report only average performance of the tasks, suggesting that gifted children with learning disabilities exhibit language abilities that may not be commensurate with the performance predicted by their IQ or test scores on standardized tests of language. The conclusion that gifted children with learning disabilites exhibit no language disability and, in fact, demonstrate excellent language skills (Schiff, Kaufman, et al., 1981) may

be premature. This conclusion is particularly questionable given the numerous reports of narrative language deficiencies exhibited by the general LD population.

Narrative Abilities of LD Children

The narrative productions of LD children have been studied extensively across a variety of elicitation conditions, including spontaneous story generation, story retelling, and dictation. In addition, researchers have considered the effect(s) that channel-of-expression (e.g., spoken versus written) has on the narratives produced by LD subjects (Skarakis-Doyle & Mentis, 1991). A variety of analytical procedures (e.g., story grammar analysis, cohesion analysis) also have been used to study the narrative productions of LD children. Story grammar analysis, in particular, has been employed to describe the internal organization (macrostructure) of stories produced by LD subjects. To a lesser extent, investigators have examined the sentence complexity used by LD children producing narratives.

The data and literature that have accumulated on narrative development in the LD population yield an interesting profile. While LD children are generally able to produce narratives---thus demonstrating a basic knowledge of the discourse features required for narrative production---their narratives are typically "impoverished" or less complete than those of their normal-language peers (Liles,

1987; Merritt & Liles, 1987). Also, their narratives are marked by communication breakdowns, including filled pauses, repetitions, self-initiated repairs, abandoned utterances (MacLachlan & Chapman, 1988), and incomplete and erroneous ties, and fewer utterances (Liles, 1985). Narratives produced by LD children contain fewer story grammar categories (Jordan, Murdoch, & Buttsworth, 1991), fewer complete episode structures (Merritt & Liles, 1987), and exhibit organization and planning difficulties (Olley, 1989). Craig (1991) believes that LD children clearly understand their discourse obligations, but use inappropriate and incomplete linguistic forms in meeting those obligations.

Story Grammar Ability of LD Children

The acquisition of canonical story forms by normal and LD children, elicited using story generation and retelling tasks, has received considerable attention (Bacon & Rubin, 1983; Feagans & Short, 1984; Gaines, Mandler, & Bryant, 1981; Luftwig & Greeson, 1983; Roth & Spekman, 1986; Weaver & Dickinson, 1979). Research on normal development has shown that by age six children are able to comprehend and retell stories containing basic story grammar components, by age seven create multiple-episode stories, by age nine generate original stories containing temporally and causally linked episode units (Applebee, 1978; Botvin & Sutton-Smith, 1977), and by age eleven to twelve years produce complex stories containing embedded episodes (Labov, 1972; Peterson & McCabe,

1983). In contrast, LD children are less capable of relying on story grammar to aid in their retellings and generations (Graybeal, 1981; Merritt & Liles, 1987; Roth & Spekman, 1986).

Graybeal (1981) examined the narratives produced by language impaired subjects under retelling conditions and concluded that the children's retellings lacked critical story information. This study attributed the sparseness of the children's stories to memory limitations. Merritt and Liles (1987) also examined LD children's retellings (as well as spontaneous generations). These investigators supported Graybeal's (1981) finding that language-impaired children included less story information in their retold narratives than normal-language children. Merritt and Liles (1987) disagreed, however, with Graybeal's (1981) conclusion that the quantitative differences seen in the LD and normal subjects' narratives are due to memory problems. Questions designed to explore the children's understanding of the stories were answered well by both groups, thereby demonstrating that both groups attended to and remembered the stories equally well.

Roth and Spekman (1986) examined the spontaneously generated stories of LD children and compared them to the stories spontaneously generated by nonLD children using story length, number of complete episodes, number of incomplete episodes, proportion of episodes containing one or more

propositions in each story grammar category, type of interepisodic relation, number of story markers (i.e., beginning and ending codas, such as "Once upon a time", "The end") and prompts needed to complete the story as dependent variables. The LD children were distinguished from the non-LD children on all variables studied with the exception of story markers.

Merritt and Liles (1987) analyzed the generated and retold spoken narratives of language-impaired and normal-language children for differences related to elicitation conditions, thus extending Roth and Spekman's (1986) earlier study. Their analysis yielded data pertaining to the frequency of use of the six story grammar components, the number of complete and incomplete episodes produced, the number of main and subordinate clauses, length of story episodes, and the overall hierarchical structure of the story. Both the generated and retold stories produced by the language-impaired children contained fewer of the six story grammar components than the stories produced by the normal-language controls. Also, fewer complete episode units were found in the narratives generated and retold by the language-impaired children.

The two groups were further differentiated by the number of incomplete episodes across the two tasks. When generating a story, the language-impaired children used significantly more incomplete episodes (.8 incomplete episodes per story)

than the normal-language children (.3 incomplete episodes per story). When asked to retell a story, however, the language-impaired children did not differ from the control group in the number of incomplete episodes produced per story (1.0 and .9, respectively). Under both story conditions the normal-language children surpassed the language-impaired children in the length of their episode units. Only minor differences were found between the two groups' story hierarchies (i.e., the relative frequency of use of story grammar components) during the story generation task. Computation of Kendall's Tau coefficient revealed a perfect positive correlation (1.00) between the two groups in their hierarchy of use of the story components during the retelling task. These group differences found by Merritt and Liles (1987) confirmed many of Roth and Spekman's (1986) earlier findings of qualitative and quantitative differences in the narratives spontaneously generated by LD and nonLD children.

Although Merritt and Liles (1987) elicited both spontaneously generated and retold stories, their study only addressed questions regarding narrative language differences between language-impaired and normal-language children and not differences across elicitation tasks. A follow-up study undertaken by the two researchers in 1989 addressed the question of the children's comparative performance across the two conditions. Merritt and Liles (1989) found that both groups of children produced more story components, more

complete episodes, and significantly longer episodes under the story retelling condition compared to the spontaneous story generation task.

Summary

Although almost no research exists that examines the narrative abilities of gifted/LD children, a considerable body of literature has described the characteristics of narrative produced by the general population of learning disabled children. These studies consistently show that the narratives produced by LD children are impoverished compared to those of normally developing peers. The structure of their stories is less complete and less organized, and their delivery is less cohesive and fluent. The LD children tell better stories under retelling conditions, when the content, amount of information, and order of the story had been previously organized by another speaker, than under spontaneous generation conditions. Many of these same characteristics were seen in the written narratives of gifted/LD children, although the lack of a control group made it difficult to determine if the impoverished stories were related to the learning disability or simply to the difficulty of the written mode of language.

Complex Sentence Ability of LD Children

In addition to the hierarchical discourse structure of a narrative, or the macrostructure, the manner in which the relationships between ideas is expressed is important to the

overall coherence of a story. These meaningful relationships are established at the level of the sentence, or the microstructure of a narrative. Generally, the more sophisticated the relationship to be expressed, the more complex the grammar must be to coordinate and subordinate ideas in the intended interaction between agents, objects, actions, and the temporal-spatial-causal-conditional relations that unite them. The more complex the story that is told, the greater the requirements are for a child to have facility with complex grammatical structures.

The use of complex grammatical structures within narratives is complicated by the fact that many of these forms are only emerging in normal development during the school-age years. Basic sentence forms are mastered during the preschool years, but the ability to conjoin and embed ideas grammatically emerges gradually, with some complex constructions not mastered until grade twelve or above. The learning disabled child faces the dual challenge of attempting to acquire the complexities of syntax and at the same time use them to coordinate ideas for purposes such as narrative production.

Syntactic Development

Brown (1973) longitudinally examined the acquisition of syntax in normally developing children between two and five years of age. Around a child's second birthday, words are combined to form simple two-to-three word combinations. By

three years of age, children produce three-to-seven word sentences that include complex constructions (Miller, 1981), including those that combine two or more semantic-syntactic relations within a single utterance (Bernstein, 1989). Syntactically, these complex sentences are made up of a main clause, two main verbs, and at least one embedded or conjoined clause (Owens, 1988; Skarakis-Doyle & Mentis, 1991). These complex sentences combine ideas, or propositions, to form relationships that connect or elaborate on a topic (Skarakis-Doyle & Mentis (1991).

Conjunction

One of the earliest complex sentence constructions to emerge in children's language is coordination (Bernstein, 1989). Many of the early two-word utterances, typically seen during Brown's (1973) Stage I of development, consist of a list of object names, such as "cup ball". In these early utterances the conjoining conjunction (e.g., and) is omitted; however, context supports the interpretation of "cup and ball" (Owens, 1988). By late Stage I most normally-developing children are beginning to link object names (e.g., "cup and ball") so that listeners no longer need to rely on context to interpret meaning. Clausal conjoining with "and" first appears in the language of most children by Brown's Stage V, or approximately 3 1/2 years of age (Lust & Mervis, 1980; Miller, 1981). A variety of relationships are differentially established through conjuctions by Stage V,

including "because", "so", "when", "or", "but", and "while", and the use of "if" to connect clauses begins to emerge (French & Nelson, 1985; Owens, 1988). The post-Stage V period generally finds normally-developing children using the connector "because" to conjoin clauses. Subordinating conjunctions such as "since", "as soon as", "before", "until", "even though" and "unless" are mastered during the school-age period (beyond an MLU of 5.0) (Menyuk, 1969; Owens, 1988).

Subordination

By late Stage V, children begin to use multiple embeddings within a single sentence (Miller, 1981). Subordinate clauses are embedded into the object position of sentences, and relative clauses attach to object nouns with a relative pronoun. Sometime after Stage V, most normally developing children begin to use a combination of conjoined and embedded clauses in their utterances (Owens, 1988). They also begin to use relative clauses attached to the subject of the sentence, and coordinate a series of relative clauses to express complex interrelationships of meaning between related ideas.

Conjunction and subordination increasingly are used within the same sentence at school age. Even though the conjunctive marker "and" primarily serves an additive function in complex sentences, it can also serve other functions (e.g., substitute for other conjunctive forms).

For example, "and" can be used to express temporal, causal, and contrastive functions in place of the subordinating conjunctions "when", "then", "because", "so", or "but" (Owens, 1988). In addition to conjoining clauses within sentences, the school-age child uses conjunctions to signal logical relations between sentences. Adverbial clauses consisting of conjuncts ("still", "as a result of", "to conclude") and disjuncts ("frankly", "perhaps", "yet", "however") begin to appear by six years of age and most are used by age twelve (Scott, 1984).

Pragmatic factors, such as the number of referents and contextual support for the intended meaning affect conjoining. Clausal conjoining is required in those situations where the need to distinguish between two or more referents is present (Owens, 1988). Narrative discourse represents a context of language use in which clausal conjoining is essentially obligatory. Narratives typically involve several characters whose identities, roles, and actions must be coordinated within and across sentences. Clausal conjoining, along with clausal embedding help to make stories comprehensible by linking related propositions, or ideas, within narrative discourse.

Embedded Structures

Subordinate clause embedding first appears during Stage IV (Owen, 1988). Brown (1973) described three types of embeddings in the order of their emergence: (1) object noun

phrase complements, (2) indirect or embedded wh-questions, and (3) relative clauses. Bloom, Lifter, and Hafitz (1980) linked the order of emergence of complement forms to the semantics of the verb. In their studies of complement constructions, Bloom and her colleagues (1980) found that complements emerge in the following order: Those linked to (1) **state** verbs (e.g., like, want); (2) **notice** verbs (e.g., look, watch); (3) **knowledge** verbs (e.g., know, think); and (4) **speaking** verbs (e.g., ask, tell). Like the complements, indirect or embedded wh-questions serve as objects of transitive verbs (e.g., I know where the children live).

Relative clauses restrict or qualify the meaning of another portion of a sentence (Bernstein, 1989). Two types of relative clauses are identified in the literature, that is, objective and subjective. Object relative clauses typically emerge after the fifth year (Menyuk, 1977) and serve as modifiers of the object. Subject relative clauses are later developing forms that appear sometime after the seventh year (Menyuk, 1977). These forms modify the subject in the main clause.

Of the three types of subordinate clauses, relative clauses are the last to appear. Investigators (Hunt, 1965; Loban, 1976; O'Donnell, Griffin, & Norris, 1967) examining written language samples have found that relative clause constructions occur with increasing frequency from Grade 3 through Grade 12. It appears that clausal embedding, at

least in the case of relativization, is a skill that children refine throughout their formal school experience.

Pragmatic Influences on Complex Sentence Production

Masterson and Kamhi (1991) studied the effects of sampling conditions on, among other things, the complexity levels of their subjects' sentences. The two investigators found that the sentences produced by their subjects were more complex when the subjects were telling stories, providing explanations, and providing unshared information than when they were referring to information present in the immediate context (1991). DeVillier (1982) maintained that children encode in their sentences only what they feel their listeners need to comprehend the message.

Pragmatic context also has been shown to influence children's use of certain embedded forms (de Villiers & Tager-Flusberg, Hakuta, & Cohen, 1979). De Villiers et al. (1979) found that relative clauses occur more frequently in those situations that demand specification of the referent. The narrative, with its multiple characters and hierarchical plot and subplots, represents a level of language that demands such specification. For example, a storyteller may use clausal embedding/conjoining for purposes of highlighting information about a character as in, "Margaret Ann was a very special little girl who loved to care for people", or for keeping reference to characters separate, as in "Jack was

disappointed about the test but Annabel was delighted!" and so forth.

Other researchers (Hunt, 1965, 1970; Klecan-Acker & Hedrick, 1985; Loban, 1976; O'Donnell, Griffin & Norris, 1967; Scott, 1988) have found that channel of expression (spoken versus written) influences children's use of complex sentences. For example, up to grade 8, school children use subordinate clauses more frequently in spoken language than in written language. After Grade 8, however, subordination occurs more frequently in written language (Loban, 1976; Skarakis-Doyle & Mentis, 1991).

Development of Complex Sentences in LD Children

While child-language investigators have studied complex sentence development in the normal-language population, researchers have virtually ignored clinical populations, such as the learning disabled (Klecan-Acker, 1985; Skarakis-Doyle & Mentis, 1991). Skarakis-Doyle and Mentis (1991) suggested that "Given the paucity of specific data on these forms [complex sentences], we are left to conclude little other than that complex sentences, like simple sentences, are acquired later, at a slower rate by children with language disorders than by normal children, and may be incompletely developed" (P.288).

