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ABSTRACT

The investigation involved a comprehensive descriptive analysis of the reading and writing behavior of 13 upper elementary level learning disabled students. Data were collected on student responses to 11 language tasks, including drawing; forming letters, numbers, and their names; being read to; reading; and answering questions about reading and writing. Other tasks focused on the student's book handling knowledge and on specific reading abilities. Interviews and surveys were conducted to ascertain students' attitudes and concepts of reading and writing, parental attitudes and models of reading, students' developmental and educational histories, and home environments. Students' miscue analysis (i.e., deviations from print) of their oral reading and subsequent story retelling revealed how effectively they utilized the syntactic, semantic, and graphophonemic language systems in relation to reading comprehension. The results indicated that these students' responses to written language could be analyzed, categorized, and qualitatively measured within a particular information processing, psycholinguistic paradigm. The implications focused on the practical implementation of whole language instruction and integrated activities into the urban elementary school special education curriculum and the learning disabled students' home environment. Appendixes include: The Parent Questionnaire; Parent Individual Questionnaire; Book Handling Knowledge Inventory; Concepts of Reading Inventory; Concepts of Writing Inventory; Reading Interview; Reading Miscue Inventory; Evaluation and Worksheet; summary and Profile Sheet of Reader's Strengths; and Sample Lesson Plans for Comprehension. (Author/CL)

The Responses to Written Language by Elementary Level Learning Disabled Students

A Paper Presented in the Research Forum
of the 61st Annual International Convention
of the Council for Exceptional Children

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Abstract

This investigation involved a comprehensive descriptive analysis of the reading and writing behavior of 13 upper elementary level learning disabled students.

Data were collected on student responses to 11 language tasks. These tasks included drawing, forming letters, numbers, and their names, being read to, reading, and answering questions about reading and writing. Other tasks focused on the student's book handling knowledge as well as specific reading abilities.

Interviews and surveys were conducted to ascertain students' attitudes and concepts of reading and writing, parental attitudes and models of reading, students' developmental and educational histories, and home environments.

Students' miscue analysis (i.e., deviations from print) of their oral reading and subsequent story retelling revealed how effectively they utilized the syntactic, semantic, and graphophonemic language systems in relation to reading comprehension.

The results indicated that these students' responses to written language could be analyzed, categorized, and qualitatively measured within a particular information processing, psycholinguistic paradigm.

The implications focused on the practical implementation of whole language instruction and integrated activities into the urban elementary school special education curriculum and the learning disabled student's home environment.

The Responses to Written Language
by Elementary Level Learning Disabled Students

Traditional research in reading behavior of learning disabled students and nondisabled students has tended to investigate possible differences in the reading process through quantitative measures such as isolation of sounds, letters, word parts, sight words, and sentences. The quantitative approach might also include correlational analysis of intelligence, personality, visual or auditory discrimination, or other process variables with the ability to perform reading or reading-related tasks (e.g., Bell, Lewis, & Anderson, 1975; Kirk & Gallagher, 1983; Kirk & Kirk, 1972). Since this type of research tends to equate reading proficiency with such skills elements as vowel and consonant sounds, letter recognition, syllabification, sight word recognition, phrase recognition, and oral reading accuracy, the predicted consequence of this orientation is a prescriptive instructional approach to ameliorate these particular deficit elements of reading behavior (e.g., Charles & Malian, 1980; Cohen & Plaskon, 1980; Gearheart, 1973; Kirk, Kliebhan, & Learner, 1978). Developmental reading approaches for nondisabled students typically equate the ability to read with these same skills elements (Schiefelbusch, 1978; Smith, Otto, & Hansen, 1978). When quantitative aspects of these isolated reading behaviors are utilized in comparing able and disabled readers, then the process of reading skills acquisition necessarily emerges as a series of quantitative progressions for both populations.

In contrast to this research and instructional perspective, Carnine (1977) as well as Goodman and Goodman (1977) argue that this instructional fragmentation approach actually distorts the reading process. This distortion occurs when isolated features of reading are presented to the student without a meaningful context. If the purpose of reading is comprehension or to gain meaning from print, then research and/or instruction directed at the isolated

skills elements may have little, mpact on the ultimate objective of reading instruction (Smith, 1978 is considerable support for this alternative perspective of the read ss.

Goodman (1965) noted that able rea recognized the same words with greater accuracy when they appeared within a passage context as compared to when they appeared as isolated words in ist form. In a similar study, Allington and McGill-Franzen (1980) investigated d identification errors in isolation and in context of fourth grade able and disabled readers. As predicted, both groups of readers made significantly fewer errors in context than they did when the words were presented in random order. In addition, the disabled readers were more disrupted by the no-context task presentation than were the able readers. Not a single disabled reader performed better on the isolation task. However, word identification errors elicited on tests in isolation were not predictive of errors elicited in connected text for either group of readers. In contrast to Goodman's (1965) finding, Allington and McGill-Franzen (1980) noted that these able and disabled readers made different mistakes when reading the same words in lists instead of in context. In terms of comparative analysis, able and disabled readers were quantitatively different in both conditions. Able readers were more able (i.e., fewer errors). Qualitative differences in reading ability between these groups was not addressed.

Allen and Watson (1976) concluded that the single difference between readers at differential levels was their ability to comprehend what they read. Correspondingly, Gutknecht (1976) was able to demonstrate, through analysis of oral reading miscues, that less proficient readers were using the same processes as more proficient readers only less efficiently. These findings clearly demonstrate that qualitative aspects of reading behavior (e.g., the effect of oral reading miscues on comprehension) can be measured.

The research involving analysis of oral reading miscues has lead to an

information processing model of reading which utilizes the cue systems of semantics, syntax, and graphophonemics (Goodman, 1977). These three cue systems are utilized to arrive at meaning during the reading process. The miscues are evaluated in terms of their differential effect on comprehension. Therefore, some miscues may be determined to be a higher quality than others. In this respect, reading is measured in a qualitative manner.

The theoretical framework underlying this research perspective focuses on the reading process as a combination of syntax, semantics, and graphophonemics cue systems working in conjunction to produce meaning for the reader (Burke, 1976). Within a multidisciplinary paradigm, reading is presented as an integral feature of the total language gestalt (Allen & Watson, 1976; Miller, 1965; Palmer, 1979). This particular language arts model includes reading and writing as the print aspect of language while listening and speaking constitute the auditory-aural component of language.

Continuing psycholinguistic research which explores the parameters of Goodman's (1967, 1977) information processing model has developed a clear alternative orientation to the process of reading, the acquisition of reading skills, and the role of reading in the language arts. Goodman and Burke (1980) have generated a plethora of reading strategies based on this model which focus on comprehension. However, current research and instructional applications continue to focus on early readers (e.g., Clark, 1976) and developmentally able readers (e.g., Angelo, 1982; Hoffman & Baker, 1981; O'Brien, 1981). In addition, there is a paucity of programmatic evaluation or comparative research which validates the efficacy or superiority of these language approaches over more traditional instructional methodologies.

While remediation specialists in the area of learning disabilities generally follow a compensatory-developmental orientation to the amelioration of reading and reading-related skills deficits at the elementary level (e.g.,

Cohen & Plaskon, 1980; Kirk, Kliebhan, & Lerner, 1978; Lerner, 1976) and a compensatory-functional approach at the secondary level (e.g., Marsh & Price, 1980; Mann, Goodman, & Wiederholt, 1978; Mercer, 1979), the current impact of Goodman's (1967, 1977) model on the instruction of the learning disabled student is rather minimal. Researchers in learning disabilities have concentrated on the development of alternative instructional technologies such as individualized instruction (Charles, 1980), applied behavior analysis (Cooper, 1981), and contingency management (e.g., Feldman, Thomasson, Terrell, DeVries, & Galbreath, 1983) to overlay the academic remediation process. Consequently, reading approaches are merely extrapolated from traditional reading paradigms (e.g., sound/symbol, decoding, vocabulary skills). These methods include phonics, linguistics, modified alphabets, early letter emphasis, rebus, language experience, multisensory, programmed instruction, and high interest-low vocabulary materials. Methodological considerations predominate over reading model considerations (i.e., how to teach is more important than what to teach). Furthermore, current research into reading behaviors of learning disabled students is primarily restricted to quantitative comparative data (e.g., frequency of oral reading errors) which necessarily leads to quantitative comparative conclusions (e.g., learning disabled students make significantly more errors than able students on measures of oral reading). Subsequent implications also reflect the quantitative aspects of the reading process (e.g., choose an alternative method which inhibits the learner's weaknesses and promotes a reduction in oral reading errors).