Roth and Spekman (1989), however, found few differences between LD and nonLD children in their use of simple and complex sentence constructions produced within narrative

discourse. Roth and Spekman (1989) conducted a comprehensive analysis of syntactic complexity on the spontaneously generated stories of 46 LD and 47 nonLD children. They concluded that the groups had almost identical rates of correct usage and similar patterns of use on most of the 67 syntactic variables studied. Only one significant group difference was found among the variables analyzed. The nonLD group (93.26%) had a higher percentage of correct complex sentences than the LD group (86.57%). Roth and Spekman (1989) advised against interpreting this seven percentage-point difference as evidence of a syntax deficit in the LD population. In fact, Roth and Spekman (1989) cautioned that a correct usage rate of nearly 87% for complex sentences among the LD subjects could not be construed as a deficit. The investigators speculated that the discrepancy seen in the two groups' correct use of complex sentences may have been due to the atypical composition (i.e., high IQ) of their LD group. According to Kavale and Forness (1984), the average IQ of most LD samples is in the mid-90's. Because they were drawn from a private school for LD children, most of Roth and Spekman's (1989) subjects had a measured IQ of 110 and above on the WISC-R. This finding suggests that the stories produced by gifted children with learning disabilities may be very similar in microstructure to those generated by normal peers when the focus of analysis is complex sentence constructions.

Skarakis-Doyle and Mentis (1991) reported a case-study of a ten-year-old LD child, conducted over a two-year period. Of principal interest in the study was the child's use of complex sentence-forms in conversational discourse. The investigators found that the subject used fewer complete, complex sentence forms than either the age-matched or language-matched controls in the study, and made substantially more incomplete attempts at complex sentence productions. The results of this case-study suggests that complex sentence constructions present particular difficulty for the learning disabled child.

Summary

The microstructure of the narrative is the level at which the relationships of meaning between characters, objects, and their actions are established. Complex syntactic structures are required to coordinate and subordinate these ideas to tell a well-formed and coherent story. Even normally developing children show evidence of difficulty in narrative production because many of these complex syntactic structures are not yet part of the child's language system. Many of these constructions are not present in the early elementary years and only emerge gradually throughout the school years and into adulthood. Learning disabled children have a greater challenge because they lack facility with grammar and are slow to acquire many of the forms needed for fluent narrative production. Presently,

little research has been conducted examining the syntactic complexity used by LD children in narrative production, and essentially no information is available that specifically examines the subpopulation of gifted/LD children.

Elicitation Procedures and Narrative Performance

There is evidence that elicitation procedures affect narrative performance. McLeod and Hand (1989, cited in Jordan et al., 1991) found that elicitation tasks that provide little structure and support (i.e., spontaneous story generation), may result in the production of typical rather than optimal narratives. Typical narratives are those that children tend to produce in everyday situations. Optimal narratives reflect what children are capable of producing with support, as in story retelling tasks.

Normal-language children under spontaneous story generation conditions tend to produce narratives characterized by a highly explicit and literate style of language (Westby, 1984). Under story retelling conditions, where the child is asked to retell a story modeled for him/her by the examiner, normal-language children typically produce narratives that contain less explicit language and reflect an oral-language style (Westby, 1984). This language style is adopted because the narrator is aware that information about the story is shared-knowledge and, as such, does not require the same level of explicitness as the story generated without a model, the support of pictures, or input from the listener.

Channel-of-expression differences have been found in children's narratives. Previously cited researchers (e.g., Hunt, 1965, 1970; Klecan-Aker & Hedrick, 1985; Loban, 1976; O'Donnell, Griffin, & Norris, 1967; Scott, 1984) have found that up to Grade 8, certain complex sentence forms occur more frequently in spoken language than written language. However, after Grade 8, these complex sentence forms become more frequent in written language.

Summary

Gifted children with learning disabilities are an under-identified population, and information regarding the language of these children is limited to performance on standardized tests that measure discrete language skills. Essentially nothing is known about the ability of this population to use language to produce complex discourse using conventional structures such as story grammars for narrative production. The ability to use complex grammatical structures to coordinate and subordinate ideas within narratives at the level of microstructure also is unexplored. The existing literature derived from the general population of learning disabled children suggests that narrative production is a difficult form of discourse for these children, and that their ability to structure and express stories is impoverished compared to their normally developing peers. It is likely that a subpopulation of this group, or gifted/LD children, also experience difficulty with narrative

discourse. The few existing studies that have examined gifted/LD children are inconclusive in their findings and inadequate in their research design.

Research Questions

To date, the narrative language abilities of gifted/LD children is an essentially unexplored area of child-language research. Despite evidence that LD children experience significant difficulty understanding and producing narratives (Klecan-Aker & Kelty, 1990; Norris & Bruning, 1988; Page & Stewart, 1985; Roth & Spekman, 1986, 1989; Silliman, 1989; Strong, 1989; Strong & Shaver, 1991), few child-language investigators have extended their research to include gifted children with learning disabilities. The present study was designed to compare the narratives of gifted/LD children, produced across a variety of contexts, to those produced by nonLD/gifted children across similar contexts. To this end, the following research questions were addressed:

1. To what extent do the spontaneously generated oral stories produced by gifted/LD children differ from those produced by their nonLD/gifted counterparts?
2. To what extent do the spontaneously generated written stories produced by gifted/LD children differ from those produced by their nonLD/gifted counterparts?
3. To what extent do the retold oral stories produced by gifted children with learning disabilities differ from those produced by their nonLD/gifted counterparts?

4. **To what extent do the retold written stories produced by gifted children with learning disabilities differ from those produced by their nonLD/gifted counterparts?**

METHODS

This study examined the narratives produced by gifted children with learning disabilities and compared them to those produced by gifted children with no learning deficits across four narrative conditions. Two groups of ten children first generated and then recounted spoken and written narratives, with the order of presentation counterbalanced across the two tasks. The spontaneously generated narratives were elicited using story stems and the recounted narratives were produced immediately after listening to the complete stories. The resulting eighty narratives were subjected to both macrostructural (i.e., story grammar) and microstructural (i.e., complex sentence) analyses.

Subjects

Subjects of this study consisted of 20, thirteen-year old children (13;0 - 13;11 years), including ten identified as gifted normals (i.e., high achievers, consistent with their intellectual potential) and ten identified as gifted/LD (i.e., low achievers relative to their intellectual potential). All attended public or parochial schools in a rural southwest Louisiana parish and were enrolled in the eighth-grade. Subjects exhibited no known sensory, emotional, or physical handicaps and were native speakers of Standard American English. Cluster random sampling was used to assist in the selection of subjects for this study. This was achieved by first identifying all of the children in the

parish who met each of the group requirements (i.e., gifted/-LD or nonLD/gifted) and then randomly selecting ten children from each pool of potential subjects. Consent for participation in the study was obtained from the participating school system, parents of subjects, and the university's Institutional Review Board (IRB) (see Appendix A).

The Gifted/LD Group

The gifted/LD group was composed of three female and seven male eighth grade subjects. A profile of each subject is provided on Table 1. The group presented a mean chronological age of 13 years 5 months (range = 13;0 to 13;9 years). Six of the subjects were White, three were Black, and one was Hispanic. Performance of the gifted/LD subjects on the WISC-R ranged from High Average with a Full Scale IQ of 111, to Very Superior with a Full-Scale IQ of 143, with a mean of 128. Their verbal abilities, as indicated by their Verbal Performance score on the WISC-R ranged from a standard score of 118 (High Average) to 155 (Very Superior), with a mean of 128. The Test of Adolescent Language-2 (Hammill, Brown, Larsen, Wiederholt, 1987) also was used to measure verbal abilities. Each of the gifted/LD subjects performed within normal limits, with standard scores ranging from a low of 93 to a high of 129 (M = 114.8). Four of the gifted/LD subjects performed within the Superior category (two of them

Table 1

Profile of Subject Characteristics for Children Classified as Gifted/LD

Subject	CA	Race	Sex	WISC-R scores			TOAL
				Verbal	Perform	Full	ALQ
Gifted/LD							
1	13.2	W	M	133	128	133	121
2	13.4	W	M	139	139	143	100
3	13.9	B	F	118	101	111	93
4	13.5	W	M	155	121	144	129
5	13.6	W	M	131	111	124	119
6	13.5	W	M	139	132	140	107
7	13.8	B	F	116	106	112	112
8	13.8	H	M	143	120	136	121
9	13.0	W	F	128	105	120	117
10	13.3	B	M	143	90	120	129
X	13.5			128	115	128	115

were one point from the Very Superior category), three of the subjects performed within the Above Average category, and four of the subjects performed within the Average category.

The NonLD/Gifted Group

The nonLD/gifted group was composed of six female and four male eighth-grade subjects. A profile of each subject is presented in Table 2. The mean chronological age of the subjects was 13 years 3 months (range = 13;2 to 13;11). Nine of the subjects in the nonLD/gifted group were White and one subject was Black. Performance of the nonLD/gifted subjects on the WISC-R, as indicated by their Full Scale IQ scores, ranged from High Average (Full Scale IQ = 118) to Very Superior (Full Scale IQ = 139), with a mean of 128. Their performance on the verbal subtests of the WISC-R, indicated by the Verbal Performance score, was well above average, ranging from 118 to 139, with a mean of 128.3. On the TOAL-2 the nonLD/gifted subjects performed within normal limits, with standard scores ranging from a low of 96 to a high of 124 (M = 111). Two subjects performed within the Superior range, four within the Above Average range, and four within the Average range.

Subject Selection Criteria

For purposes of the investigation, the two groups of subjects were operationally defined and had to meet all of the criteria specified to be included in either the gifted/LD or nonLD/gifted group.

Table 2

Profile of Subject Characteristics for Children Classified as NonLD/Gifted

				WISC-R scores			TOAL
Subject	CA	Race	Sex	Verbal	Perform	Full	ALQ
NonLD/Gifted							
11	13.2	W	F	122	128	127	121
12	13.10	W	M	125	126	128	97
13	13.6	W	F	142	128	139	124
14	13.11	W	F	131	117	127	106
15	13.6	W	M	130	129	133	119
16	13.7	B	F	140	117	133	101
17	13.2	W	M	117	114	118	96
18	13.3	W	M	125	126	128	115
19	13.2	W	F	125	120	126	115
20	13.3	W	F	127	115	124	115
X	13.3			128	122	128	111

Gifted/LD

To be considered for selection to the group of gifted children with learning disabilities the children must have:

1. Met requirements of Louisiana Bulletin 1508 for the classification of gifted: To be considered gifted, an eighth-grade child must have an aptitude of at least two standard deviations above the mean (i.e., Full Scale IQ = 130 or above), or earn at least seven Standard Matrix points, with at least two points for aptitude (i.e., Full Scale = 123 or above), or earn at least six Standard Matrix points with the recommendations of pupil appraisal personnel (Appendix B).
2. Exhibited a significant discrepancy between intellectual ability and academic performance as reported by the gifted teacher. In addition,these subjects demonstrated at least a two-year history of academic difficulty in one or more subject areas (as verified by past report cards, reports from former teachers, written reports, or other sources of documentation).
3. Performed within normal limits on the standardized test of language Test of Adolescent Language-2 (Hammill, Brown, Larsen, Wiederholt, 1987).

NonLD/Gifted

To be considered for selection to the group of gifted children with no learning disabilities the children must have:

1. Been identified as gifted, using State of Louisiana standards (Bulletin 1508, 1981).
2. Demonstrated no significant discrepancy between their measured potential and academic achievement (i.e., report card grades and teacher-reports).
3. Performed within normal limits on the standardized test of language Test of Adolescent Language-2 (Hammill, Brown, Larsen, & Wiederholt, 1987).

Subject Selection Procedure

Subjects were identified and assigned to either the gifted/LD or nonLD/gifted group through a seven-step process. First, a list of all gifted children in the parish who met the age and grade requirements of this study was obtained (N = 61). Second, all children on this list were sent an invitation to participate, along with the appropriate informed consent forms for parents/guardians to sign. Third, a second list was compiled of those children whose parents/guardians agreed to their participation in the study. Fourth, each child's school demographic record was examined to determine if he/she met the basic selection criteria (e.g., Standard American English as the first language, normal sensory abilities). Fifth, the gifted teachers of

those children who met these minimum requirements were interviewed to obtain their assessment of each child's academic performance and to complete a high versus low achieving group identification task.

The high versus low achieving group identification task consisted of a forced-choice procedure. In this procedure, each teacher was given a set of index cards imprinted with the name of each of his/her students eligible for participation. The teachers were asked to assign each child to one of two groups: Higher Achievers/Lower Achievers. The cards containing the names of the children assigned to the higher achieving group following this sort were assigned to the gifted pool of potential subjects. The cards containing the names of the children assigned to the lower achieving group were sorted once more by the teachers. Again, the teachers were asked to assign the names to either a Higher Achieving group or Lower Achieving group. The children designated as the lower achievers by their teachers in this sorting round were assigned to the gifted/LD subject pool.

Sixth, the Test of Adolescent Language-2 (Hammill, et al, 1987) was administered to each potential subject. Those children who scored below normal limits (i.e., scores at or below one standard deviation from the mean) were to be eliminated from the subject pool. For this project it was desirable that even the children suspected as being gifted/LD be able to demonstrate that they possessed the prerequisite

grammatical and lexical skills to perform the experimental narrative tasks described in this study (Craig, 1991). At the completion of this task, thirty-five candidates were eligible for the nonLD/gifted pool and nine candidates met the gifted/LD criteria.

In step seven, ten children were to have been randomly selected from each pool; however, the number of eligible candidates necessitated that all of the children in the gifted/LD subject pool be selected for participation in this study. Consent was withdrawn for one subject, resulting in only eight of the children eligible for participation. To obtain the required number of subjects (i.e., ten) for the gifted/LD group, the decision was made to randomly select two children from the group of children designated as Low Achievers by their teachers on the first round of the sorting task but High Achievers on the second round. The teachers were then interviewed to determine if the assignment of these subjects to the gifted/LD group was an appropriate decision.

Ten nonLD/gifted subjects and two alternates were randomly selected from the pool of 35 candidates. Random selection was made using a table of random numbers (Edwards, 1962). Of the ten subjects selected to participate in this study, two declined to participate and one was no longer enrolled in the gifted program. One alternate also declined to participate. Consent was received for the remaining alternate to participate in the study but two more subjects

had to be selected from the nonLD/gifted pool to obtain the required number of subjects (i.e., ten). Again, random selection procedures, using the table of random numbers, were employed to select two additional subjects. Parental consent was received for both subjects to participate; however, one subject declined to participate. Another subject was then randomly drawn from the nonLD/gifted pool, and both parental and subject consent were received.

General Procedures

The study employed a standard group comparison research design to compare narratives produced by two groups of children: Gifted children exhibiting learning disabilities (i.e., Gifted/LD) and their high-achieving gifted counterparts (i.e., nonLD/Gifted). Story generation and retelling procedures were used to elicit narratives from each subject, resulting in two spontaneously generated original stories (spoken and written) and two recounted stories (spoken and written) produced immediately after listening to orally presented narratives. The order of presentation was counterbalanced across the spoken and written tasks.

Spontaneous Story Generation Task

Story stems were used to elicit the spontaneously generated original stories from each subject. The two stems used in this study were single-sentence statements that introduced the main protagonist(s) and provided brief setting information. The story stem for the oral task was "Once

there was a young girl who lived in the swamp with her grandfather" and the stem for the written task was "Michael and Jerry were best friends in school." Topic familiarity was the rationale for selecting these two stems for the current study. In the first stem, the physical location, or setting, is the swamps which is familiar to most southwest Louisiana adolescents. Also, because the extended family is an integral part of southwest Louisiana culture, it was felt that the subjects involved in this study would have no trouble developing a story about a child being reared by a grandparent. The second stem suggests a theme of friendship that most adolescents have no difficulty developing. Spoken and written stories were elicited from each subject on an individual basis in a quiet, nondistracting environment. Following Merritt and Liles' (1989) procedure, the story generation tasks were presented before the story recounting task for all subjects, with the order of presentation counterbalanced across the spoken and written tasks.

Spontaneous Oral Story

The researcher introduced the oral story generation task by saying: "I'm going to start a story and I want you to finish it. Take your time and make your story like one I'd find in a book. Listen (presented story stem). When you're ready, share your story with me but remember to make it like one I'd find in a book." Instructing the subject to make the

story like one found in a book has been found to result in literate-style narratives (Westby, 1984).

In the event that the subject's attempt was not a true story narrative (e.g., description) or was not the subject's own story (e.g., retelling a familiar story) it was excluded and the investigator then presented the story task again: "Let's try again. I'll start the story and you finish it. Listen...". This was repeated until the subject succeeded at producing a narrative. Once the subject started a story, the investigator refrained from interrupting the subject. Prompts (e.g., "Go on", "You're doing fine") were used as needed to encourage completion of the story task. The stories produced by the subjects in both groups were of story genre on the initial presentation of the task and therefore, prompts were not necessary. The generated spoken stories were audiotaped for later transcription and analysis.

Spontaneous Written Story

Each subject also was asked to generate a written story. The written story was elicited in much the same manner as described above. The examiner introduced this task by saying: "I want you to write a story. I'll start the story and you finish it. Take your time and make your story like one I'd find in a book. Listen (present story stem). When you're ready, write your story here (gesture to paper) but remember to make it like one I'd find in a book". In the event that the written attempt was not of story genre or not

an original story, it was excluded and the examiner presented the task again: **Let's try again. I've already started the story. I want you to finish it. Remember, make it like one I'd find in a book."** The stories produced by the subjects in both groups were of story genre on the initial presentation of the task and therefore, prompts were not necessary. The written stories were collected from each child and saved for later typing and analysis.

Story Recounting Task

The spoken and written recounted stories were collected from each subject on an individual basis in a quiet, nondistracting environment. Two stimulus stories, orally told without the support of pictures, were used to elicit a spoken and written narrative. The stimulus stories were appropriate for thirteen-year-old children in that the internal structure of each reflected an age-appropriate theme and story grammar organization. Both stories were folk tales from culturally different groups (i.e., Hawaiian and Puerto Rican). Folk tales, especially those from nonmainstream groups, are of particular interest to adolescents (Peterson & McCabe, 1983). Although neither story contained embedded episodes, both contained multiple episodes, many of which were complex (i.e., complete episodes that are elaborated on to include multiple plans, attempts, and/or consequences). By early adolescence, most children learn to comprehend

formulate embedded and even multiply embedded episodic stories (Applebee, 1978). Stories containing multiple complex episodes are understood and produced just before adolescence (Westby, 1993).

The story used for the oral retelling task, "The Stone Dog", contained 66 T-units and four episodes, none of which were complex (i.e., containing obstacle(s) that the main character must overcome before s/he can reach the desired goal). Twenty-three of the T-units in this story were judged to be grammatically complex. For the written recounting task, the story "Battle of the Goddesses" was used. This story contained 60 T-units and five episodes. None of those episodes were complex. Twenty-five of the T-units in this story were grammatically complex.

Orally Recounted Story

For the oral recounting condition, subjects were instructed to listen carefully as the examiner read the stimulus story because they would be asked to later retell it to the examiner. The examiner introduced the oral task by saying, "Listen carefully. I'm going to read a story to you. When I'm finished, I want you to tell the story back to me in your own words. So, pay close attention. Listen: (presentation of story). The examiner read the story with appropriate inflection and at a pace typical of a classroom presentation. Following the initial reading of the story, the examiner instructed the child to retell it: "Now, when

you're ready tell that story back to me in your own words." Once the retelling began, the investigator refrained from interrupting the child. Prompts (e.g., "Go on", "Just do the best that you can") were used as needed to encourage subjects to complete the task. Again, in the event that the child's attempt was not a true story, it was excluded and the examiner then presented the task again: "Let's try again. I'll read the story again. When I finish, you tell the story back to me in your own words." All of the subjects included in the present investigation were able to complete the oral retelling task on the first try. Each oral retelling was audiotaped for later transcription and analysis.

Written Recounted Story

Written recountings were elicited in much the same manner as the orally retold stories. Following the investigator's presentation of the stimulus story, each subject was directed to write his/her version of the story. The examiner introduced this task by saying: "I'm going to read you a story and when I finish I want you to write the story in your own words. Listen (presentation of story). When you're ready, write your story here (gesture to paper). Any attempt that was not a true story (i.e., description) was excluded and the examiner presented the task again: "Let's try again. I'll read the story again. When I finish, you write the story back in your own words." The written

recounted story samples were collected from each subject for typing and analysis.

Procedures for Story Grammar Analysis

Each of the four stories obtained from each subject (i.e., two oral stories and two written stories) were analyzed for the presence of narrative components and organization of the story grammar, or a macrostructural analysis. This analysis allowed for an evaluation of the overall completeness and coherence of the narrative.

Transcription

The subject's oral and written story samples were prepared for coding and analysis by transcribing (oral stories) or typing (written stories) each narrative verbatim using standard English orthography. In the case of the written samples, invented spellings were replaced with conventional spellings whenever possible.

Analysis of the Macrostructure

The transcribed stories were analyzed by parsing the stories into different elements of story grammar and calculating the mean number of occurrences of each type of story grammar structure. The procedures for each component analysis are described below, and include the following structures: 1) the mean number of T-units; 2) the mean number of complete episodes produced; 3) the mean number of incomplete episodes produced; 4) the mean number of initiating event statements produced; 5) the mean number of

internal response statements; 6) the mean number of attempt statements, 7) the mean number of direct consequence statements; 8) and the mean number of reaction/resolution statements. These eight structures served as the dependent variables for the macrostructural analysis.

Segmentation into T-Units

Each story was segmented into minimal terminal units (T-units), as described by Hunt (1965). A minimal terminal unit, or T-unit, is a single, independent clause and any subordinate clauses grammatically attached to it. For example, the sentence "**The girl never liked water and she certainly did not like living in the swamp with her grandfather**" is made up of <u>two</u> T-units because it contains two independent clauses:

1) the girl never liked water\
2) and she certainly did not like living in the swamp with her grandfather\

The next sentence, although long, is counted as one T-unit because it contains one independent clause and two dependent linguistic attachments: "**She lived with her grandfather all her life and never really knew her parents who had died in a car accident when she was very young.**" Sentences representing phrasal coordination (i.e., independent clause linked to a phrase with a conjunction, such as "and") are counted as one T-unit: "**They were never found apart and always went everywhere together.**" The results of this

analysis yielded the total number of T-units produced for each of the four oral and written stories.

Story Grammar Categories

Each T-unit was assigned to a story grammar category (e.g., setting, initiating event). The information given in each T-unit was judged to perform one or more of the structural functions defined on Table 3. See Appendix C for samples of stories coded for story grammar category.

Episode Units

Each story was segmented into episode units (minimally consisting of initiating event and/or internal response, attempt, and statement(s) of direct consequence). Each episode was judged as complete (i.e., containing the minimal story grammar components listed above) or incomplete (i.e., lacking one or more of the minimal story grammar components listed above).

Procedural Guidelines For Analysis

With some exception, the procedural guidelines described by Merritt and Liles (1987) for the analysis of generated and recounted stories were used. Segmentation of the samples into T-units, rather than main and subordinate clause units, is a major departure from the Merritt and Liles (1987) procedure. The following steps are paraphrased from Merritt & Liles (1987, P. 550) and were followed in the story grammar analysis of the generated story samples:

Table 3

Descriptions and Examples of the Eight Story Grammar Categories Used in the Analysis of Narratives

CATEGORY	DESCRIPTION
SETTING	Establishes important context, including introduction of characters, location, time, and habitual state or usual events. Example: "Michael and Jerry never would fight because they were close"
INITIATING EVENT	Situation or event that causes the main character(s) to engage in goal directed behavior. Example: "All of a sudden the boy disappeared"
INTERNAL RESPONSE	
State	Internal motivations, feelings, and cognitions of major character(s) that lead to goal-directed behavior. Example: "Jerry wanted to find his friend"
Plan	Steps that the major character(s) plan to take to attain the goal. Example: "She would take a gun, steal the pirogue, and slip away"

(table con'd.)

ATTEMPT	Steps the major character(s) actually takes to attain goal. Example: "He went to their hideout to find Michael"
CONSEQUENCE	Attainment or nonattainment of the goal. Example: "Michael found his friend alive"
REACTION/ RESOLUTION	Major character(s)' reaction to the attainment/nonattainment of the goal; also, any actions or behaviors that result from direct consequence. Example: "He cried with joy" "She promised never to leave again"
ENDING	A statement that signals the end of the story by summarizing the story, offering a moral or, as is the case in folk-tales, providing an explanation for some natural phenomenon. Example: "Sometimes patience is not a virtue" "There he sits today for everyone to see", waiting for his master to return" "If Pele is displeased with those she meets, an eruption follows"

1. T-units that were repetitions of story stems (in the story generation task) were counted and assigned to the setting category.
2. T-units that met criteria for more than one story grammar category (e.g., setting and initiating event) were assigned to both categories.
3. Excluded from analysis were false starts, dysfluencies and fillers, and incomplete utterances.
4. In addition, the following were excluded from analysis:
   a. any statements unrelated to the story (e.g., "Sometimes my stories aren't very interesting"; "I got one now").
   b. any statements that repeated information already expressed.
   c. ending codas (e.g., "The end"; "That's all")
   d. statements that contained nonspecific information, making it difficult to assign the statement to an appropriate story category, either because of an unclear referent or because the information did not make sense in the context it was communicated.
   e. statements that did not fit into any of the story grammar categories
   f. statements that contained contradictory information:

In T-unit #12, the subject said,

"The girl and her parents were rushed to the hospital and put in the intensive care unit"/

Later, in T-unit #16 the subject contradicted herself:

"Her father died immediately at the accident scene"/

T-units elicited during the recounting task were considered for analysis if they could be assigned to a specific story grammar category. In addition, the T-units had to contain information found in the original story although a verbatim recall was not required. For example, a subject could say "The girl did not like frogs", rather than "The girl hated frogs." In this example, the semantic content is the same, so the subject's version is acceptable. Following Merritt and Liles' (1987) example, only those retold statements that expressed the same story information (e.g., initiating event, internal response plan) were considered for analysis. The following general scoring procedures were utilized in the story grammar analysis of the retold narratives:

a. only one statement was scored when a subject used two or more clauses to express information that had been presented in only one statement in the original story.

b. if a subject used one clause to express information conveyed in two separate statements from the original story, and two distinct story categories are expressed the statement was scored in both categories.

c. when a statement was expanded upon later in the retold story, or self-corrected, only the expanded/corrected version was scored. Word-finding errors were not penalized.

d. syntax errors were not penalized.

Excluded from consideration were statements that reflected any of the following conditions:

a. general comments or questions unrelated to the story ("I'm not sure if that's her name").

b. repetition of information conveyed in a previous statement that does not reflect any new, or additional information.

c. unfinished statements that convey an incomplete information.

d. false starts.

e. ending codas.

f. unclear statements in which the information was not specific enough or irrelevant to the plot of the developing story.

g. extraneous information not presented in the original story

h. statements that conveyed only part of the information in the original story.

i. statements conveying information that was assumed or implied in the original story.

j. statements presented in the wrong sequence such that a different intent and story category is expressed relative to the original story.

Procedures for Complex Sentence Analysis

The T-units of each story were examined for grammatical complexity, or a microstructural analysis. T-units judged to be complex sentence attempts were assigned to one of two categories: successful complex sentence attempt or failed complex sentence attempt. Successful complex sentence attempts were those T-units that were well-formed and grammatically correct complex sentence attempts. Failed complex sentence attempts were those T-units that were agrammatical attempts at complex sentence construction. Data were collected on the mean number of successful complex sentence attempts and the mean number of failed complex sentence attempts.

Complex Sentence Categories

Complex sentences were considered to be those T-units that consist of one main clause and one or more subordinate clauses (e.g., Although the girl did not want to leave her grandfather, she did go) (Liles, 1987). To be a clause (independent or subordinate), it must contain a subject and

predicate (Liles, 1987). Therefore, T-units made up of a main clause and phrase structures (e.g., prepositional phrases, infinitive phrases) were not considered. The grammatical constructions found in Table 4 were specifically considered to be necessary for a T-unit to be classified as complex. See Appendix D for examples of stories coded for sentence complexity.

Reliability

Twenty-five percent (25%) of the total number of story samples collected (i.e., 20 stories) were selected at random to measure interexaminer reliability at each phase of data collection (i.e., transcription, segmentation of examples into T-units, and coding). Five stories from each of the four story conditions were randomly selected for reliability checking.

Transcription, segmentation, and coding of the samples was independently conducted by two trained scorers, both of whom had prior experience with the segmentation and coding procedures utilized in this study. One scorer, a graduate assistant enrolled in Communicative Disorders, transcribed and segmented the oral samples into T-units. The graduate assistant also typed and segmented the written samples. The other scorer was a supervisor in a university speech, language, and hearing clinic, who had over seven years experience as a clinic supervisor.

Table 4

Descriptions and Examples of Categories of Complex Sentences Used in the Analysis of Oral and Written Narratives

Structure	Description/Examples
Object Clause	A subordinate clause that is the direct object of the verb in the main clause. Example: "I like how you did that"
Subject Clause	Serve as the subject of the main clause. Example: "That she is happy is obvious"
Embedded question	Clauses that convey incomplete or implied content and use a question word in its place Example: "They know what the girl did
Infinitive clause	Subordinate clauses that contain infinitives. These generally are clauses with indirect objects. Examples: "I need you to go with me today"
Adverbial clause	Provide background information (e.g., time, location) for the

(table con'd.)

	action or state in the main clause. Begins with a subordinate conjunction. Example: "The monster screamed <u>like a banshee in the night</u>"
Relative clause	Specifies some information about an element (i.e., subject, object, or complement of the main clause) named by a noun or pronoun. Generally introduced with relative pronouns (i.e., that, who, which) Example: "<u>After they rested</u>, they started their hike" "The boy <u>who was no longer my friend</u>, tried to get me in trouble with the teacher"

Reliability was calculated by comparing the experimenter's scores to the observer's scores on a point-by-point basis. The following formula was used in computing the percentage of agreement between the experimenter and the observer:

$$\% \text{ Agreement} = \frac{\text{Agreements}}{\text{Agreements} + \text{Disagreements}} \times 100$$

Training for Analysis and Scoring Procedures

The principal investigator conducted two training sessions for each of the two independent scorers. Training session one was designed to train the graduate assistant to segment the samples into T-units as described in this study. The decision was made to use basal-reader stories from a middle-school text during this training phase rather than the actual samples elicited from the subjects because the basal stories were well-formed and lacked the sentence-level and/or text-level problems that might be found in the stories produced by the subjects. Thus, it was felt that by using the published stories, the scorer could attend to the scoring protocol utilized in this study and not be distracted by the macrostructural and/or microstructural problems often found in poorly-formed stories. Training continued until at least 90% agreement was reached between the principal investigator and the independent scorer on the segmentation of a complete story into T-units. Training session two was a follow-up to session one. A new story was presented and an interjudge reliability of 95% was reached without discussion.