While proponents of the Goodman (1967, 1977) whole language model insist that a distinct need exists to undertake research in the qualitative facets of language behaviors of children who develop normally (e.g., Allen & Watson, 1976; Burke, 1976; Goodman & Burke, 1980), there is also a corresponding need to collect qualitative data utilizing children and youth who are exceptional

were taught (e.g., name, letters, isolated words, date), they were quite able to write. Although no predictable pattern or sequence of book handling skills emerged from the data analyses, the total number of these acquired skills was related to student's chronological age, previous educational programming, and instructional consistency.

Feldman and Wiseman (1981) also noted that the parents did not appear to possess a great deal of objective knowledge about these students' reading and writing skills. Parental reports consistently underestimated their children's language abilities when comparisons were accomplished on classroom-based observable reading and writing behaviors. These underestimations may have led to decreased expectancies in the home environment. Oral reading miscue analysis data was provided by three of the students. All cases were marked by an overall lack of word identification strategies (i.e., cue systems). The students' reading behaviors were characterized by omission of words, high graphic/sound similarity of miscues, absence of correction strategies, and corresponding low retelling scores (i.e., passage/story comprehension).

The Feldman and Wiseman (1981) study clearly indicated that qualitative data based on Goodman's (1967, 1977) whole language model, could be collected on moderately mentally handicapped adolescent students, and that such data could lead to major language implications and applications in the home and school environments for this population.

Although the Feldman and Wiseman (1981) study yielded rich qualitative information on group characteristics and dynamics relative to print-related skills, comparative qualitative data analyses revealed few interindividual differences within the moderately mentally handicapped adolescent group. Therefore, Feldman (1981A) replicated the Feldman and Wiseman (1981) study with nine mildly mentally handicapped adolescent students from the same school population. Many similarities to the earlier study emerged from the data analyses.

These commonalities included the nature and influence of the home environment on reading and writing skills, the function of writing, limited written expression, and an overall lack of word identification strategies with consequently low retelling scores in comprehension. There also were a number of differences from the earlier study. This group produced meaningful thoughts, although discontinuous or disjointed, through written language. Spelling accuracy and capitalization usage and accuracy were common group features. All book handling skills were accomplished by every student while the purposes for reading were rather diversified. Writing samples revealed that words, phrases, and single simple sentences were common to the group while few examples of multiple sentences or complex sentence structures were displayed. Again, as in the Feldman and Wiseman (1981) study, qualitative data were easily elicited but failed to reveal interindividual qualitative language differences.

Since cross-study comparisons have limited validity, Feldman (1981b) replicated the two earlier studies with a group of moderately mentally handicapped adolescent students and a group of mildly mentally handicapped adolescent students sampled from the same school population and matched on chronological age and socio-economic background. He found that the data for each group across the 11 language tasks were highly similar to the data collected in the two earlier studies. While there were notable qualitative differences between the two groups of mentally handicapped students, intragroup qualitative comparisons failed to yield qualitative language differences.

The purpose of the present study was to conduct a replication of the 11 language tasks utilized with the mentally handicapped adolescents in the Feldman and Wiseman (1981) and Feldman (1981a, 1981b) response-to-print investigations. In an attempt to elicit outstanding interindividual qualitative language differences, the present study utilized upper elementary level learning disabled students.

The following questions concerning the reading and writing behavior of these learning disabled students were generated for this investigation:

1. Does home environment affect the reading and writing behavior of elementary level learning disabled students?
2. Do elementary level learning disabled students demonstrate an awareness of the written production of language by producing writing patterns?
3. How do elementary level learning disabled students view the purpose of writing?
4. Do elementary level learning disabled students demonstrate knowledge of spelling and graphophonemic relationships?
5. Do elementary level learning disabled students demonstrate a developing awareness of written receptive language by exhibiting certain reading patterns?
6. How do elementary level learning disabled students view the purpose of reading?
7. How do elementary level learning disabled students describe the reading process?
8. What differences and similarities are evidenced in elementary level learning disabled students' written language behavior?
9. Is reading comprehension of elementary level learning disabled students, as measured by retelling, dependent on word identification?
10. Does the reading of elementary level learning disabled students emphasize the use of any one of the language cue systems of syntax, semantics, or graphophonemics?
11. Do elementary level learning disabled students produce a high percentage of semantically acceptable miscues?

12. Do elementary level learning disabled students produce a high percentage of semantically unacceptable, but corrected miscues?

Method

Subjects and Setting

The subjects were 11 male and 2 female students who were classified learning disabled (i.e., significant academic performance deficits accompanied by average intellectual ability) by a certified school psychologist on the basis of individualized intelligence tests and standardized group measures of academic performance in reading and reading-related skills as well as mathematics concepts and computation skills. The students' chronological ages ranged from 9 years to 12 years 6 months ($\bar{X}$ = 11-3) while their intelligence scores ranged from I.Q.'s of 77 to 105 ($\bar{X}$ = 92). Their reading score grade equivalents ranged from preprimer to the beginning of the second grade level ($\bar{X}$ = 1.0). The 13 students demonstrated severe disabilities in reading skills. They all were at least three grade levels below their nonhandicapped, chronological age peers. All but three of the students were residing in home environments in which standard English was the predominant language. In two students' homes, Black English was the primary language while in one student's home, Spanish was the predominant language.

The 13 students lived in a large metropolitan area in the northeast region of the country. All the students resided in low-middle or middle class home environments and attended public elementary school. They were all enrolled in the same self-contained classroom (i.e., all academic subjects taught in the special education classroom) for the learning disabled, grades four through six. The student composition of this class was representative of the upper elementary level, self-contained classroom, learning disabled student population within one of the several geographically-defined sub-districts of this major urban public school system. The school and the sub-district were randomly

selected for participation in the study. Since the school system had achieved racial desegregation across the sub-districts, these 13 students were equivalent to the upper elementary level, self-contained learning disabled students who were enrolled in the other sub-districts of the system on the basis of race, socio-economic background, primary language in the home, chronological age, I. Q., ratio of male to female students, and educational background.

Dependent Measures

Parent questionnaire. Since student's home background is frequently explored in its relationahip to reading and writing behavior (Durkin, 1966; King & Friesen, 1972; Read, 1970; Teale, 1978), adaptation of a parent interview by Mason (1978) was utilized in this study. This questionnaire was designed to elicit information which would provide insights into the student's early language behavior. Questions about each student's awareness of print as well as his/her reading and writing behaviors in the home were included in the interview. In addition, portions of the Burke Interview of Reading (Burke, 1976) were incorporated into the questionnaire in order to learn about parents' ideas of the reading process. This information was critical in ascertaining the possible etiology of the student's concept of reading as well as the presence of modeling reading behavior in the home.

Book handling knowledge. The student's knowledge of books was assessed during the reading of Monster Goes to School (Blance & Cook, 1973). The Preschool Book Handling Knowledge (Goodman, 1977) was integrated into the reading of this book. This opportunity for behavioral observation was included in the study to determine the knowledge these students had of written materials. During the reading, the investigator recorded each student's responses relative to the left-to-right direction of print, identification of letters and words, inverted print, differentiation between pictures and print, word-by-word matching, and the general knowledge of story format. The measure assessed 22 book

handling skills.

Concepts of reading and writing. In the present study each student's concepts and attitudes about reading and writing were obtained from interviews designed by Goodman and Cox (1976) and Burke (1974). These interviews provided data on the language these students used to communicate about reading and writing as well as their ideas on the function and purpose of print. In addition, several activities were included that required the student to produce concrete samples of writing as well as to differentiate between writing and drawing.