Training session three was conducted for the second independent scorer who was charged with the responsibility of independently segmenting text into episodes, assigning the T-units to appropriate story grammar categories, and identifying the complex sentences in each story. In this session, stories found in the bodies and appendices of

published research papers (e.g., Merritt & Liles, 1987; Roth & Spekman, 1986; Westby, 1993) were used. The advantage of starting with these stories in the training sessions, rather than the basal stories, is that they had already been segmented into T-units (or clauses) and those units were already assigned to story grammar categories. Any time the principal investigator and/or the independent scorer deviated from the research stories in their scoring decisions, they would refer the manuscripts to understand the nature of their error. Once the principal investigator and the independent scorer had at least 90% agreement on story grammar assignment, training session four was held. In this session, a middle-school basal-reader story was introduced. An interjudge reliability of 90% was reached for the assignment of the T-units to story grammar categories; 100% agreement was reached for segmentation of the story into episodes; and agreement between the independent scorer and principal investigator was 98% for the identification of complex sentences in the story.

Analysis and Scoring For Reliability

Each independent scorer randomly selected 50% of the stories produced by subjects in the study (i.e., five oral spontaneous stories, five written spontaneous stories, five oral retold stories, and five written retold stories). These stories were reanalyzed to establish the reliability of the transcription or typing, segmentation into T-units,

assignment to story grammar categories, and analysis of complex sentences. All samples were devoid of any identifying information (e.g., group membership, name of subject).

Transcription and T-Unit Segmentation

In the case of the oral samples, the principal investigator and independent scorer (graduate assistant) listened to the audiotapes and transcribed each target story verbatim using standard English orthography. An interjudge reliability of 96% was obtained for transcription and 96% for T-unit segmentation. The written story samples were typed and segmented into T-units. Agreement was reached at 100% for typing and 95% for T-unit segmentation.

Story Grammar Assignment

Prior to the rescoring session, each story had been segmented into T-units, and scored by the principal investigator. The independent scorer was given copies of the segmented stories to rescore according to the criteria outlined on Table 3. The range of agreement between the independent scorer and the principal investigator on the assignment of T-units to story grammar categories was 90-100% on all 20 samples.

Complex Sentence Assignment

The same story samples randomly selected and rescored for story grammar also were reanalyzed for the presence of complex sentences. Prior to the scoring session the samples

were typed and segmented into T-units, and scored by the principal investigator for complex sentences. For each story, the independent scorer was instructed to identify complex sentences by highlighting each sentence that fit the description provided on Table 4. The range of agreement between the independent scorer and the principal investigator on the identification of complex sentences was 94%-98% on all 20 samples.

Statistical Treatment of the Data

Four separate multiple analysis of variance (MANOVA) procedures were conducted to determine if significant differences existed between the gifted/LD subjects and the nonLD/gifted subjects in the production of stories across four combinations of conditions: (A) spontaneously generated oral story production, (B) spontaneously generated written story production, (C) retold oral story production, and (D) retold written story production. The dependent variables were grouped along these four separate combinations of conditions. For each of the four analyses, the dependent variables were Story Length, as defined by (1) number of T-units; Episodic Integrity, defined as (2) number of complete episodes, (3) number of incomplete episodes; Story Grammar components including (4) number of initiating event statements, (5) number of internal response (state) statements, (6) number of internal response (plan) statements, (7) number of attempt statements, (8) number of

direct consequence statements, (9) number of reaction/resolution statements, (10) number of setting statements, (11) number of ending statements; and Grammatical Complexity, measured by the (12) number of successful complex sentence attempts, and (13) number of failed complex sentence attempts. Group membership (i.e., gifted/LD and nonLD/-gifted) served as the independent variable for all four MANOVA analyses.

RESULTS

Multivariate analyses of variance (MANOVA) were conducted to compare the storytelling performance of two groups of subjects: gifted/LD and nonLD/gifted adolescents. These two groups were compared on multiple dependent measures including: Story Length (number of T-units), Episodic Integrity (number of complete and incomplete episodes), each of eight Story Grammar categories, and Sentence Complexity (number of successful complex sentence attempts and number of failed complex sentence attempts). The results of the MANOVA are discussed relative to the four research questions posed in chapter one.

Spontaneously Generated Oral Stories

Question: To what extent do the spontaneously generated oral stories produced by gifted children with learning disabilities differ from those produced by their nonLD/gifted counterparts?

The spontaneously generated oral stories were compared on a combination of thirteen dependent variables used to measure Story Length, Episodic Integrity, Story Grammar, and Sentence Complexity. The means and standard deviations for the groups of gifted/LD and nonLD/gifted subjects on each of the dependent variables is provided in Table 5.

Comparison of Story Length, as measured by T-units produced in the oral stories showed that the stories produced

Table 5

Comparison of Means and Standard Deviations for Gifted/LD and NonLD/Gifted Groups on Thirteen Measures of Spontaneously Generated Oral Stories

Dependent measures	Gifted/LD		NonLD/Gifted	
	Mean	SD	Mean	SD
Story Length				
T-unit	26.80	20.18	39.70	28.44
Episodic Integrity				
Complete	2.30	1.89	3.30	1.77
Incomplete	.70	.82	.60	.70
Story Grammar				
Init. event	4.00	3.23	6.00	5.58
Inter. state	3.00	2.36	5.20	4.52
Inter. plan	.10	.32	.20	.42
Attempt	5.00	4.74	5.60	3.34
Consequence	7.30	6.43	10.00	7.17
Reaction	2.10	2.60	4.40	3.95
Setting	7.80	9.71	9.70	11.81
Ending	0.00	0.00	.20	.42
Sentence Complexity				
Successful	6.30	6.43	11.10	4.15
Failed	1.10	1.20	.80	1.55

by the nonLD/gifted children in this sample were longer (M = 39.7) than those produced by the gifted/LD subjects (M =

26.8). The standard deviations of both groups were large (sd_N = 28.4 and sd_{LD} = 20.2, respectively), reflecting stories that ranged from 11 to 104 T-units produced by the nonLD/gifted group, and from 7 to 59 T-units for the gifted/LD group (see Table 5).

Comparison of Episodic Integrity, as measured by the number of complete and incomplete episodes produced reflected a greater number of complete episodes and fewer incomplete episodes produced by the nonLD/gifted group (M_N = 3.3; M_{LD} = .6) compared to the gifted/LD group (M_N = 2.3; M_{LD} = .7) (see Table 5).

Comparison of the categories of Story Grammar showed that the nonLD/gifted children in this sample produced stories that included a greater number of each of the eight categories of narrative structure than did the gifted/LD subjects (see Table 5). Both groups included all eight categories in their stories, with the exception of endings which were never produced by the gifted/LD group and rarely were included by the nonLD/gifted subjects (M = .2). Attempts to solve a problem occurred with nearly equal frequency in the stories told by the two groups (M_N = 5.6; M_{LD} = 5.0), but the nonLD/gifted group included the consequences of the attempt more frequently (M_N = 10.0; M_{LD} = 7.3). Considerable variability in the inclusion of story grammar categories was present within groups, as reflected by relatively large standard deviations for many variables.

Sentence Complexity used to express the relationships of meaning between the ideas in the story was measured by the number of grammatically correct complex sentences produced, and the number of complex sentences containing grammatical errors that were attempted. The group means indicated that the nonLD/gifted students produced nearly twice as many grammatically complex sentences compared to the gifted/LD group (M_N = 11.1; M_{LD} = 6.3), with fewer ungrammatical attempts (M_N = 0.8; M_{LD} = 1.1).

The significance of the group differences was examined by comparing the groups for each of the thirteen dependent variables using a Multivariate Analysis of Variance (MANOVA). The results of the MANOVA (Wilks' Lambda) revealed a main effect for group [F = 10.29, df = 13, 6, p = .0046], suggesting that the spontaneously generated oral stories of the gifted/LD subjects were significantly different from those produced by the nonLD/gifted subjects when compared on the multiple dependent measures.

A series of univariate analyses were conducted to examine differences between groups for each of the outcome measures. A summary of the thirteen dependent measures is presented in Table 6. Story Length was measured by the number of T-units produced following the Merritt and Liles (1987) procedure, which deleted any T-units that presented contradictory information. When the gifted/LD subjects and the nonLD/gifted subjects were compared on the mean number of

Table 6

Summary of Results of Univariate Analyses for Dependent Measures of Spontaneously Generated Oral Stories

Dependent measures	df	SS	MS	F-VAL	P
T-unit	1	832.05	832.05	1.37	.2573
Complete	1	5.00	5.00	1.50	.2372
Incomplete	1	.05	.05	.09	.7730
Init. event	1	20.00	20.00	.97	.3395
Inter. state	1	24.20	24.20	1.87	.1889
Inter. plan	1	.05	.05	.36	.5560
Attempt	1	1.80	1.80	.11	.7472
Consequence	1	36.45	36.45	.78	.3868
Reaction	1	26.45	26.45	2.37	.1415
Setting	1	18.05	18.05	.15	.6989
Ending	1	.20	.20	2.25	.1510
Successful	1	115.20	115.20	3.94	.0628
Failed	1	.45	.45	.24	.6338

T-units produced, no significant difference was found [F = 1.369, df = 1,18, p = .2573].

When the gifted/LD subjects and nonLD/gifted subjects were compared on Episodic Integrity, including the mean number of complete episodes [F = .086, df = 1, 18, p = .7730] and the mean number of incomplete episodes [F = 1.495, df = 1, 18, p = .2372], no statistical differences were found.

Story Grammar was evaluated by comparing the gifted/LD and nonLD/gifted subjects on eight categories of narrative structure. No statistical differences were found between the groups for any of the eight categories, including the mean number of initiating event statements [$F = .963$, $df = 1, 18$, $p = .3395$]; the mean number of internal response statements [$F = 1.865$, $df = 1,18$, $p = .1889$]; the mean number of internal plan statements [$F = .360$, $df = 1, 18$, $p = .5560$]; the mean number of attempt statements [$F = .107$, $df = 1, 18$, $p = .7472$]; the mean number of consequence statements [$F = .787$, $df = 1, 18$, $p = .3868$]; the mean number of reaction statements [$F = 2.365$, $df = 1,18$, $p = .1415$]; the mean number of setting statements [$F = .154$, $df = 1,18$, $p = .6989$]; or the mean number of ending statements [$F = 2.250$, $df = 1,18$, $p = .1510$] (see Table 6).

Sentence Complexity was examined by comparing both grammatically correct complex sentences and attempts to produce complex sentences that contained grammatical errors. Results indicated that there were no statistical differences between the groups on either the mean number of successful complex sentence attempts [$F = 3.935$, $df = 1,18$, $p = .0628$], or the mean number of failed complex sentence attempts [$F = .235$, $df = 1,18$, $p = .6338$].

Spontaneously Generated Written Stories

Question: To what extent do the spontaneously generated written stories produced by gifted children with learning

disabilities differ from those produced by their nonLD/gifted counterparts?

The spontaneously generated written stories were compared on thirteen dependent variables used to measure Story Length, Episodic Integrity, Story Grammar, and Sentence Complexity. The means and standard deviations for the groups of gifted/LD and nonLD/gifted subjects on each of the dependent variables is provided on Table 7.

Comparison of Story Length, as measured by T-units produced in the written stories showed that the stories produced by the nonLD/gifted subjects were slightly longer (M = 28.4) than those produced by the gifted/LD subjects (M = 26.0). The standard deviations of both groups (gifted/LD and nonLD/gifted) were large (sd_{LD} = 17.51 and sd_{N} = 10.87, respectively), reflecting stories that ranged from 3 to 63 T-units produced by the gifted/LD subjects and from 13 to 44 T-units for the nonLD/gifted subjects.

Comparison of Episodic Integrity, as measured by the number of complete and incomplete episodes produced, reflected a greater number of complete episodes in the narratives of the gifted/LD subjects than in the narratives of the nonLD/gifted subjects (M_{N} = 2.1; M_{LD} = 1.6). Subjects in both groups averaged less than one incomplete episode per story (M_{N} = .30; M_{LD} = .80) (see Table 7).

Comparison of the categories of Story Grammar showed that both groups included all eight categories in their

stories, with the exception of ending statements which were rarely produced by the gifted/LD subjects (M = .20, sd = .63)

Table 7

Comparison of Means and Standard Deviations for Gifted/LD and NonLD/Gifted Groups on Thirteen Measures of Spontaneously Generated Written Stories

Dependent measures	Gifted/LD		NonLD/Gifted	
	Mean	SD	Mean	SD
Story Length				
T-unit	26.00	17.51	28.40	10.87
Episodic Integrity				
Complete	2.10	1.60	1.60	.70
Incomplete	.30	.48	.80	.92
Story Grammar				
Init. event	4.20	2.53	3.80	1.69
Inter. state	2.60	2.50	3.60	3.20
Inter. plan	.30	.95	.10	.32
Attempt	4.90	4.91	3.10	2.51
Consequence	6.20	6.89	6.40	3.50
Reaction	3.70	2.83	2.90	2.13
Setting	4.90	4.28	10.50	6.21
Ending	.20	.63	0.00	0.00

(table con'd.)

Sentence Complexity				
Successful	6.30	3.74	9.10	7.17
Failed	.30	.48	1.00	1.05

and never produced by the nonLD/gifted subjects. In addition, the group means indicated that the gifted/LD subjects, in some cases, produced more of the specific story grammar elements than the nonLD/gifted subjects. That is, the gifted/LD subjects produced more initiating event statements (M_N = 3.8; M_{LD} = 4.2), more internal plans (M_N = .30; M_{LD} = .10), a greater number of reactions or story resolutions (M_N = 2.9; M_{LD} = 3.7), and more ending statements (M_N = 0.0; M_{LD} = .20) than the nonLD/gifted subjects. The nonLD/gifted group included more internal response statements (M_N = 3.6; M_{LD} = 2.6), slightly more direct consequence statements (M_N = 6.4; M_{LD} = 6.2), and a greater number of setting statements (M_N = 4.9; M_{LD} = 10.5) than the gifted/LD group (see Table 7). Considerable variability in the inclusion of story grammar categories was present within groups, as reflected by relatively large standard deviations for many of the variables.

The Sentence Complexity used to express the relationships of meaning between the ideas in the story was measured by the number of grammatically correct complex sentences produced, and the number of complex sentences containing grammatical errors that were attempted. The group

means indicated that the nonLD/gifted subjects produced more grammatically complex sentences compared to the gifted/LD group (M_N = 9.1; M_{LD} = 6.3).

The significance of the group differences was examined by comparing the groups for each of the thirteen dependent variables using a Multivariate Analysis of Variance (MANOVA). The results of the MANOVA (Wilks' Lambda) failed to reveal a significant main effect for group [F = .837, df = 13, 6, p = .6322], suggesting that the spontaneously generated written stories of the gifted/LD subjects were not significantly different from those produced by the nonLD/gifted subjects when compared on the multiple dependent measures.

Retold Oral Stories

Question: To what extent do the retold oral stories produced by gifted children with learning disabilities differ from those produced by their nonLD/gifted counterparts?

The retold oral stories were compared on thirteen dependent variables used to measure Story Length, Episodic Integrity, Story Grammar, and Sentence Complexity. The means and standard deviations for the groups of gifted/LD and nonLD/gifted subjects on each of the dependent variables is provided on Table 8.

Comparison of Story Length, as measured by T-units produced in the oral retold stories, showed that the stories produced by the nonLD/gifted children were longer than those produced by the gifted/LD subjects (M_N = 22.7; M_{LD} = 15.0).

The stories varied in length from 6 to 24 T-units for the gifted/LD subjects and 13 to 36 T-units for the nonLD/gifted subjects.

Table 8

Comparison of Means and Standard Deviations for Gifted/LD and NonLD/Gifted Groups on Thirteen Measures of Retold Oral Stories

Dependent measures	Gifted/LD		NonLD/Gifted	
	Mean	SD	Mean	SD
Story Length				
T-unit	15.00	5.12	22.70	7.38
Episodic Integrity				
Complete	1.50	1.18	2.40	1.075
Incomplete	1.90	1.29	.90	.99
Story Grammar				
Init. event	3.40	1.58	4.70	1.49
Inter. state	1.10	1.29	2.40	1.51
Inter. plan	0.0	0.0	0.0	0.0
Attempt	2.20	1.03	2.90	1.66
Consequence	3.10	1.85	5.50	2.22
Reaction	.20	.42	.40	.52
Setting	5.50	2.72	6.90	2.77
Ending	.30	.48	.50	.71

(table con'd.)

Sentence Complexity				
Successful	3.60	1.84	6.20	2.20
Failed	.40	.70	1.30	1.83

Comparison of Episodic Integrity, as measured by the number of complete and incomplete episodes produced reflected a greater number of complete episodes and fewer incomplete episodes produced by the nonLD/gifted group ($M_{complete}$ = 2.4; $M_{incomplete}$ = .9) compared to the gifted/LD group ($M_{complete}$ = 1.5; $X_{incomplete}$ = 1.9) (see Table 8).

Comparison of the categories of Story Grammar showed that the nonLD/gifted subjects produced stories that included a greater number of each of the eight story grammar categories, with the exception of internal planning statements which were not produced by subjects in either group. As was the case with spontaneously generated oral stories, attempts to solve a problem occurred with nearly equal frequency in the stories told by the two groups (M_N = 2.20; M_{LD} = 2.90). Considerable variability in the inclusion of story grammar categories was present within groups, as reflected by relatively large standard deviations for many of the variables examined (see Table 8).

The Sentence Complexity used to express the relationships of meaning between the ideas in the story was measured by the number of grammatically correct complex sentences produced, and the number of complex sentences

containing grammatical errors that were attempted. The group means indicated that the nonLD/gifted subjects produced nearly twice as many grammatically complex sentences compared to the gifted/LD group (M_N = 6.20; M_{LD} = 3.60). The nonLD/gifted subjects, however, also had more failed complex sentence attempts than the gifted/LD subjects (M_N = 1.30; M_{LD} = .40) (see Table 8).

The significance of the group differences was examined by comparing the groups for each of the thirteen dependent variables using a Multivariate Analysis of Variance (MANOVA). The results of the MANOVA (Wilks' Lambda) failed to reveal any main effects [F = 1.24, df = 12,7, p = .3986], thus suggesting that there was no significant difference in the retold oral stories produced by the two groups when compared on the multiple dependent measures.

Retold Written Stories

Question: To what extent do the retold written stories produced by gifted children with learning disabilities differ from those produced by their nonLD/gifted counterparts?

The retold written stories were compared on the thirteen dependent variables used to measure Story Length, Episodic Integrity, Story Grammar, and Sentence Complexity. The means and standard deviations for the groups of gifted/LD and nonLD/gifted subjects on each of the dependent measures is provided in Table 9.

Comparison of Story Length, as measured by T-units in the written retold stories showed that the stories written by the nonLD/gifted subjects were longer than those written by the gifted/LD subjects (M_N = 19.6; M_{LD} = 13.5). The standard

Table 9

Comparison of Means and Standard Deviations for Gifted/LD and NonLD/Gifted Groups on Thirteen Measures of Retold Written Stories

Dependent measures	Gifted/LD		NonLD/Gifted	
	Mean	SD	Mean	SD
Story Length				
T-unit	13.50	6.43	19.60	6.26
Episodic Integrity				
Complete	.70	1.34	2.10	1.20
Incomplete	2.20	1.14	2.00	1.16
Story Grammar				
Init. event	3.10	2.56	4.50	2.42
State	1.10	1.00	3.00	1.05
Plan	.10	.32	0.00	0.00
Attempt	1.40	1.35	2.70	1.57
Consequence	3.70	2.45	5.50	1.78
Reaction	.70	.95	.50	.85
Setting	3.10	1.45	3.80	1.62
Ending	.50	.97	1.00	1.33

(table con'd.)

Sentence Complexity				
Success	5.20	4.94	7.00	2.58
Failed	0.00	0.00	.30	.48

deviations of both groups were relatively large (sd_N = 6.257 and sd_{LD} = 6.433, respectively), reflecting stories that varied from 10 to 28 T-units produced by the nonLD/gifted group, and from 3 to 25 T-units for the gifted/LD group (see Table 9).

Comparison of Episodic Integrity, as measured by the number of complete and incomplete episodes produced reflected a greater number of complete episodes produced by the nonLD/gifted subjects(M_N = 2.1; M_{LD} = .7). The retold written stories of both groups included an approximately equal number of incomplete episodes (M_N = 2.0; M_{LD} = 2.2) (see Table 9).

Comparison of the categories of Story Grammar showed that the nonLD/gifted subjects produced stories that contained a greater number of the eight story grammar categories than did the gifted/LD subjects (see Table 9). Both groups included all eight story grammar categories in their retold written stories. In particular, the nonLD/gifted subjects' stories were more likely to include a beginning, middle, and ending than the stories produced by the gifted/LD subjects. The nonLD/gifted subjects included more initiating event statements than the gifted/LD subjects (M_N = 4.5; M_{LD} = 3.1). They produced three times as many

statements of internal state than did the gifted/LD subjects (M_N = 3.0; M_{LD} = 1.1). Planning statements were rarely found in the stories of the gifted/LD subjects (M_{LD} = .10) and were never included in the stories written by the nonLD/gifted subjects. The nonLD/gifted subjects included attempt statements almost twice as frequently as the gifted/LD subjects (M_N = 2.7; M_{LD} = 1.4) to solve problems or attain a goal. Statements indicating the consequences of the attempt were found more often in the stories of the nonLD/gifted subjects than in the stories of the gifted/LD subjects (M_N = 5.5; M_{LD} = 3.7). Statements of reaction appeared minimally in the stories written by either group (M_N = .50; M_{LD} = .70). Considerable variability in the inclusion of story grammar categories was present within groups, as reflected by relatively large standard deviations for many of the variables.

Sentence Complexity used to express the relationships of meaning between the ideas in the story was measured by the number of grammatically correct complex sentences containing grammatical errors that were attempted. The group means indicated that the nonLD/gifted subjects used more grammatically complex sentences than the gifted/LD subjects (M_N = 7.0; M_{LD} = 5.2). Agrammatical complex sentences were rarely produced by the nonLD/gifted subjects (M_N = .30) and never produced by gifted/LD subjects.

The significance of the group differences was examined by comparing the groups for each of the thirteen dependent variables using a Multivariate Analysis of Variance (MANOVA). The results of the MANOVA (Wilks' Lambda) failed to reveal a main effect for group [$F = 2.564$, $df = 13,6$, $p = .1275$], suggesting that the retold written stories of the gifted/LD subjects were not significantly different from those produced by the nonLD/gifted subjects when compared on the multiple dependent measures.

Summary

The spontaneously generated oral stories told by gifted/LD children were significantly less complete and well-developed than those produced by nonLD/gifted children. This effect was achieved when all variables related to story length, episodic integrity, story grammar components, and sentence complexity were combined. While many large differences in the means were apparent for many of the independent variables, the standard deviations for both groups also were large and reflected the wide range of stories told by subjects in both groups.

Group differences were not significant for retold oral stories, spontaneously generated written stories, or recounted written stories when the combined variables were considered.

DISCUSSION

A subpopulation of gifted children exhibit learning disabilities, performing far below what their high IQ would predict in language-related academic areas such as reading, writing, and spelling. To date, language problems have not been implicated in these learning deficits because of the above average verbal scores received by these children on intelligence measures and standardized tests of language. But these measures of language have been criticized as failing to adequately reflect the complexities of language typically produced in a meaningful context of use. Language in context must be organized in coherent units of discourse, structured in accord with conventional patterns such as story grammars.

Narrative production has been shown to be sensitive to the language problems exhibited by children of average intellectual abilities who are learning disabled. These children have been consistently shown to produce shorter stories that exhibit fewer elements of story grammar and less complete episodic structure (Merritt & Liles, 1987, 1989; Roth & Spekman, 1986). However, the narrative abilities of gifted children with learning disabilities have not been systematically evaluated in comparison to high achieving gifted peers to ascertain whether language differences are apparent in connected discourse. This study represents an

initial exploration of the narrative abilities of gifted children with learning disabilities (gifted/LD) compared to gifted peers (nonLD/gifted). Specifically, thirteen-year-old eighth-grade students were evaluated for the macrostructure (i.e., story grammar) and microstructure (i.e., syntactic complexity) exhibited in their oral and written narratives.

The results of this study suggest that gifted children with learning disabilities do exhibit language deficits in connected discourse when producing spontaneous narratives. They appear to be less divergent from their peers when retelling narratives or when writing spontaneous or recounted stories. The differences in the spontaneous oral narratives compared to the other stories will be discussed in relationship to potential differences in the tasks as well as to limitations in the design of the study that could have contributed to these results. Implications for future research will be addressed which result from this study.

Language Deficits in Oral Narratives

The spontaneously generated oral stories produced in this study were found to be significantly different for the gifted/LD and nonLD/gifted subjects, with the gifted/LD subjects producing shorter stories that were impoverished in comparison to their peers. These results were obtained when the multiple dependent measures were considered in combination. While none of the variables were independently significant, when the *F*-values of these measures were

examined five variables contributed the most to these results. These five variables were the number of complete episodes produced, the number of statements referring to the internal state of the characters, the reactions of characters to the outcomes of their attempts to solve problems, the inclusion of an ending to the story, and the number of successfully produced complex grammatical structures.

The five variables represented potentially important aspects of narrative thought. Two of the variables, complete episodes and successful complex grammatical structures, focused on narrative form. They both reflect the ability to coordinate multiple ideas into a unit. Complete episodes indicate that the child successfully coordinated all elements of an event into one coherent whole. All information was given and correctly ordered so that the listener was given the characters, the problem, the actions taken to solve the problem, and the resolution. Complete episodes indicate the child did not shift topics or introduce new events until the episode was complete. NonLD/gifted children were able to maintain this coordination more times within a story than the gifted/ LD subjects of this study. The number of successful complex sentences indicated that the nonLD/gifted children also were able to coordinate more ideas into a single sentence.

The other three variables (i.e., internal states, reactions, and endings) focused on narrative content. These

aspects of story structure represent the most abstract levels of story knowledge. Large differences in the stories told by the gifted/LD and nonLD/gifted children were not apparent in variables reflecting concrete information, such as the physical setting of the story, the action that initiated an event, or the action that represented an attempt to solve the problem (i.e., physical causality). Instead, the large differences were noted on the variables that reflected an understanding of the psychological state of the characters, including the internal state of the character that led to goal directed action, the phychological reaction to the outcome of the attempt to achieve the goal, and the moral or overall conclusions derived from the events in the story.

The finding that gifted/LD children did differ from nonLD/gifted children in their spontaneous oral narratives was consistent with earlier findings demonstrating narrative language differences between LD and nonLD children (Merritt & Liles, 1987, 1989; Roth & Spekman, 1986). This suggests that the gifted population, like the general population, includes a small subset of individuals who exhibit learning problems and narrative discourse deficits. The two populations not only showed a general deficit in storytelling ability, but also showed similar profiles of deficits.

Roth and Spekman (1986) found that the stories of their LD subjects were shorter and contained significantly fewer

complete episodes than those of their nonLD subjects. Also, within an episode the stories told by the LD subjects were less likely to describe the internal state, plans, and attempt(s) of the major character(s), resulting in the omission of critical features of story episodes. Similarly, Merritt and Liles (1987) found significant differences between language-impaired and nonlanguage-impaired subjects. As a group the language-impaired subjects produced shorter stories that contained fewer complete episodes, and more incomplete episodes. In addition, the language-impaired subjects relied on fewer story grammar categories when spontaneously generating oral stories.

In this study comparing gifted/LD to nonLD/gifted subjects, the means for story length, episodic structure, story grammar, and sentence complexity reflected similar patterns of less well-developed stories for the gifted/LD subjects. All of the thirteen story measures were less favorable for the gifted/LD group, including fewer T-units, fewer complete episodes, fewer of each story grammar component, fewer complex sentences, and more incomplete episodes, and ungrammatical sentences. But the most discriminating variables were those that have also been found to be most deficient in the general LD population.

In their 1989 study, Roth and Spekman found a higher percentage of correct complex sentences in the stories of their nonLD subjects than those of their LD subjects. In

Skarakis-Doyle and Mentis' (1991) case-study of a ten-year old LD child, the subject was found to use fewer complete complex sentences during conversation than either the age-matched or language-matched controls in the study. The LD subject also made substantially more incomplete attempts at complex sentence productions. In the present investigation, the gifted/LD subjects exhibited a greater number of failed attempts, with group means indicating that they attempted 40% fewer complex sentences and made more grammatical errors in those attempted.

Fewer Differences in Retold Oral Stories

The orally retold stories of the gifted/LD children did differ from those of the nonLD/gifted students along most dimensions, but not significantly so. The means for retold stories produced by both the gifted/LD and nonLD/gifted subjects reflected fewer occurrences of seven of the eight story grammar categories compared to their spontaneous narratives. The relative occurrence of most story grammar categories in the retold stories paralleled those in the spontaneous stories, with the exception of ending statements which occurred more frequently in retellings for both groups of subjects.