Miscue analysis. The Reading Miscue Inventory (RMI) by Goodman and Burke (1972) was developed to analyze an individual's oral reading. When a person reads, they deviate at times from the actual print represented on the page. The resulting oral deviation from print is called a miscue. The RMI provides a series of questions which the researcher uses to determine the quality of the reader's miscues. The questions involve such factors as dialect variation, intonation shifts, and grammatical acceptability. These questions focus on the effect that each miscue has on meaning as well as on the readers use of available language cues. Percentages are determined for each question by computing the total number of miscues involving each question and the number of miscues designating either high, partial or low responses to the nine questions.

The RMI has been used in a variety of research studies. The effect of a saturated book environment on miscues (Watson, 1973), miscues of Mexican American readers (Young, 1973), and miscues generated by older readers (DeSanti, 1976) are some of the various topics explored in relation to miscue analysis. Research studies utilizing the RMI have consistently demonstrated that both able and disabled readers use the three cue systems to find meaning in print (e.g., Brody, 1973; Gutknecht, 1976).

In the present study, those students who demonstrated the ability to match the spoken word with words in print during the book handling inventory were requested to read several selections so that entry level reading behavior could be established and the resulting miscues could be analyzed. A wide range of materials were available to meet the varied abilities of the students in the study. Each student read at least one selection which was taped for further analysis. The stories included: A Day At Home (Goodman & Burke, 1972); The Old Man, His Son, and the Donkey (Goodman & Burke, 1972); and The Line Down the Middle of the Room (Goodman & Burke, 1972).

Procedure

The data from each of the 13 students were collected during individual sessions by their classroom teacher within the daily school activity schedule. While the classroom aide directed reading and writing projects, the teacher, in another section of the room, elicited the data from each student as part of the regular instructional program. The order of student participation as well as the sequence of inventories and student interviews was randomly determined. Parent interview data were collected by the classroom teacher during evening telephone visitations.

Data Analysis

The data from the student interviews were analyzed to determine each student's concepts of reading and writing. These ideas were presented in a descriptive manner so that the students' actual presentations of ideas were maintained. Student descriptive products from each interview question were compared and contrasted in order to display possible student interindividual qualitative differences. The data from the parent interviews were analyzed to determine each parent's personal reading model and description of his/her child's language behaviors. These data were analyzed in several ways. Parental data were compared and contrasted in order to display interparental

qualitative differences related to their children's language behaviors, concepts of reading and writing, book handling knowledge, and utilization of the graphophonemic, semantic, and syntactic cue systems in oral and silent reading.

The learning disabled students also provided tape recorded data from oral reading selections for analysis of miscue behavior according to RMI (Goodman & Burke, 1972) procedures. These oral reading data were transferred to worksheets for subsequent coding by two independent miscue raters. Coding comparisons were then accomplished by dividing the number of miscue code agreements by the total number of coded miscues. Interrater reliability was 91% across the 13 students' miscue-coded worksheets. To determine the student's comprehension following oral reading, retelling scores were calculated and analyzed by comprehension area (i.e., character analysis: recall, events, plot, and theme).

Results

Information from the Home

Eleven parents participated in responding to selected questions from a variety of sources (Appendix A) including reading interviews developed by Mason (1977) and Burke (1976). Tables 1 and 2 present a summary of the parental responses to these questions. As Table 1 indicates, these parents were

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Place Table 1 about here

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in complete agreement on only one of the 10 interview questions that surveyed their perceptions of their children's reading and reading-related behaviors. All 11 parents indicated that their children were taught to read in the school setting by teacher aides, remedial reading specialists, or the learning disabilities teacher. No parent mentioned regular classroom teachers or themselves as initial sources for their child's reading instruction. The parents were in almost total agreement on what constituted their child's present reading

instructional content. While parents offered the general responses of reading words, spelling words, and reading stories, specific reading skill-related behaviors prescribed on their child's individualized educational program (IEP) were not identified. Passage comprehension was the least-offered response (i.e., 6/11) to the instructional content question.

Analysis of the parents' perceptions of their children's home reading behavior indicated that the majority of these parents (i.e., 6/11) did not observe their children engaged in independent book reading. When parents did observe their children engaged in a home reading activity (e.g., homework), five of them were intermittently requested to identify unknown words for their child while six of them were asked word identification questions on a fairly regular basis. According to the parents, only one student read more than two hours a week. Concurrently, three students who read at home did so less than one hour per week. Parental data also revealed that seven of the students made less than monthly visits to the public library and that only one student had a subscription to a magazine. The data also indicated that all the students watched at least one to two hours of television per day with the majority of the students watching television more than two hours a day. According to parental responses, all the students personally owned at least four to six books with seven of the students owning more than six books. When requested to rate their child's reading ability, no parent thought their child was a "good" or "excellent" reader. Six parents rated their children's reading ability as "fair" while five of these parents rated that ability as "poor."

Additional interview questions were directed to the 11 parent participants in order to ascertain the students' models of reading behavior in their home environments. As Table 2 indicates, these parents' primary response to unknown

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Place Table 2 about here

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words was to phonetically reproduce them while as alternative responses, one requested assistance, two consulted the dictionary, and eight parents skipped over it. When parents were asked what characteristics a good reader would possess, nine mentioned practice, seven thought that a large vocabulary was important, and six believed that a good memory was related to good readership. According to these parents, good readers responded to unknown words in one of four ways. These methods in priority order were: 1) sounding it out (4/11); 2) skipping it (3/11); 3) using the context (2/11); and 4) using the root word, prefix, or suffix (2/11).

Parents were also requested to reveal their personal strategies for assisting a disabled reader. Their responses included helping the reader to sound the word out (5/11), telling them the unknown word (4/11), or telling him/her to ask someone else in the family for assistance (2/11).

When the parents were asked how they acquired their ability to read, six replied that teachers were primarily responsible, three learned from parental or sibling instruction, and two were self-taught. The methodologies employed to assist these parents' acquisition of reading skills revealed singular as well as combination of practices. Phonics-related methods were mentioned by five parents, three mentioned practice and/or being read to, and two parents articulated memorizing stories that were read to them.

As a comparative feature to the parents rating their children's reading abilities, parents were requested to rate their own reading abilities. Three parents rated themselves "excellent," six rated themselves "good," and two parents thought they were "fair" readers.

All but one parent read at home on a daily basis. They routinely read newspapers (8/11), magazines (4/11), and books (3/11). However, the data revealed that only four of the parents primarily read in the evening prior to their child's bedtime while the location of reading materials that parents

interacted with during their primary reading period was situated in their bedroom (5/11), bathroom (2/11), living room (2/11), kitchen (1/11), or at work (1/11).

Writing and Spelling Tasks

Twelve of the 13 learning disabled students were available to participate in this phase of the investigation. These students were requested to complete two writing tasks and a writing interview (Appendix A) in order to assess their concepts of writing as well as to determine their writing abilities and deficiencies. Table 3 presents a summary of the students' responses to these writing and spelling measures.

All students were requested to produce a writing sample, given paper and pencil. Their responses to this task were analyzed for: 1) form; 2) punctuation; 3) capitalization; 4) spelling accuracy; 5) sentence length; 6) spelling errors per sentence length; 7) ability to read what they wrote; and 8) utilization of writing terminology.

Place Table 3 about here

In terms of the written form produced, nine of the students (75%) wrote one complete sentence while the remaining three students wrote either their first and last names, or a phrase of three words, or two words. All student productions demonstrated conceptual continuity between words including the phrase and the two word production (e.g., "in the coth city ," "fat head"). Capitalization was attempted by 10 students. In all cases, the first letter of the first word was capitalized. However, one of these 10 students capitalized his production in the following manner:

Bille Lesh plae weth
The bat an the Bulle
(Bill let's play with the bat and the ball)

Punctuation by the sentence-producers was rarely demonstrated. Only two

students (20%) attempted to punctuate their sentences. Both of these students wrote declarative sentences and punctuated them with a period in the correct position.

Spelling accuracy, sentence length, and accuracy per length data were then subjected to analyses. Two students (20%) produced no misspelled words in their sentences. The other eight sentence producers had at least one spelling inaccuracy for a total of 16 words. A representative sample of these misspellings demonstrate moderate to high graphic and/or phonemic similarities to the correct spelling as indicated below:

Produced	Intent
acrall	(across)
monstar	(monster)
lesh	(let's)
boock	(book)
sei	(see)
hear	(here)
no	(know)

Sentence length ranged from 3 to 10 words and the mean length was 6.8 words per sentence. Spelling inaccuracies occurred approximately 24% of the time.