One possible reason that the retold stories were not significantly different, even though the patterns of omissions paralleled those of spontaneous stories, relates to the nature of retold stories. Retold stories are comprised

of ideas that are originally developed, organized into episodes and sentence structures, and expressed by another speaker, and thus are qualitatively different from those spontaneously generated. Gifted children, in particular, might recall better stories than they can tell because of their excellent memory skills. While it might not occur to them to spontaneously consider the psychological state of a character, they might easily remember and thus recount this information in a retelling, whether or not they recognized the importance of this insight to the content of the story. Support for this was exhibited in findings such as the LD/gifted children did add story endings under this condition but not spontaneous telling, suggesting that hearing a story ending motivates subjects to include a formal termination.

While the greater inclusion of both the macrostructural and microstructural elements of the stories suggested that the nonLD/gifted subjects recalled more of the original story and organized their retellings more completely, the two groups did not differ significantly when compared on the combined dependent measures. These findings are consistent with those of Weeks (1974) who failed to find any significant differences in the retold oral narratives of her gifted versus gifted/LD subject. Weeks' (1974) study differed from the present study, however, in that it utilized a gist-recall task which focused on the accurate/inaccurate recall of information from the original story. Weeks (1974) did not

investigate any of the variables included in the present study, other than sentence construction. Also, complex sentence forms were not a specific target of her investigation. The results are not consistent with other studies that report significant differences in the retold oral stories produced by LD and nonLD subjects (Graybeal, 1981; Merritt & Liles, 1987, 1989). Perhaps the lack of giftedness did not allow the average child with a learning disability to benefit from hearing the stories using memory strategies.

Subtle Differences in Written Stories

The differences in the written stories between the two groups were more subtle and not significant. In the spontaneously generated stories, the length of the stories did not differ between the groups. This was primarily due to the nonLD children who produced a mean of 11 fewer T-units when their story was written, compared to the LD subjects who produced stories of equal length whether written or oral. The LD subjects also produced an almost identical number of complete episodes whether the story was oral or written (i.e., 2.3 versus 2.1), while the nonLD children decreased from a mean of over three complete episodes to only 1.6.

Exploring further lends some insights into some possible reasons for these differences. At the beginning of the writing process, the nonLD children were producing very elaborated, detailed stories. Their mean number of T-units

used to develop the setting was 10.5 (similar to the 9.7 they produced in the oral stories), compared to only 4.9 produced by the LD subjects. After the elaborate setting, their stories became far less elaborate, so that most of the story grammar categories were comparable in mean occurrence to those of the LD subjects, and far less than the means reflected in their oral stories.

These findings suggest that the properties of written language negatively affected the stories produced by the nonLD subjects, while affecting the LD children less. These properties include the relatively slow rate at which written language is produced, the motoric effort involved in writing, and the added processing required to spell as well as to generate the language of a story. Perhaps these task demands discouraged the nonLD subjects from writing down everything that they were thinking when they generated their stories. This was supported by the means related to incomplete episodes, which were almost three times higher for the nonLD subjects. It appears they started to develop an episode and then abandoned it more often than the LD children. This patterns was also seen in the production of complex grammatical sentences. The nonLD children wrote more of them than the LD subjects (10.1 versus 6.6) but also produced more incorrect sentences. The task demands affected the nonLD children's ability to coordinate complexity at both the sentence and the episode level while the change to the

written mode resulted in minimal differences for the LD subjects.

When the written stories had previously been told to the subjects, the nonLD children wrote stories that on the average were six T-units and two complete episodes longer than those produced by the LD children. This suggests that they were motivated to include all of the information presented in the story, as supported by the finding that they included more elements of all eight elements of story grammar except plans (minimally produced by either group) and reactions. These stories overall were shorter, largely accounted for by much shorter settings at the beginnings of stories (3.8 compared to 10.5). Thus, it appears that when they did not spend a large amount of time and effort writing a detailed setting, they were able to write more complete stories. The differences between the groups were consistent and in some cases fairly large on this task, but did not reach a level of significance.

When comparing the written stories of the gifted/LD subjects to the general LD population, the trends shown by the mean differences follow the same general profile. Ganschow (1986) examined the written stories of three gifted/LD subjects and found evidence of language deficits in story organization and grammatical structure. Skarakis-Doyle and Mentis (1991) found that language-impaired children acquire complex sentence forms slower and less completely

than normal-language children in written language. However, an earlier study conducted by Roth and Spekman (1989) failed to expose any significant differences between LD and nonLD subjects on any of the simple and complex syntactic forms examined in their study. The means of the gifted/LD subjects in this study indicated that fewer grammatically correct and more agrammatical sentences appeared in their written stories compared to the gifted peers.

Summary

The results of the present investigation indicate that narrative language problems may be present in the gifted/LD adolescent population when story length, episodic integrity, story grammar components, and sentence complexity are considered in combination. The finding of significance under the spontaneously generated oral storytellling condition, as well as the trends in the data, as reflected in large differences in group means, are in accord with previous findings of narrative problems in the general LD population. A comparison of specific aspects of story development showed that the largest differences were found on variables that measured the most abstract elements of story structure, and on those that examined the ability to organize ideas in sentence and episode units with complexity and coherence.

Although significant differences were not found in the written stories, the patterns of more impoverished stories that were present in the oral stories were also present in

the written stories. Evidence suggests that the demands of the task of writing affected the nonLD subjects to a much greater extent than the LD children and may have contributed to the nonsignificant differences. The nonLD subjects began by writing very elaborated beginnings to their stories, but then decreased their productivity to levels comparable to the LD children, suggested an effect related to getting "tired of writing".

Limitations of Study

The sample size of this study included only 20 subjects, ten from each group. The range of performance on many variables, as reflected in large within-group variability, limits the degree to which the interpretation of those results can be generalized. The intra-group variability observed in the data between the subjects suggests that the two groups may be more heterogeneous in composition than homogeneous. Such variability might have been minimized by a larger sample-size and by different subject identification criteria.

The population of potential gifted children with learning disabilities is limited in number and generally not identified because they are achieving adequately. To identify subjects as accurately as possible in this study, subject criteria was established. However, "learning disabilities" is an elusive condition to define and to assess. Furthermore, some of the subjects who were

originally selected for participation because of their placement in the lower quartile of all gifted students declined to participate, and they were replaced with students whose achievement was somewhat higher. These factors may have resulted in the inclusion of two subjects who were not gifted/LD and thus contributed to the heterogeneity of the groups. It may also account for the finding that there was some overlap in subject performance, with some of the subjects in the gifted/LD group at times performing more like some of the subjects in the nonLD/gifted group and vice versa. This overlap may have masked group differences that actually were present in one or more of the narrative tasks.

The small sample size also affected the power of the statistical measures used. The large number of dependent variables and multiple story conditions considered in the MANOVA required large differences for significance to be found with only 10 subjects. Thus, many of the large mean differences found between groups may have been more real than apparent, but did not show significance because of the small Ns used in the study.

Rigid conformity to procedural guidelines developed by other researchers (i.e., Merritt & Liles, 1987) for use with other populations of children also could have affected the outcome of this investigation. Failure to find significant results in the retelling tasks could be due to the decision to delete all T-units from consideration that contained

information that deviated in any way from the original stories. As a result, many of the retold oral and written narratives produced by subjects from both groups appeared to be poorly developed and organized. For example, some stories were credited with fewer T-units and complex sentences. Also, in some instances, episodes that were complete in the subjects' original versions were eventually scored as incomplete because critical elements (e.g., initiating event, attempt) were deleted.

In retelling stories, children often add new information and elaborate on old information provided in the original story. It appears that they are not just relying on story schema to aid them in the retelling task, but also their own prior experiences. Gifted children often have enriched experiences that provide them with a great deal of information to draw from when retelling stories. It is therefore expected that they might be prone to embellish their stories by adding information and elaborating on information provided in the original story. Reanalysis of the data to include these discarded T-units might result in different findings.

Future Research

The results of this study yielded several suggestions for future research. Only thirteen-year-old eighth grade students were included. Populations of other ages and grade levels should be evaluated to examine the generalizability of

these findings and to determine if there are developmental trends. Larger sample sizes at all age and grade levels would help to establish the reliability of the trends.

Examination of other types of discourse, such as exposition, should be conducted to add to the profile of language organization at both macrostructural and microstructural levels exhibited by gifted/LD and nonLD/gifted children. Factors that contribute to the well-formedness, such as the familiarity of the topic or amount of contextual support provided by pictures or other visual input should be examined.

The role of language in identifying learning disabilities in the gifted population should be pursued. It may be found that complex contextualized language may be one of the most discriminating factors and may help to disambiguate the problems now found when attempting to define and identify this population.

This study was largely quantitative, representing a first step in the analysis of the complex language of this population. The analyses should go beyond this descriptive level to include a qualitative analysis of the content of the stories, including the coherence of the plot, the concrete versus abstract nature of the ideas expressed, and the creativity shown in character and plot development.

Finally, these children are identified because of their low achievement relative to their gifted abilities. Teachers

currently are unsure of how to address these problems, in part because they are unsure of the source. Intervention studies that compare treatments will lend insights into the nature of and treatment for the problems exhibited by even highly gifted children placed in challenging language-learning situations.

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APPENDIX A: INSTITUTIONAL REVIEW BOARD FORMS

Dear Parents,

The Department of Communicative Sciences and Disorders, at Louisiana State University will be conducting a study of the language abilities of learning disabled/gifted children. The primary purpose of this study is to compare the language performance of gifted/LD children, on various language tasks, with normal-language, gifted children. It is therefore, necessary to include not only gifted/LD, but also normal-language, gifted subjects. This study will be under the direction of Mrs. Phebe Hayes, who will see each child (on an individual basis) at least once to administer a formal language test. The purpose of testing at this point is to determine if your child is eligible for continued participation in this project. This first session will take approximately 60 minutes. Those children found to meet selection criteria established for this study will be assigned to a subject pool. Ten children will then be randomly selected from this pool and a second session, not to exceed 30 minutes, with Mrs. Hayes will be scheduled. During this session, Mrs. Hayes will elicit four story narratives from each child which will be audiotaped for the purpose of transcribing and analyzing them later.

At no time will your child's identity be revealed to anyone involved in this research project but Mrs. Hayes. To assure this, an identification number will be assigned to each child selected to participate in this study.

All language samples will be collected in the children's schools by Mrs. Hayes. The children's classroom teachers will be consulted as to the most convenient time that the children can be pulled out of their classrooms.

It is hoped that the information collected in this study will be help educators and service providers working with the gifted to better identify and serve our learning disabled/gifted children. The results of this study will be shared with Louisiana school administrators, teachers, and service providers (e.g., Speech-Language Pathologists) through journal articles, workshops, and paper presentations at scholarly conferences.

If you are interested in your child participating in this project, please fill out and return the enclosed permission form as soon as possible to my work address at USL

(for your convenience, a stamped, addressed envelope is enclosed):

Phebe Hayes
Department of Communicative Disorders
University of Southwestern Louisiana
P.O. Box 43170
Lafayette, Louisiana 70504

If you have any questions, you may reach me during the day at 231-6721 or in the evenings at 365-0904.

Thank you for your interest in this project.

Sincerely,

Phebe Hayes
Principal Investigator

CONSENT FORM

TITLE: An Examination of the Spontaneously Generated and Retold Narratives Produced by Gifted/Learning Disabled Adolescents from an Integrated Perspective of Language Development

Dear Parents

INVITATION TO PARTICIPATE

Your child is invited to participate in a doctoral dissertation research project to help us learn more about the language abilities of gifted children with learning problems. Your child has been selected on the basis of his/her membership in the gifted population.

PURPOSE OF THE STUDY

Most children have no difficulty using spoken and written language to express themselves. As a doctoral candidate at Louisiana State University, in the Department of Communicative Sciences and Disorders, I am interested in describing the language skills of gifted/LD children. By evaluating the language of these children, I hope to find important clues about why they fail to reach their predicted learning potential. Because I am primarily interested in comparing the language performance of gifted/LD children with gifted/achieving children, it is critical that academically achieving gifted subjects be included in this sample.

EXPLANATION OF PROCEDURES

I am seeking permission for your child to participate in a research study where spoken and written stories elicited from your child will be audiotaped, transcribed and analyzed. I will be testing the children in their own schools. Testing will take place over two sessions. In session one, I will administer a formal test of language development to determine if your child is eligible for continued participation in this project. This first session will take approximately 50 minutes. If your child is found to meet criteria for continuation in this project, an identification number will

be assigned to him/her and that number will be placed in a pool of eligible subjects. From that pool ten children will be randomly selected to participate in this project. A second session, lasting approximately 50 minutes, will be scheduled with each child so that the investigator can elicit four story narratives from each. In order to look for factors that may influence achievement, I will record information including your child's age, grade, reading level, and any information on testing performance, (e.g., achievement tests) or special help that your child has received in the past.

POTENTIAL RISKS AND BENEFITS

This study will involve minimal risk to the children. Though the majority of the language samples will be collected during school hours, no child will spend more than 50 minutes out of his/her classroom. Please be assured that strict adherence to the policies and standards of Bulletin 741 governing research projects in Louisiana schools is guaranteed.

The language samples collected will be used to help researchers accurately describe the language abilities of gifted children who are learning disabled.

ASSURANCE OF CONFIDENTIALITY

The information collected will be treated confidentially. Numbers will be assigned to your child's test scores, language samples, (audiotapes and transcripts) and the information that we request. No names will be linked to the school or any child's test scores or language samples in our research report or any other presentation of the study.

WITHDRAWAL FROM THE STUDY

Participation is voluntary on your part and on the part of your child. Your decision whether or not to participate will not affect your child's school program. If you decide to participate, you and/or your child are free to withdraw your consent and to discontinue participation at any time.

Your child's assent to participate will be obtained at the start of the study. If your child does not agree to participate in this study s/he will be thanked and sent back to the classroom.

OFFER TO ANSWER QUESTIONS

If you have additional questions or concerns, please feel free to contact me at any time. Thank you for your interest in this project.

YOU ARE VOLUNTARILY MAKING A DECISION WHETHER OR NOT TO ALLOW YOUR CHILD/LEGAL WARD TO PARTICIPATE. YOUR SIGNATURE INDICATES THAT HAVING READ THE INFORMATION PROVIDED ABOVE, YOU HAVE DECIDED TO PERMIT YOUR CHILD/LEGAL WARD TO PARTICIPATE. YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP.