Most of the 12 students (10/12) were capable of orally reading their productions without errors. Two students each made one error. One student miscued on "cat" and substituted "dog." The other student dialectually miscued, substituting "say" for "said."

In terms of utilizing writing terminology, 11 of the 12 students were able to articulate "letters," "words," and "sentence." "Period" was identified and articulated by five students. Three students were accurate and articulate with "capital letter." "Proper name (noun)" and "punctuation" were identified and expressed by two students and one student, respectively. Identification inaccuracies included articulating "sentence" for words and phrases (2/12), and single instances of "nouns" for "y" and "n," and "compound word" for "no you."

When requested to write "a letter", five of the students exclusively utilized lower case letters, three used upper case lettering, and the remaining four students utilized both upper case and lower case letters. One student was unable to comprehend the instructions or subsequent clarification and wrote "Fhila." and then "a ltre." All students produced the "letter" task in manuscript form.

Another related auditory processing task involved requesting these students to verbalize the distinctions between "writing" and "drawing." Only seven of the 12 students were able to relate the writing task in some way to the transfer of oral communication to print. Five students responded that drawing and writing were the same because pens or pencils were involved in both processes. Paralleling this finding, only eight of the 12 students responded that they did any writing in their home environment. Since earlier studies with handicapped students revealed student problems in relating to the abstract presentations of the differentiations between writing and drawing (e.g., Feldman & Wiseman, 1980), these learning disabled students were requested to make concrete discriminations between previously constructed samples of each concept. Under these conditions of visual inspection, 11 of the 12 students were able to correctly identify samples of writing or drawing with 100% accuracy over three randomly presented trials. Concurrently, all 12 students could verbally isolate things that were "drawn", while 10 of the 12 students could verbally isolate things that were "written."

Reading Behavior

Book handling abilities. All students were asked to respond to questions from the Book Handling Knowledge Inventory (Goodman & Cox, 1977). This measure (Appendix A) was primarily designed for children who were not reading, however, the inventory has been utilized with learning handicapped students to ascertain

any prerequisite prereading skills that may be deficient or missing in their present reading behavioral repetoires (Feldman, 1981: 1982). Table 4 presents these learning disabled students' performance in book handling skills. These skills are arranged in ascending order of difficulty in this table.

Place Table 4 about here

As Table 4 indicates, these upper elementary grade learning disabled students were quite heterogeneous in their array of book handling skills. Only one student met performance criteria on all 30 skills measured on the inventory. However, all 13 students met at least minimal performance criteria on 15 book handling skills. Competencies that students met criteria included identification of: 1) "book;" 2) purpose of a book; 3) content of a book; 4) "top" of page; 5) "page;" 6) "capital" letter; and 7) title location. All students were also able to demonstrate: 1) "front" of a book; 2) where reading starts in a book; 3) where reading begins on a page; and 4) that reading continues from the left page last word to the right page first word (i.e., cross-page progression). In terms of story comprehension skills, all students were able to recall main story characters, story plot, and main story events.

Twelve of the 13 students (92%) were able to meet at least minimal performance criteria on six additional book handling skills. These 12 students were able to correctly identify the title page or the first page of print (i.e., "show me a page in this book."), direction of print on one line, and the direction of print over two consecutive lines. In addition, these students were capable of articulating the role of "author."

Ten of the 13 students (77%) met a least minimum performance criteria on four additional book handling skills. These skills required the student to demonstrate: 1) exact physical matching in text of the spoken word; 2) physical isolation of one word in text; 3) physical isolation of two words in text;

and 4) physical isolation of the last letter in a word.

While nine students (70%) met at least minimal criteria for demonstrating the abilities of physically isolating one letter in a word and physically isolating two letters in a word, the remaining three book handling skills presented increasing difficulty for the students. Eight students (62%) were able to indicate comprehension of the theme of the story that was read to them. On the perceptual skill of demonstrating the correct position-in-space required for reading a printed page when the open book was presented upside-down, only five students (39%) successfully accomplished the reversal task. When students were requested to show exactly where the end of the story would be indicated, only one student (8%) turned to the last page and pointed to the last line. However, the majority of students did accomplish the first part of this task.

Concepts of the reading process. Twelve of the 13 students were available to participate in responding to questions from the Concepts of Reading Inventory (Goodman & Cox, 1977). This measure (Appendix A) was originally designed for children who were not reading; however, this inventory has been employed with developmentally disabled readers to assess their conceptualization of various components of the reading process (e.g., Feldman & Wiseman, 1980; Feldman, 1982). Table 5 presents a summary of these learning disabled students' concepts of the reading process.

Place Table 5 about here

As Table 5 indicates, these 12 students displayed a wide variety of differential perceptions of the reading process. Ten students (83%) unequivocally responded that they knew how to read while the other two students felt that they knew how to read "a little bit." When all students were asked how they learned to read, most students mentioned either looking at/in books (5/11) or working with words (3/11). Four students responded that they didn't know

how they learned to read. All students were able to indicate their principal sources of reading assistance. Teachers and/or instructional aides were mentioned most frequently (8/12) while parents or siblings were named by three students. Two students felt that they were their own primary reading instructional resource. Most students (9/12) indicated that they enjoyed reading or at least enjoyed reading (2/12) to some extent. One student reported that he didn't like reading at all. While the majority of students responded that they enjoyed reading, nine of them (82%) felt they required assistance in the reading process. When questioned whether reading was hard or easy, eight students (67%) thought reading was difficult while four students felt reading was easy.

All students were asked about their reading behaviors as well as the reading behaviors of other family members in their home environments. All but one student (92%) reported that someone that they lived with knew how to read. Nine students (75%) reported that someone in the home read to them while three students indicated that they were not read to at home. When asked if they enjoyed or would enjoy someone reading to them, all 12 students responded in an affirmative manner. Books or stories (7/12) and the Bible (2/12) constituted the primary sources of print materials that were read to these students in their homes. While they were listening to someone at home or school read to them, ten students (83%) responded with book-directed behaviors (e.g., look at the pictures) while two students answered this query with non book-directed behaviors (e.g., look at the reader).

Most of the remaining questions that were directed toward the students attempted to ascertain the home-print environmental characteristics as well as the students' rationales for reading in order to reveal their motivations to read and the capability of the home environment to influence that desire to read. Queried as to the reasons people read, these students expressed diverse rationales. Vocational responses (e.g., earn a living; get somewhere in life)

were presented by four students. Three students gave recreational-leisure purposes (e.g., keep them busy; because they want to/like to read). Acquisition of knowledge (e.g., find out the answer; know what's happening) and functional purposes (e.g., tells them what they want to get) were given as reasons by three more students. Every student provided at least one meaningful response to the reason for reading question. Students were also asked about the variety and location of home reading materials. In terms of home reading material content, students listed the following available printed matter: 1) recipes and/or bookbooks (10/12); 2) books (9/12); 3) newspaper (8/12); and manuals or directions (5/12). Other print materials included mail (3/12), magazines (2/12) homework (2/12), posters (2/12), T. V. Guide (2/12), and comic books (2/12). Singularly elicited responses incorporated the Bible and television print. The range of availability of these materials in these students' homes was between six different print materials (1/12) and two different home reading materials (1/12). Most students had five (5/12), four (3/12), or two (2/12) different kinds of reading materials in their homes. These reading materials were located in the kitchen (10/12), parents' bedroom (8/12), living room (8/12), bathroom (4/12), and the students' bedrooms (2/12).

Two questions that completed the concepts of reading interview process focused in on the students' perceptions of the meaning of language when asked if they spoke a "language," just over half the students (58%) responded that they did while five students indicated that they did not. Those students who responded affirmatively were asked what language they spoke. "English" was the predominant response while "Spanish" and "American" were each named by two students.

Students' responses to the reading task. In addition to responding to questions related to the processes of reading, 13 students were presented with questions from the Reading Interview (Burke, 1974). This interview was also

conducted with the parents of these students to ascertain parental models of reading available to the students. Table 6 presents these students' most frequent and most divergent responses to Goodman's (1974) Reading Interview.

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Students were requested to provide their principal responses as well as their secondary responses to unknown words they encountered in the process of reading. For their principal response to unknown words, ten out of 13 students (77%) asked the teacher for assistance and another student requested help from another student. Only two students (15%) practiced a self-remediational strategy (e.g., "sound it out by parts"). Alternative responses to unknown words were primarily phonics-based as eight students (62%) related that they "sound it out" or "spell it." Requesting assistance was also mentioned by three students.

The 13 students were also asked to give examples of people they thought were good readers. Students mentioned other learning disabled students (3/13), siblings (5/13), grandparents (1/13), teachers (4/13), librarians (1/13), and themselves (1/13). Teachers were cited most frequently by these students (11/13); however, teachers were selected primarily as a second choice (7/13). Parents were not mentioned by any of the students as either first or second choices.

Interview questions also attempted to elicit from the students several characteristics and behaviors that good readers might display. When encountering an unknown word, these students (7/13) perceived good readers attempting phonics-based word attack strategies or asking for assistance (4/13). Two students felt that good readers skipped unknown words while other students believed that good readers never encountered unknown words (1/13) or didn't know what strategy good readers utilized (1/13). When asked directly if good readers ever came upon words they didn't know, eight students (62%) believed

that situation did not occur.

Two questions in the interview were presented in an attempt to ascertain whether these students would apply differential strategies from their teachers in assisting another disabled reader. Students offered a variety of strategies they would employ to aid a disabled reader; however, most of these strategies (6/13) were phonics-based (e.g., sound it out by letters; spell it). Other strategies included telling them the word (3/13), reading a story to him/her and requesting them to read a story in return, getting them an easier book, or providing a strong motivational directive (e.g , "You better start reading!"). The strategies they thought teachers would utilize to assist a disabled reader were rather diverse, yet somewhat similar. Five students thought teachers would use phonics-based strategies (e.g., give beginning syllable, give rhyming word, tell them how to sound it out). All other student responses were singularly presented. Some of these answers included: 1) getting a student tutor; 2) sending a note home to promote reading; 3) giving them the unknown words in a spelling test; 4) telling them the word; and 5) giving them an easier book.

Four questions in the interview were directed toward exploring how these students learned to read (i.e., methodology), source of reading skills acquisition, future reading goals, and the students' self-evaluation of their reading abilities. Diverse responses were provided by the students on the question of the methodology in learning to read. Elicitations from the students included: 1) phonics-based methods (6/13) e.g., alphabet, sounding out all the letters, putting sounds together; 2) words in sentence context (2/13) e.g., word cards and put them in a sentence; 3) providing a variety of books to read (5/13); and 4) spelling tests (3/13). Singular responses to the methodology question consisted of writing the words, being told the words, looking up words in a dictionary, and practicing by reading books. The overwhelming response to the source of reading skills acquisition was these students' school instructors

(10/13). Parents (1/13) and self-acquisition (1/13) constituted the remainder of the students' specific etiological responses. One student could not identify the source of his ability to read. Many future reading goals for these students (8/13) were language-related (e.g., write poems, songs, and books). Other reading goals were job-related (5/13) e.g., reading contracts, lawyer, college, artist. Student self-evaluations in terms of reading ability were presented in a dichotomous format. Five students considered themselves good readers while eight students felt they did not possess good reading abilities.

The remaining three questions in the interview focused on the kinds of reading materials they interacted with on a routine basis, most-liked reading materials, and most memorable reading materials. Students routinely interacted with a wide variety of print materials. These materials included: 1) newspapers; 2) school textbooks; 3) homework; 4) comic books; 5) bulletin boards; 6) notes to get things at the store; 7) labels; 8) pencil labels; 9) street signs; and 10) lottery numbers. School-related materials (6/13) were most often mentioned by the students. Best-liked reading materials were comics or comic books (6/13). Five students mentioned books while one student liked to read the Bible and another student enjoyed Playboy magazine. All students were to provide a memorable reading material. All choices were library books or school reading program stories (e.g., Monster series).

Miscue analysis. All students were given an opportunity to provide data according to miscue analysis procedures of the Goodman and Burke (1972) Reading Miscue Inventory (RMI). The RMI (Appendix A) involves a comparison of expected (i.e., text) responses and observed oral reading responses. Twelve students participated in this phase of the investigation. All these students were capable of presenting reading strategies effective enough for miscue analysis. Students' oral reading miscues of graphic similarity, sound similarity, grammatical function, grammatical acceptability, and subsequent effect on

story comprehension (i.e., meaning change) were studied.

Miscue analysis involves having the reader read a complete selection without interruption and retelling the selection in his/her own words upon completion of oral reading. Both the reading and subsequent retelling are tape recorded for further analysis. Analysis of miscues yields information concerning the degree to which the reader successfully constructs meaning and the extent to which he/she makes efficient use of the available cue systems of graphophonemics, syntax, and semantics. In addition, the kinds of cues and particular strategies the reader predominantly relies on are revealed and summarized on profiles (Goodman, Burke, & Lindberg, 1978). Retellings provide evidence of the degree and kind of comprehension that occurs and in this regard the retelling serves as an additional measure of the efficacy of the student's strategy in coping with written language.

Miscue analyses conducted on these 12 learning disabled preadolescent students were individually summarized and profiled in seven basic areas of reader strengths (Appendix B). These seven areas were:

1) the percentage of substitution miscues which indicate Graphic and Sound similarities;
2) the percentage of substitution miscues which indicate similar Grammatical Function;
3) the percentage of instances that the reader produced syntactically acceptable sentences that involved substitution miscues;
4) the percentage of instances that the reader produced semantically acceptable sentences that involved substitution miscues;
5) the percentage of instances that the reader retained the author's meaning;

6) the number and percentage of high quality semantic substitution miscues; and

7) the number and percentage of high quality syntactic substitution miscues.

Table 7 provides the group's descriptive statistics on these seven areas of reader strengths.

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The first profiled area was substitution miscues which indicated graphic and sound similarities (i.e., how much the two words look/sound alike). Analyses of the 12 students' miscues revealed that an average of 44% of those miscues reflected high Graphic similarities (e.g., reader = once, text = one). As a group, these students' miscues indicated an average of 87% of those miscues were graphically similar (i.e., high graphic plus some graphic) to the text words. The high graphic miscue range for the group was 35% to 68%. The graphic miscue similarity range for the group was 73% to 95%. In terms of sound similarities, this group produced an average of 36% of their miscues which reflected high sound similarities to the text words (e.g., reader = Miss, text = Mrs.). Group analysis revealed an average of 84.5% of the miscues reflected sound similarities (i.e., high sound plus some sound similarity) to the words in text. The high sound similarity miscue range for the group was 16% to 59%. The group's range of sound similarity miscues was 66% to 92%.

The second profiled area was substitution miscues which indicated a similar grammatical function to the words in text. As a group, an average of 56% of their miscues reflected the same grammatical function as the text word (e.g., reader = Billy Watson, text = Bob Watson). The group's range of same grammatical function miscues was 39% to 67%.

The third area of the profile was sentence syntactic acceptability. Each sentence involving at least one miscue was evaluated, as finally produced by the reader, for its grammatical acceptability in the story. As a group, an average of 39% of their sentences which had at least one miscue were syntactically acceptable in the story. The range of syntactically acceptable sentences involving miscues for the group was 9% to 92%. An example of a syntactically acceptable sentence and a syntactically unacceptable sentence produced by the same student is presented below:

went with someone
acceptable: One day Bob Watson was sick.

unacceptable: And he looked out the window to see

with happy and
what was happening in the street.

The fourth area of the profile was sentence semantic acceptability. Each sentence involving at least one miscue was evaluated, as finally produced by the reader, for its meaningfulness in relation to the story. As a group, an average of 23% of their sentences which had at least one miscue were semantically acceptable in the story. The group's range of semantically acceptable sentences involving miscues was 0% to 92%.

The fifth profiled area of reader strengths was the degree to which the reader changed the intended meaning of the author in the story through word substitution miscues in the sentence. Degree of meaning change was either no change, minimal change, or a major change in incidents, characters, or sequences in the story. As a group, an average of 20% of their sentences which had at least one miscue produced no change and 18.5% produced minimal change in the intended meaning of the author in the story. Therefore, 38% of their sentences which involved at least one miscue retained (i.e., no change plus minimal change) the author's meaning. The group's range of no meaning change sentences involving miscues was 0% to 92%. The range for the group's minimal meaning

change sentences involving miscues was 0% to 65%. The group's range of sentences involving miscues which retained the author's meaning was 0% to 100%.