_____ _____

Signature of Parent/Guardian Date

_____

Relationship to Subject

_____

Signature of Investigator

Phebe Hayes, MS CCC-SLP
University of Southwestern Louisiana
Department of Communicative Disorders
P.O. Box 43170
Lafayette, LA 70504
(318) 231-6721 or 231-6725

APPENDIX B: LOUISIANA BULLETIN 1508: CRITERIA FOR ELIGIBILITY FOR GIFTED CLASSIFICATION (Grades 1-12)

LOUISIANA BULLETIN 1508: CRITERIA FOR ELIGIBILITY FOR GIFTED CLASSIFICATION (Grades 1-12)

Criterion 1, 2, or 3 must be met:

1. **The student shall obtain a score of at least two standard deviations above the mean (IQ≥ 130) on an individually or group administered test of intellectual abilities appropriately standardized on students of this age and administered by a certified school psychologist,**

OR

2. **The student shall obtain a score of at least seven when scores are entered into the cells of the Standard Matrix, at least two points of which are earned on the aptitude/intelligence test (IQ≥ 123),**

OR

3. **The student shall obtain a score of at least six when scores are entered into the cells of the Standard Matrix, and a recommendation for classification as gifted from the pupil appraisal personnel who conducted the evaluation of the student in accordance with the evaluation procedures.**

APPENDIX C: STORY SAMPLES (STORY GRAMMAR ANALYSIS)

MACROANALYSIS OF A SPONTANEOUSLY GENERATED ORAL STORY
(Gifted/LD Subject)

STORY STEM: Once there was a young girl who lived in the swamps with her grandfather.

1. One day when she was picking berries, a cottonmouth bit her in the leg/
(Initiating Event)

2. And they had to rush her to the hospital that was over 30 miles away/
(Attempt)

3. And she survived/
(Consequence)

4. But they had to amputate her leg/
(Reaction)

5. And her grandfather had to make another leg for her out of an oak limb/
(Reaction)

6. And now she just hobbles everywhere's/
(Reaction)

7. She has problems walking through mud cause she just sinks/
(Reaction)

8. And the grandfather was blind and deaf in one ear/
(Delete: Irrelevant)

9. And so he has no balance left/
(Delete: Irrelevant)

10. And his dog's three-legged that helps him walk/
(Delete: Irrelevant)

11. Their house has no tin on it/
(Delete: Irrelevant)

12. Its just split uh- split oak roof- cypress rails/
(Delete: Irrelevant)

MACROANALYSIS OF A SPONTANEOUSLY GENERATED
WRITTEN STORY
(Gifted/LD Subject)

STORY STEM: Michael and Jerry were best friends in school.

1. One day they were walking to school when a stranger asked them for a quarter/when Jerry said, "No".
(Initiating Event/Consequence)

2. The stranger grabbed him and dragged him into the bushes on the side of the sidewalk.
(Attempt)

3. He then told them if they did not give him something of value he would kill them both.
(Attempt)

4. Jerry gave him a dollar and a handful of change.
(Consequence)

5. And Michel [Michael] gave him his shoes.
(Consequence)

6. When they arrived at school everyone made fun of Michel [Michael]
(Reaction)

7. And Jerry told him that he was no longer his friend.
(Reaction)

MACROANALYSIS OF RETOLD ORAL STORY
(Gifted/LD Subject)

1. There once was a man in Puerto Rico that had a- a dog that would follow him around faithfully/
(Setting)

2. He would never bring it out into the sea with him during the fishing trip/
(Setting)

3. So the dog would wait on a high ridge for him- watching for him/
(Setting)

4. And one day during a hurricane the dog just stayed up there instead of leaving for the hurricane/
(Delete: Deviates from original story)

5. But his master never returned/
(Delete: Implied information)

6. And he just turned to stone being on top the ridge/
(Delete Deviates from original story)

7. And the- and then one day a group of people looking for sea grapes spotted the dog/
(Setting)

8. And they- they knew that it couldn't be the dog/
(Delete: Deviates from original story)

9. But one of them climed [climbed] up to look for it anyway/
(Attempt)

10. And he climbed up/
(Delete: Repetition of information)

11. He found the stone dog/
(Consequence)

12. And he was ready, l- watching over the sea as if he's looking for his master/
(Delete: Deviates from original story)

MACROANALYSIS OF RETOLD WRITTEN STORY
(Gifted/LD Subject)

1. Pele has a sister that controler [controls] the sea/
(Setting)

2. And these two sisters fight furisly [furiously] until Pele decides to be frends [friends] with the forest eater/
(Initiating Event/ Internal Response State)

3. But when she arrives she findes [finds] only his small white dog who is mournfully howoling [howling]/
(Consequence)

4. She then notices the dog follows her now/
(Delete: Change in story grammar category)

5. People talk of seeing a small white dog running across the lava fields in Hawii [Hawaii]/
(Reaction)

6. Others talk of seeing Pele on a desserted road/
(Reaction)

7. If nothing happens they say she is pleased/
(Reaction)

8. But when the earth trimbles [trembles] they say she is angry with someone she has met/
(Reaction)

MACROANALYSIS OF A SPONTANEOUSLY GENERATED ORAL STORY
(NonLD/Gifted Subject)

STORY STEM: Once there was a young girl who lived in the swamps with her grandfather.

1. The young girl and her grandfather went trapping and hunting and fishing everyday so that they could sell their fish, meat, and alligator skins to local merchants/
(Setting)

2. So they could buy food for themselves since meat- since fish, meat, and alligator skins weren't enough for them to live off of/
(Setting)

3. The grandfather went to town once a month but never brought the little girl for he feared that child welfare would come and take her away because he thought that it might be unfit- that they might see it unfit for her to be living in the swamps/
(Setting)

4. They lived in a little shack and were very happy/
(Setting)

5. She enjoyed playing with the fish and the birds and was very content with her life/
(Setting)

6. The grandfather loved her very much/
(Setting)

7. And she loved her grandfather/
(Setting)

8. He would sit down and tell her stories every night right before she went to bed/
(Setting)

9. One day the little girl begged to go to town with her grandfather/
(Initiating Event)

10. And so he said he would allow- he said he would allow it but to be careful and not to talk to strangers/
(Consequence)

11. It took them almost six hours to walk into town/
(Delete: Idea presented later in expanded form)

12. And they had to take their little pirogue to go through the marshy lands that were too deep for them to walk through/
(Attempt)

13. They finally came to a road where they got on the road and walked another mile into town/
(Delete: Unclear)

14. The grandfather met with his local- local merchant which usually bought his fish, meat, and alligator skins which he al- sold to customers/
(Delete: Ambiguous referent)

15. The girl was amazed by all the wonderful sights she had seen/
(Reaction)

16. She had never seen cars before or houses so big as compared to her little shack that they lived in/
(Reaction)

17. When the people of the town saw the little girl,\ they wondered who she was/
(Initiating Event/Internal Response State)

18. One- one fellow asked the grandfather, who was the little girl for/
(Attempt)

19. The grandfather told him how he was- that- how that was his granddaughter and how they had been living in the shack in the swamps/
(Consequence)

20. The little girl was very cute/
(Setting)

21. But she was kind of dirty/
(Setting)

22. One lady asked them to come in for some tea and for some cookies seeing how the little girl looked a little hungry/
(Initiating Event)

23. And the grandfather looked tired/
(Setting)

24. They accepted the invitation and went into the lady's nice house/
(Consequence)

25. The grandfather sat on the couch/
(Reaction)

26. And the lady took the little girl into the kitchen to get tea and cookies/
(Reaction)

27. She also offered to bathe her and give her some clothes that belonged to her daughter who was about the little girl's size/
(Reaction)

28. As the little girl went to take a bath, she was amazed at the tub since she had never seen a real bathtub before/
(Reaction)

29. The lady's friend worked for the welfare department/
(Setting)

30. And she told the l- her friend the story of the little girl and the grandfather/
(Initiating Event)

31. The lady became suspicious/
(Internal Response State)

32. And the next time the grandfather came back to town she followed him at a distance with one of her co-workers to his shack/
(Attempt)

33. She saw how the little girl lived and insisted on taking the little girl back with her/
(Attempt)

34. The grandfather was crushed/
(Reaction)

35. He couldn't believe that they would take his precious grandchild from him/
(Reaction)

36. But they said that they had to because it was the law/
(Reaction)

37. So they took the little girl, put her in the state's boat, and drove back to land/
(Consequence)

38. When they got to land, the lady- co-worker took the girl to the department and had her registered in/
(Reaction)

39. Then they put her up for adoption in which the nice old lady with the little girl came and adopted the girl immediately/
(Reaction)

40. The grandfather was so crushed at thought of him losing his grandchild that he fell in the swamp, not thinking, and was eaten alive by an alligator/
(Reaction)

MACROANALYSIS OF A SPONTANEOUSLY GENERATED WRITTEN STORY
(NonLD/Gifted Subject)

STORY STEM: Michael and Jerry were best friends in school.

1. They did everything together/
   (Setting)

2. They wanted to both go to Harvard University/
   (Setting)

3. Jerry wanted to be a doctor/
   (Setting)

4. And Michael wanted to be a lawyer/
   (Setting)

5. They had their whole lives planned out/
   (Setting)

6. They would date and marry twin Lalser Girls/
   (Setting)

7. They would buy huge houses next door to each other/
   (Setting)

8. They also would drive red sports cars/
   (Setting)

9. Then one day, during their senior year of high school, they met Jenny/
   (Initiating Event)

10. They both fell in love with her at once/
    (Initiating Event)

11. Neither of them knew the other had met her/
    (Internal Response State)

12. Since Jerry had met her first he asked her on a date/
    (Attempt)

13. Michael who met her several hours after Jerry also asked her own [on] a date,/
    (Attempt)

14. but she told him she already had made plans.
    (Consequence)

15. Friday came/
    (Setting)

16. and Jerry told Michael he was bringing a "friend" by Michael house later that night.
(Initiating Event)

17. Michael said that it would be O.K. because his parents were out of town.
(Consequence)

18. When Jerry arrived w/ [with] Jenny,/ Michael open the door/
(Initiating Event/Attempt)

19. and his chin dropped.
(Reaction)

20. His best friend was dating the girl of his dreams.
(Consequence)

21. Michael & Jerry now hated each other and never spoke to each other.
(Reaction)

22. Jerry graduated with a 4.0
(Reaction)

23. but Michael almost failed!
(Reaction)

24. Jerry was accepted to Harvard/
(Reaction)

25. and one month later he and Jenny were married.
(Consequence)

26. Jerry graduated from Harvard as the validectorian [valedictorian] of his class and was a heart surgeon.
(Reaction)

27. He and Jenny bought a huge mansion in Hollywood
(Reaction)

28. and he now owned two sportscars.
(Reaction)

29. Michael's life on the other hand, did not have such a happy ending.
(Reaction)

30. After he barlely [barely] graduated from high school he went on to tradeschool.
(Reaction)

31. He became a welder for a small boat company and married a fat woman name Jake who had spent time in prision [prison].
(Reaction)

32. They lived in a rundown trailor [trailer] park and drove an old, junky station wagon.
(Reaction)

33. Michael and Jerry would sometimes think about each other and wonder what the other was doing,
(Reaction)

34. but neither of the men ever wanted to be friends again.
(Reaction)

MACROANALYSIS OF RETOLD ORAL STORY
(NonLD/Gifted Subject)

1. There once was an old fisherman who lived by the sea/
(Setting)

2. He had his on- he had a friend/
(Delete: Implied)

3. His only companion was his dog/
(Setting)

4. He and the dog would do everything together/
(Setting)

5. They would walk along the beach/
(Setting)

6. They were often seen walking along the vines along the beach/
(Delete: Deviates from original story)

7. He and his dog did everything together except he would not let his dog go with him out to sea/
(Setting)

8. The dog was seen by his feet when he was getting his boat ready to sail off to catch fish/
(Setting)

9. The dog- once he got in his boat and sailed off to catch fish, the dog ran up onto the reef on the side of the beach and sat there and waited until the fisherman returned late in the afternoon/
(Delete: Deviates from original story)

10. They did this for many years/
(Delete: Deviates from original story)

11. And the fisherman and the dog both grew older/
(Setting)

12. One day the fisherman was ready to go out to shore when the dog started barking and biting at the man's pants/
(Initiating Event)

13. He had never seen his dog act this way/
(Internal Response State)

14. But he was not really concerned/
(Delete: Deviates from original story)

15. He thought maybe the dog wanted to play/
(Internal Response State)

16. So he patted him on the head/
(Attempt)

17. But this did not calm the dog
(Consequence)

18. He got in his boat and went off/
(Consequence)

19. And the dog went up on his reef in his usual spot and sat there and howled and barked all day until a dark cloud came over the beach and the wind started to howl/
(Delete: Deviates from original story)

20. The fisherman shouted out that this was a hurricane as his small boat was tossed around until once a giant wave came over the side of the boat and flipped- and drowned the fisherman/
(Delete: Deviates from original story)

21. The people on the shore went into their houses/
(Delete: Deviates from original story)

22. And all the other fishermen's boats were tossed around just like the old man's/
(Delete: Deviates from original story)

23. In the morning the sun came up/
(Delete: Implied in original story)

24. And the ocean was still/
(Setting)

25. The people came out to see if there fathers and husbands would return, their loved ones/
(Initiating Event)

26. They waited on the beach all day/
(Attempt)

27. But they did not return/
(Consequence)

28. So they went home to handle their grief for the loss of their loved ones/
(Reaction)

29. Then one day some people were walking on the beach when they looked up on the ridge/
(Initiating Event)

30. And they saw a stone/
(Initiating Event)

31. The man- one of the men said that it looked like the fisherman's old dog/
(Initiating Event)

32. But they wondered how could it still be up there after all this time/
(Internal Response State)

33. To prove his point, he climbed up the sea- the reef/
(Attempt)

34. And when he got there he found only a rock in the shape of a dog/
(Consequence)

35. So when he climbed back down they looked up again and saw the stone dog/
(Reaction)

36. The stone dog is there now/
(Setting)

37. And it will always remain/
(Delete: Deviates from original story)

MACROANALYSIS OF RETOLD WRITTEN STORY
(NonLD/Gifted Subject)

1. On a deserted island lived a family of gods/
(Setting)

2. When each god reached a certain age they were given magical powers by the oldest brother Souscera/
(Setting)

3. When Pele' reached the gift age her brother gave her the gift of fire/
(Setting)

4. She recieved a magical spade and some fire sticks/
(Setting)

5. Soon after her sister was given the gift of water/
(Setting)

6. She became ruler of the sea/
(Setting)

7. One day Pele' decided to try out her new gifts/
(Delete: Implied in original story)

8. She started a volcano on their island/
(Initiating Event)

9. The hot lava poured into the sea killing hundreds of fish/
(Initiating Event)

10. This angered her sister who was queen of the sea/
(Internal Response State)

11. The two sisters began to fight and argue which worried their older brother/
(Delete: Deviates from original story)

12. He stepped in and told Pele' she would have to find a new home/
(Consequence)

13. He also told the queen of the sea to allow Pele' to cross over her waters/
(Consequence)

14. She agreed/
(Consequence)

15. Pele' left their island and went on to the Hawaian [Hawaiian] islands/
(Reaction)

16. On the first island she began a volcano/
(Initiating Event)

17. The smoke from the volcano rose high into the air/
(Initiating Event)

18. When her sister saw this/ she sent high waves onto the island/ and put out the fire/
(Initiating Event/Attempt/Consequence)

19. Next, Pele' moved on to a bigger island where she started another fire/
(Initiating Event)

20. Again her sister sent rain to beat down on the island/ until all fire was put out/
(Attempt/Consequence)

21. On the third island Pele' once more began her fires/
(Initiating Event)

22. and again her sister put them out./
(Consequence)

23. As Pele' was about to leave the islands she noticed some smoke which she had not created./
(Initiating Event)

24. She knew it was the forest eater./
(Internal Response State)

25. He was so powerful./
(Delete: Implied in original story)

26. Nothing could stop him./
(Delete: Deviates from original story)

27. Only his white dog dared approach him./
(Delete: Story grammar category changed)

28. She knew if she could find him together they would triumph over her sister./
(Internal Response State)

29. She searched high & low for him, but could not find him./
(Attempt/Consequence)

30. He had not been seen for some time./
(Delete: Deviates from original story)

31. Eventually she stopped looking./
(Delete: Deviates from original story)

32. She found a huge crater which she filled with lava./
(Delete: Deviates from original story)

33. this was her volcano./
(Delete: Deviates from original story)

34. It is still believed that she walks the roads on this island./
(Delete: Deviates from original story)

35. If the volcano is still this means that the people she met on the road did not anger her,/
(Ending)

36. but if there is a rumble then someone has angered Pele' queen of fire./
(Ending)

APPENDIX D: STORY SAMPLES (COMPLEX SENTENCE ANALYSIS)

MICROANALYSIS OF A SPONTANEOUSLY
GENERATED ORAL STORY
(Gifted/LD Subject)

STORY STEM: Once there was a young girl who lived in the swamps with her grandfather.