The last two areas of the profile involved analyzing student miscues to make a determination of the quality of individual miscues or their corrections. One way of determining a "high" quality miscue is by noting the total absence of graphic similarity in the miscue from the text word yet the sentence involving the miscue has minimal meaning change or no meaning change. Examples of this type of high quality miscue are presented below:

the
Soon they came to some men in a field.

pal
This dog is my best friend.

As a group, only four students (33%) produced high quality graphically dissimilar miscues or corrected miscues. A total of 11 such high quality miscues were produced among these four students. These 11 high quality miscues constituted an average of 7% of these four students' total miscues. The frequency range of this type of high quality miscues was 1 to 4 while the percentage range was 6% to 9%.

The other means of identifying a high quality miscue is by noting the total absence of grammatical function similarity in the miscue from the text word yet the sentence involving the miscue or its correction retains syntactic acceptability. Examples of this type of high quality miscue are presented below:

c ride
"Get right down," he said to his son.

he
"That man rides while his poor little son must walk."

Now all mine
"How can you be so mean?"

As a group, nine of the 12 students (75%) produced high quality grammatically dissimilar miscues or corrected miscues. A total of 25 such high quality

miscues were produced among these nine students. These 25 high quality miscues constituted an average of 8% of these nine students' total miscues. The frequency range of this type of high quality miscues was 1 to 6 while the percentage range was 3% to 15%.

Retelling scores for the 12 students were analyzed by subscores in recall of characters, events and sequence, plot, and theme. As a group, retelling scores indicated that the miscues produced greatest comprehension losses in plot and theme with relatively less comprehension loss in events and sequence and the least amount of loss in recall of characters.

Discussion

The data obtained from the home environment on parents' perceptions of their children's reading and reading-related behaviors as well as parental models of reading appears to clearly substantiate the impact of the home setging on the 13 upper elementary level learning disabled student participants in the investigation. However, these data from the parent interviews present a pattern of environmental behavior that is unlikely to positively affect their children's current acquisition of reading and writing skills. In fact, the results from the parent interviews seem to reinforce the very patterns of instructional history that may relegate these learning disabled students to continued language skills deficiencies as well as to project a potentially increasing discrepancy between these students and their non-handicapped chronological same-age peers in the regular elementary level classroom.

There are several results from the current investigation that lead to these unfortunate conclusions and subsequent negative prognoses. The parents of the learning disabled participants did not perceive regular classroom teachers as a viable source of instructional influence while at the same time were unable, themselves, to recall any reading comprehension goals in their children's individualized educational programs. Since the ultimate objective

of reading is to gain meaning from print, the lack of comprehension goals on the IEP must be perceived as a shared failure of these learning disabled students' parents and teachers to focus and arrange the home environment with antecedent conditions that would promote reading comprehension. The parents' models of reading reflected behaviors that could do little to change their children's already well established patterns of reading and writing deficiencies. For these parents, phonics, an auditorily-based reading and writing approach to instruction, was the predominant mode of language acquisition. Since their learning disabled children were also provided primarily phonics-based instruction, subsequent failure on the part of these children to gain meaning from print through this instructional mode could not be readily ameliorated in the home environment due to parental lack of experiential training in any alternative form of language skills acquisition. Accordingly, these parents provided the answers to the unknown words their children encountered in print, suggested phonics-based solutions, or other dependent-oriented alternatives (e.g., sound it out, look it up in the dictionary, ask someone else).

In addition, these parents infrequently read materials in the company of their children, while generally engaging in print and print-related activities when their children were in school or asleep in the latter part of the evening. It would appear that these learning disabled children received infrequent and unsystematic opportunities to observe their parents engaged in the reading and writing processes. Concurrently, the parents did not appear to require or reward their children's reading behaviors. Although these parents realized that practice and opportunity were important characteristics of superior readers, the home environments of the 13 learning disabled students did not embue these vital properties necessary for language achievement. Subsequently, the overall home environments of these students, under the present arrangements and

patterns of parental behaviors, cannot be perceived as having a positive influence on student reading and writing skills accomplishment.

The learning disabled student participants, through their writing samples, displayed large interindividual differences in their patterns of written language production. These students, according to their products, displayed wide variations in form, capitalization, sentence length, and utilization of written language terminology. Discrepancies in form were noted as students produced single sentences, three word phrases, as well as two words. In contrast, multiple sentences or paragraph writing was not observed in the written productions of these learning disabled students. However, the conceptual continuity prerequisite for sustained, integrated written production in multiple contiguous sentences or paragraphs was demonstrated by all 12 students who participated in this phase of the investigation.

While appropriate capitalization was evidenced in most of the written productions of the learning disabled students, the samples were too limited in scope to conclude that these students practiced capitalization skills beyond the first letter of the first word in the sentence. Only one student demonstrated the random capitalization of other nouns in the sentence.

The utilization of correct punctuation was demonstrated in only 20% of the sentence producers. Both of these students placed a period in the appropriate position following their declarative sentences. No other student punctuated their written productions. Due to the limitations of the written sample, no other types of sentences or other types of punctuation were demonstrated by these students. In only one sentence was a comma appropriate within the context of the production; however, that student omitted the necessary punctuation.

Large variations in sentence length were noted among the student participants' written productions; however, the average number of words produced per sentence far exceeded the average sentence lengths found in selected samples of mildly mentally handicapped adolescents (Feldman, 1981) and moderately mentally handicapped adolescents (Feldman & Wiseman, 1980) on identical tasks.

In terms of utilizing writing terminology, large interindividual differences were noted among these learning disabled students. All but one of the students were able to articulate basic sentence elements such as letters, words, and sentences. In contrast, syntactic elements were rarely articulated or when articulated, always correctly identified. Since the writing samples produced by these students served as the stimuli for the determination of written terminology utilization, only the terminology specific to the samples were examined. Few students were able to identify capital letters, proper nouns, or the term "punctuation," while identification inaccuracies for sentences, nouns, and compound words were noted. It would appear from these findings that these learning disabled students had a number of difficulties in verbally conceptualizing the terminology common to written expression even at the concrete identification level within their own writing samples.

The students who produced sentences for their writing samples had their content analyzed for spelling accuracy. Eighty percent of the students misspelled at least one word in their sentences; however, the inaccuracies, for the most part, displayed moderate to high graphophonemic similarities to the correct spelling. In spite of the rather strong graphophonemic characteristics of produced words in relation to intended words, spelling inaccuracies occurred one time for every four words produced in the writing samples of these learning disabled students. These spelling inaccuracies, however, did not generally interfere with their ability to orally read their written

productions without errors. Only a total of two oral reading errors were generated by the students and neither of these miscues occurred on misspelled words.

In order to evaluate the student participants' developing awareness of written receptive language, book handling abilities noted as reading readiness or developmental prereading prerequisite skills were examined across 30 skill areas. The findings revealed large interindividual differences among these learning disabled students. While all students met minimal criterion for acceptable performance on the 15 earliest developmental skills, variance among student performance became increasingly greater as higher reading readiness skills were assessed. By the time the last five developmental skills were assessed, only a small percentage of the 13 students who participated in this task had mastered all 25 prior tasks. One student demonstrated the ability to accomplish all 30 prereading skills on the dependent measure. In contrast to the anticipated outcome on these sequentially ordered developmental reading tasks to perceive a vast array of splinter skills, no such finding was noted. In fact, no splinter skills in prereading were found in the performance of any of the participants.

These learning disabled students perceived the purpose of reading with highly diversified rationales. Their reasons included vocational, recreational-leisure, acquisition of knowledge as well as functional purposes. As noted in previous studies, expressed purposes for reading were qualitatively broader than those purposes expressed for writing. The responses suggested more varied exposure and interaction with the reading processes than with the processes of writing. Also, these learning disabled students appeared to have relatively more functional interactions with reading than those interactions with writing in both the home and school environments. In contrast

with previous studies involving moderately mentally handicapped and mildly mentally handicapped adolescents, the learning disabled participants in the present investigation stressed the vocational necessity of reading-related activities in regard to their projected career choices.

Almost all of the student participants enjoyed reading or at least enjoyed it to some extent, yet most of the students felt that they required assistance in the reading process. Concurrently, most of these students felt that reading was difficult. Responses to questions generated to reflect the home environmental characteristics related to the reading process portrayed these students' home settings as containing a wide variety of available print materials across a number of in-home locations. Although it appears that the home environments of these learning disabled students were rather saturated with reading materials, a close inspection of the findings revealed that most of the reading materials were in adult locations (e.g., kitchen, parent's bedroom) and at a general level of reading difficulty that far exceeded these students' assessed levels of independent as well as instructional reading proficiency. Therefore, it is rather clear that the students were relatively removed from print material stimulation in the home environment and as a partial consequence of this lack of stimulation, these students, according to personal and parental data, interacted very infrequently with meaningful print material that they could have assess to, read easily, and find rewarding.

Responses to other interview questions related to the reading process revealed that these learning disabled students primarily saw the reading task as a personally dependent experience, that is, the process of reading for these students constantly required them to seek the assistance of relatively capable readers. When unknown words were encountered, these students rarely practiced even primative self-remediational strategies (e.g., sight word and

memory search). The data appear to indicate that phonics-based self-remediational strategies were not the initial responses to the encounter with unknown words for these learning disabled students. The data also reveal the primary instructional adults, such as parents, teachers, and instructional aides generally reinforced word-asking behavior as opposed to utilizing the encounter with unknown word as an instructional opportunity to rehearse alternative self-remediational strategies. Additional interview responses revealed that these students were not notably aware of remediational strategies utilized by able readers nor did their responses indicate that incidental learning related to alternative interactional strategies modeled by these more capable readers (i.e., non-phonics-based approaches) made any direct or observable impact on their reading behaviors. A clear indication of this lack of incidental learning is found in the students' responses to the characteristics and behaviors they thought more able readers demonstrated. All but one student declared that more able readers utilized the exact same strategies the learning disabled students employed, namely, phonics word attack skills or asking for assistance. The other remaining student didn't know what more able readers did when or if they encountered unknown words in text.

The results from the retelling scores of the student participants clearly indicated that their reading comprehension was highly dependent on word identification; however, comprehension loss was not evenly distributed across text passage characters, events, sequence, plot, and theme. To the contrary, as a group, retelling scores indicated that these students' oral reading miscues produced notably greater comprehension losses in plot and theme with relatively less comprehension loss in events and sequence and the least amount of loss in recall of story characters. This finding generates an entirely new dimension to the analysis of oral reading miscues in terms of the differential

effect of miscues on various passage elements. These elements may well reflect an intrapassage hierarchy which is differentially sensitive to the oral reading miscue. In this case, the quality of the miscue may be analyzed and scored quite differently depending upon the interaction of the text passage element (e.g., plot vs. character) and the produced deviation from print. In the present study, reading comprehension of these learning disabled students appeared to be most effected by the story element interacting with the oral reading miscue to produce varying degrees of meaning change from the author's intended meaning.

The results related to the possible emphasis of either the syntax, semantics, or graphophonemics language cue systems in the reading of the learning disabled student participants revealed that these students primarily utilized a graphophonemic strategy in an attempt to gain meaning from print. Syntactic and semantic cue systems were also utilized by these students but much less often than their primary cue system. As a group, over eight out of every ten miscues reflected graphically similar ties as well as sound similarities to the text words. In contrast, the group averaged about five and one half miscues out of every ten which indicated similar grammatical function as the intended words in text while only 23% of their miscues were semantically acceptable in the story.

In terms of producing high quality grammatically dissimilar miscues or corrected miscues, only 8% of the total number of miscues generated by nine learning disabled students met the necessary criteria for such productions. A quarter of the study participants had no high quality miscues of this type at all. Production of the other type of high quality miscues, those that were graphically dissimilar or corrected, were generated by only four students. Those miscues represented only 7% of their total miscues. The other eight participants did not produce any such high quality miscues.

It is strikingly clear that these learning disabled students' reading behaviors, which strongly reflected the graphophonemic language cue system to gain meaning from print, were inadequate to maintain the author's intended meaning of story plot, theme, events, sequence, and characters. Even though one cue system, for these learning disabled students, predominates to the relative exclusion of the other two language systems, this emphasis is not characteristic of more able readers (Goodman, 1967, 1977) and its use does not produce high quality miscues which retain passage comprehension. In fact, the miscue data in the present investigation revealed that over six out of every ten sentences produced on the average by these learning disabled readers contained miscues that reflected major changes in the intended meaning of the author in the story. That phenomenon, dramatically demonstrated in the present investigation, may well be a fundamental characteristic of disabled reading.

There are a number of major implications that can be projected from the findings of the present investigation. The results clearly indicate a need to infuse a practical awareness of the functional utility of reading and writing in both the school and home environments. This awareness needs to begin in the classroom setting with the teacher providing pragmatic, reality-based antecedent instructional conditions which require the learning disabled student to gain necessary meaning from print and to also convey necessary meaning in his/her print productions. For example, students can request permission to go to recess, eat lunch, or sharpen a pencil with a written message and receive, in return, a written reply from the teacher. Since the consequence is reinforcing for the student, meaning from and with print can be shaped through successive approximations and contingent reinforcement of the target print behavior. These tactics can be readily transferred to the

student's home environment following mastery and proficiency levels of specific print comprehension skills acquisition in the classroom setting. The student's individualized educational plan must reflect, as a major aspect of the plan, the instructional focus on functional meaning from print.

Dependent reading and writing behaviors must not be promoted in learning disabled students by teachers and parents. While providing assistance in gaining meaning from print may be initially supported, the continued practice of doing so teaches the student to rely on others to accomplish the reading or writing for him. Assistance needs to be gradually faded while the student is taught strategies to gain meaning from print and to self-correct when contextual print feedback reflects absurdity or story incongruity (e.g., Mike played in the horse).

Parents, teachers, and learning disabled students would do well to engage in the reading and writing processes in each other's presence so that adult modeling of these processes may be accomplished on some consistent and systematic basis. Sustained silent reading as well as sustained oral reading periods may provide these needed modeling arrangements. Learning disabled readers need to be systematically introduced to the methods that good readers utilize when they encounter unknown words in print. This systematic introduction to such encounters and subsequent strategies may require more regular classroom integration with capable as well as superior readers than what is presently being undertaken and accomplished in mainstreaming practices.

While this investigation found that reading and writing materials were readily available to these learning disabled students at home, the quality of such materials could not be considered adequate stimuli to produce print responses in these students. The print materials need to be at these students' utility levels. If the topical foci of these materials are not responsive to

the student's interests, or the readibility levels of such materials are not congruent to the student's abilities, quantitative saturation of the home environments of these students with print materials cannot serve to assist in enhancing the students' interactions and accomplishments with those materials. If this qualitative infusion is not economically feasible, the school and the teacher can play an active, direct service in providing such materials for utilization in the home setting.

Since it has already been suggested that meaningful reading and writing activities should become an integral and systematic aspect of learning disabled students' daily educational experiences and that these activities directly reflect students' normalized IEP goals and objectives, suggestions for improving writing skills parallel such earlier remarks. Writing for the learning disabled students needs to be presented as a natural language activity and should be accepted initially at its present stage of development. Regardless of the student's chronological age, spelling accuracy should not take precedence over written production and creative manipulation of written language when that developmental level is mental age appropriate. Gradual increases in criterion for minimal acceptable performance in spelling accuracy can be accomplished within a changing criterion evaluative framework (Cooper, 1981) that employs differential reinforcement of appropriate target behavior (Popovich, 1982). In addition, numerous opportunities should be provided for a wide variety of reading and writing activities at school. These opportunities need not and should not be confined to the formal settings of reading, spelling, and language periods.

Writing opportunities for learning disabled students can be readily accomplished in a non-threatening atmosphere where they can feel free to practice, experiment, and explore print production and manipulation. Under these

circumstances, reinforcement can be administered on a non-contingent basis. These activities would help such students increase their confidence and competence levels of writing and spelling behaviors. Systematic transfer to the home environment can follow its practice and accomplishment in the classroom.