1. One day when she was picking berries, a cottonmouth bit her in the leg.
   (Complex)

2. And they had to rush her to the hospital that was over 30 miles away.
   (Complex)

3. And she survived

4. But they had to amputate her leg.

5. And her grandfather had to make another leg for her out of an oak limb.

6. And now she just hobbles everywhere's.

7. She has problems walking through mud cause she just sinks.

8. And the grandfather was blind and deaf in one ear.
   (Delete: Irrelevant)

9. And so he has no balance left.
   (Delete: Irrelevant)

10. And his dog's three-legged that helps him walk.
    (Delete: Irrelevant)

11. Their house has no tin on it.
    (Delete: Irrelevant)

12. Its just split uh- split oak roof- cypress rails.
    (Delete: Irrelevant)

MICROANALYSIS OF A SPONTANEOUSLY GENERATED
WRITTEN STORY
(Gifted/LD Subject)

STORY STEM: Michael and Jerry were best friends in school.

1. One day they were walking to school when a stranger asked them for a quarter/when Jerry said, "No".
   (Complex)

2. The stranger grabbed him and dragged him into the bushes on the side of the sidewalk.

3. He then told them if they did not give him something of value he would kill them both.
   (Complex)

4. Jerry gave him a dollar and a handful of change.

5. And Michel [Michael] gave him his shoes.

6. When they arrived at school everyone made fun of Michel/ [Michael]
   (Complex)

7. And Jerry told him that he was no longer his friend.

MICROANALYSIS OF RETOLD ORAL STORY
(Gifted/LD Subject)

1. There once was a man in Puerto Rico that had a- a dog that would follow him around faithfully/
(Complex)

2. He would never bring it out into the sea with him during the fishing trip/

3. So the dog would wait on a high ridge for him- watching for him/

4. And one day during a hurricane the dog just stayed up there instead of leaving for the hurricane/
(Delete: Deviates from original story)

5. But his master never returned/
(Delete: Implied information)

6. And he just turned to stone being on top the ridge/
(Delete Deviates from original story)

7. And the- and then one day a group of people looking for sea grapes spotted the dog/
(Complex)

8. And they- they knew that it couldn't be the dog/
(Delete: Deviates from original story)

9. But one of them climed [climbed] up to look for it anyway/
(Attempt)

10. And he climbed up/
(Delete: Repetition of information)

11. He found the stone dog/
(Consequence)

12. And he was ready, l- watching over the sea as if he's looking for his master/
(Delete: Deviates from original story)

MICROANALYSIS OF RETOLD WRITTEN STORY
(Gifted/LD Subject)

1. Pele has a sister that controler [controls] the sea/

2. And these two sisters fight furisly [furiously] until Pele decides to be frends [friends] with the forest eater/
(Complex)

3. But when she arrives she findes [finds] only his small white dog who is mournfully howoling [howling]/
(Complex)

4. She then notices the dog follows her now/
(Delete: Change in story grammar category)

5. People talk of seeing a small white dog running across the lava fields in Hawii [Hawaii]/

6. Others talk of seeing Pele on a desserted road/

7. If nothing happens they say she is pleased/
(Complex)

8. But when the earth trimbles [trembles] they say she is angry with someone she has met/
(Complex)

MICROANALYSIS OF A SPONTANEOUSLY GENERATED
ORAL STORY
(NonLD/Gifted Subject)

STORY STEM: Once there was a young girl who lived in the swamps with her grandfather.

1. The young girl and her grandfather went trapping and hunting and fishing everyday so that they could sell their fish, meat, and alligator skins to local merchants\
(Complex)

2. So they could buy food for themselves since meat- since fish, meat, and alligator skins weren't enough for them to live off of\
(Complex)

3. The grandfather went to town once a month but never brought the little girl for he feared that child welfare would come and take her away because he thought that it might be unfit- that they might see it unfit for her to be living in the swamps\
(Complex)

4. They lived in a little shack and were very happy\

5. She enjoyed playing with the fish and the birds and was very content with her life\

6. The grandfather loved her very much\

7. And she loved her grandfather\

8. He would sit down and tell her stories every night right before she went to bed\

9. One day the little girl begged to go to town with her grandfather\
(Complex)

10. And so he said he would allow- he said he would allow it but to be careful and not to talk to strangers\

11. It took them almost six hours to walk into town\

12. And they had to take their little pirogue to go through the marshy lands that were too deep for them to walk through\

13. They finally came to a road where they got on the road and walked another mile into town\
(Complex)

14. The grandfather met with his local- local merchant which usually bought his fish, meat, and alligator skins which he al- sold to customers\
(Complex)

15. The girl was amazed by all the wonderful sights she had seen\
(Complex)

16. She had never seen cars before or houses so big as compared to her little shack that they lived in\
(Complex)

17. When the people of the town saw the little girl, they wondered who she was\
(Complex)

18. One- one fellow asked the grandfather, who was the little girl for\
(Complex)

19. The grandfather told him how he was- that- how that was his granddaughter and how they had been living in the shack in the swamps\
(Complex)

20. The little girl was very cute\

21. But she was kind of dirty\

22. One lady asked them to come in for some tea and for some cookies seeing how the little girl looked a little hungry\

23. And the grandfather looked tired\

24. They accepted the invitation and went into the lady's nice house\

25. The grandfather sat on the couch\

26. And the lady took the little girl into the kitchen to get tea and cookies\

27. She also offered to bathe her and give her some clothes that belonged to her daughter who was about the little girl's size\

28. As the little girl went to take a bath, she was amazed at the tub since she had never seen a real bathtub before\
(Complex)

29. the lady's friend worked for the welfare department\

30. and she told the l- her friend the story of the little girl and the grandfather\

31. the lady became suspicious\

32. and the next time the grandfather came back to town she followed him at a distance with one of her co-workers to his shack\
(Complex)

33. she saw how the little girl lived and insisted on taking the little girl back with her\

34. the grandfather was crushed\

35. he couldn't believe that they would take his precious grandchild from him\
(Complex)

36. but they said that they had to because it was the law\
(Complex)

37. so they took the little girl, put her in the state's boat, and drove back to land\

38. when they got to land, the lady- co-worker took the girl to the department and had her registered in\
(Complex)

39. then they put her up for adoption in which the nice old lady with the little girl came and adopted the girl immediately\
(Complex)

40. the grandfather was so crushed at thought of him losing his grandchild that he fell in the swamp, not thinking, and was eaten alive by an alligator.
(Complex)

MICROANALYSIS OF A SPONTANEOUSLY GENERATED
WRITTEN STORY
(NonLD/Gifted Subject)

STORY STEM: Michael and Jerry were best friends in school.

1. They did everything together.
2. They wanted to both go to Harvard University.
3. Jerry wanted to be a doctor
4. and Michael wanted to be a lawyer.
5. They had their whole lives planned out.
6. They would date and marry twin Lalser Girls.
7. They would buy huge houses next door to each other.
8. They also would drive red sports cars.
9. Then one day, during their senior year of high school, they met Jenny.
10. They both fell in love with her at once.
11. Neither of them knew the other had met her.
12. Since Jerry had met her first he asked her on a date. **(Complex)**
13. Michael who met her several hours after Jerry also asked her own [on] a date, **(Complex)**
14. but she told him she already had made plans. **(Complex)**
15. Friday came
16. and Jerry told Michael he was bringing a "friend" by Michael house later that night.
17. Michael said that it would be O.K. because his parents were out of town. **(Complex)**

18. When Jerry arrived w/ [with] Jenny, Michael open the door
(Complex)

19. and his chin dropped.

20. His best friend was dating the girl of his dreams.

21. Michael & Jerry now hated each other and never spoke to each other.

22. Jerry graduated with a 4.0

23. but Michael almost failed!

24. Jerry was accepted to Harvard

25. and one month later he and Jenny were married.

26. Jerry graduated from Harvard as the validectorian [valedictorian] of his class and was a heart surgeon.

27. He and Jenny bought a huge mansion in Hollywood

28. and he now owned two sportscars.

29. Michael's life on the other hand, did not have such a happy ending.

30. After he barlely [barely] graduated from high school he went on to tradeschool.
(Complex)

31. He became a welder for a small boat company and married a fat woman name Jake who had spent time in prision [prison].
(Complex)

32. They lived in a rundown trailor [trailer] park and drove an old, junky station wagon.

33. Michael and Jerry would sometimes think about each other and wonder what the other was doing,

34. but neither of the men ever wanted to be friends again.

MICROANALYSIS OF RETOLD ORAL STORY
(NonLD/Gifted Subject)

1. There once was an old fisherman who lived by the sea\
(Complex)

2. He had his on- he had a friend\

3. His only companion was his dog\

4. He and the dog would do everything together\

5. They would walk along the beach\

6. They were often seen walking along the vines along the beach\

7. He and his dog did everything together except he would not let his dog go with him out to sea\

8. The dog was seen by his feet when he was getting his boat ready to sail off to catch fish\
(Complex)

9. The dog- once he got in his boat and sailed off to catch fish, the dog ran up onto the reef on the side of the beach and sat there and waited until the fisherman returned late in the afternoon\
(Delete)

10. They did this for many years\

11. And the fisherman and the dog both grew older\

12. One day the fisherman was ready to go out to shore when the dog started barking and biting at the man's pants\
(Complex)

13. He had never seen his dog act this way\

14. But he was not really concerned\

15. He thought maybe the dog wanted to play\
(Complex)

16. So he patted him on the head\

17. But this did not calm the dog\

18. He got in his boat and went off\

19. And the dog went up on his reef in his usual spot and sat there and howled and barked all day until a dark cloud came over the beach and the wind started to howl\
(Delete)

20. The fisherman shouted out that this was a hurricane as his small boat was tossed around until once a giant wave came over the side of the boat and flipped- and drowned the fisherman\
(Delete)

21. The people on the shore went into their houses\

22. And all the other fishermen's boats were tossed around just like the old man's\

23. In the morning the sun came up\

24. And the ocean was still\

25. The people came out to see if there fathers and husbands would return, their loved ones\
(Complex)

26. They waited on the beach all day\

27. But they knew they would not return\

28. So they went home to handle their grief for the loss of their loved ones\

29. Then one day some people were walking on the beach when they looked up on the ridge\
(Complex)

30. And they saw a stone\

31. The man- one of the men said that it looked like the fisherman's old dog\
(Complex)

32. But they wondered how could it still be up there after all this time\

33. To prove his point, he climbed up the sea- the reef\

34. And when he got there he found only a rock in the shape of a dog\
(Complex)

35. So when he climbed back down they looked up again and saw the stone dog\
(Complex)

36. The stone dog is there now\

37. And it will always remain\

MICROANALYSIS OF RETOLD WRITTEN STORY
(NonLD/Gifted Subject)

1. On a deserted island lived a family of gods.

2. When each god reached a certain age they were given magical powers by the oldest brother Souscera.
(Complex)

3. When Pele' reached the gift age her brother gave her the gift of fire.
(Complex)

4. She recieved [received] a magical spade and some fire sticks.

5. Soon after her sister was given the gift of water.

6. She became ruler of the sea.

7. One day Pele' decided to try out her new gifts.

8. She started a volcano on their island.

9. The hot lava poured into the sea killing hundreds of fish.

10. This angered her sister who was queen of the sea.

11. The two sisters began to fight and argue which worried their older brother.
(Delete)

12. He stepped in and told Pele' she would have to find a new home.
(Complex)

13. He also told the queen of the sea to allow Pele' to cross over her waters.

14. She agreed.

15. Pele' left their island and went on to the Hawaian [Hawaiian] islands.

16. On the first island she began a volcano.

17. The smoke from the volcano rose high into the air.

18. When her sister saw this she sent high waves onto the island and put out the fire.
(Complex)

19. Next, Pele' moved on to a bigger island where she started another fire.
(Complex)

20. Again her sister sent rain to beat down on the island until all fire was put out.
(Complex)

21. On the third island Pele' once more began her fires

22. and again her sister put them out.

23. As Pele' was about to leave the islands she noticed some smoke which she had not created.
(Complex)

24. She knew it was the forest eater.

25. He was so powerful.

26. Nothing could stop him.

27. Only his white dog dared approach him.

28. She knew if she could find him together they would triumph over her sister.
(Complex)

29. She searched high & low for him, but could not find him.

30. He had not been seen for some time.

31. Eventually she stopped looking.

32. She found a huge crater which she filled with lava.
(Complex)

33. this was her volcano.

34. It is still believed that she walks the roads on this island.
(Complex)

35. If the volcano is still this means that the people she met on the road did not anger her,

36. **but if there is a rumble then someone has angered Pele' queen of fire.**
(Complex)

VITA

Phebe Archon Hayes was born in New Iberia, Louisiana. She received a B.A. degree in Speech Pathology from Xavier University of New Orleans in 1976 and later received an M.S. degree in Speech Pathology from the University of Southwestern Louisiana in 1982. Dr. Hayes has been a member of the Communicative Disorders faculty at the University of Southwestern Louisiana for seven years. Her responsibilities are to teach undergraduate and graduate courses in language development and disorders, and public school therapy. Dr. Hayes is also co-developer of the USL and Sertoma Summer Language-Literacy Camp and served as its director for three years.

DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Phebe Archon Hayes

Major Field: Communication Disorders

Title of Dissertation: An Examination of the Spontaneously Generated and Retold Narratives Produced by Gifted/Learning Disabled Adolescents from an Integrated Perspective of Language Development

Approved:

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Major Professor and Chairman

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Date of Examination:

7/15/93