A final suggestion is that teachers, both from special education and regular education, as well as the parents of learning disabled students must be assisted in becoming more influential persons in these students' acquisition of the prerequisite and requisite skills inherent in the reading process. Inservice workshop programs and parent training programs need to be designed to provide them with the skills necessary to instruct and support alternative strategies for disabled readers to gain meaning from print. These systematic instructional strategies with a focus on comprehension (Appendix C) would provide learning disabled students with the necessary behavioral resources to more efficiently and effectively utilize the syntactic, semantic, and graphophonemic language cue systems in a manner that more closely approximates the employment of these systems by proficient readers.

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Table 1

Summary of Responses to the Parent Interview
(N = 11)

Item	Type		Prevalent Responses	Percent
1.	who taught student to read	1a.	teacher	100
2.	what is being taught	2a.	reading words	100
		2b.	spelling words	100
		2c.	reading stories	91
		2d.	passage comprehension	55
		2e.	oral reading	73
		2f.	vocabulary	91
3.	student frequency of independent book reading at home	3a.	no	55
		3b.	occasionally	36
		3c.	often	9
4.	student frequency of asking for parent assistance in word identification	4a.	no	0
		4b.	occasionally	45
		4c.	often	55
5.	length of student reading at home per week	5a.	less than one hour	27
		5b.	1-2 hours	64
		5c.	more than 2 hours	9
6.	student visits to public library	6a.	irregularly	64
		6b.	monthly	18
		6c.	1-2 times a month	18
		6d.	weekly	0
7.	student subscription to magazine	7a.	yes	9
		7b.	no	91
8.	average time student watches television per day	8a.	less than ½ hour	0
		8b.	1-2 hours	45
		8c.	more than 2 hours	55
9.	number of books student owns	9a.	none	0
		9b.	1-3	0
		9c.	4-6	36
		9d.	more than 6	64
10.	rate student's reading ability	10a.	excellent	0
		10b.	good	0
		10c.	fair	57
		10d.	poor	43

Table 2

Summary of Parents' Responses to the Reading Interview
(N = 11)

Item	Type		Prevalent Responses	Percent
1.	parent's principal response to unknown word	1a.	sound it out	73
		1b.	dictionary	9
		1c.	skip it	18
2.	parent's alternative response to unknown word	2a.	skip it	73
		2b.	dictionary	18
		2c.	ask for help	9
3.	good reader characteristics	3a.	reads a lot	82
		3b.	large vocabulary	64
		3c.	good memory	55
4.	good reader response to unknown word	4a.	root word, prefix, suffix	18
		4b.	context	18
		4c.	sound it out	36
		4d.	skip it	27
5.	parent strategy to assist a disabled reader	5a.	sound it out	45
		5b.	tell them the word	36
		5c.	ask other parent	9
		5d.	ask other sibling	9
6.	how parent learned to read	6a.	teacher	55
		6b.	parent	18
		6c.	brother/sister	9
		6d.	self-taught	18
7.	method of parent acquisition	7a.	phonics-related	45
		7b.	practice	27
		7c.	being read to	27
		7d.	memorizing story that was read to them	18
8.	future reading goals	8a.	read more	18
		8b.	read more difficult material	36
		8c.	none	45
9.	reading ability: self-evaluation	9a.	excellent	27
		9b.	good	55
		9c.	fair	18
		9d.	poor	0
10.	routine reading material	10a.	newspaper	73
		10b.	magazine	36
		10c.	book	27
11.	frequency of reading at home	11a.	daily	91
12.	reading period	12a.	morning	27
		12b.	afternoon	27
		12c.	evening: prior to student's bedtime	36
		12d.	evening: post student's bedtime	45
13.	location of primary reading period	13a.	bedroom	45
		13b.	bathroom	18
		13c.	living room	18
		13d.	kitchen	9
		13e.	work	9

Table 3

Summary of Students' Responses to Concepts of Writing Measure
(N = 12)

Item	Type	Prevalent Responses	Percent
1.	write for me: form	1a. sentence	75
		1b. first and last name	8
		1c. phrase	8
		1d. two words	8
2.	write for me: punctuation	2a. yes	20
		2b. no	80
3.	write for me: capitalization	3a. yes	9
		3b. no	91
4.	write for me: spelling accuracy	4a. no errors	20
		4b. one or more errors	80
5.	write for me: sentence length	5a. range = 3 to 10 words	
		5b. average = 6.8 words	
6.	write for me: total words ÷ total misspellings	6a. 68 ÷ 16 x 100	24
		6b. average = 1.6 errors	
7.	ability to read what they wrote	7a. no errors	83
		7b. one error	17
8.	utilization of writing terminology	8a. "letters"	92
		8b. "words"	92
		8c. "sentence"	92
		8d. "proper name" (noun)	17
		8e. "punctuation"	8
		8f. 'capital letter"	25
		8g. "period"	42
9.	write "letter"	9a. upper case	25
		9b. lower case	42
		9c. both	33
		9d. yes	92
		9e. no	8
		9f. manuscript	100
10.	write at school	10a. yes	100
11.	write at home	11a. yes	67
		11b. no	33
12.	verbalize "drawing/writing" differentiation	12a. yes	58
		12b. no	42
13.	make concrete "drawing/writing" differentiation	13a. yes	92
		13b. no	8

Table 4
Students' Performance on Book Handling Skills
Arranged by Order of Difficulty (N = 13)

Skill		N	Percent Achieved
1	Identify/label "book"	13	100
2	Identify purpose of book	13	100
3	Identify content of book	13	100
4A	Demonstrate "front" of book	13	100
5B	Identify "page"	13	100
6	Verbally respond to print (read)	13	100
7	Demonstrate where reading starts in a book	13	100
8A	Identifies "top" of page	13	100
9	Demonstrates where reading begins on a page	13	100
13	Demonstrates left page last word to right page first word (cross-page progression)	13	100
18	Identifies a capital letter	13	100
19	Identifies title location	13	100
20A	Can recall main story characters	13	100
20B	Can recall story plot	13	100
20D	Can recall story events	13	100
4B	Identifies title page/first page of print	12	92
5A	Demonstrates "page"	12	92
8B	Identifies "bottom" of page	12	92
10	Demonstrates direction of print: 1 line	12	92
11	Demonstrates direction of print: 2 lines	12	92
22	Can relate role of author	12	92
12	Demonstrates exact physical matching of spoken word	10	77
16A	Demonstrates physical isolation of 1 word	10	77
16B	Demonstrates physical isolation of 2 words	10	77
17B	Demonstrates physical isolation of last letter in word	10	77
15A	Demonstrates physical isolation of 1 letter in word	9	70
15B	Demonstrates physical isolation of 2 letters in word	9	70
20C	Can recall story theme	8	62
14	Demonstrates correct position-in-space for reading page	5	39
13B	Locates end of story on last page, last line	1	8

Table 5
Summary of Students' Responses to the Concepts of Reading Interview (N = 12)

Item	Type	Prevalent Responses	Percent
1.	ability to read	1a. yes	83
		1b. a little bit	17
2.	how student learned to read	2a. looking in/at book	42
		2b. working words	25
3.	principal instructor	3a. teacher/aide	67
		3b. parent/sibling	25
		3c. self	17
4.	enjoy reading	4a. yes	75
		4b. somewhat	17
5.	help required to read	5a. yes	83
		5b. no	17
6.	difficulty level of reading process	6a. hard	67
		6b. easy	25
7.	people at home know how to read	7a. yes	92
		7b. no	8
8.	people at home read to student	8a. yes	75
		8b. no	25
9.	content read to student	9a. books/stories	58
		9b. Bible	17
10.	behavior while read to	10a. book directed	83
		10b. non-book directed	17
11.	differentiates reading/telling a story	11a. yes	33
		11b. no	67
12.	enjoy being read to	12a. yes	100
13.	ability to read with eyes closed	13a. yes	25
		13b. no	75
14.	t.v. in home	14a. yes	100
		14b. multiple sets	42
15.	reason people read	15a. getting somewhere in life/job	17
		15b. shopping	17
		15c. enjoy it	17
16.	variety of home reading material: range	16a. six	8
		16b. five	42
		16c. four	25
		16d. three	17
		16e. two	8
17.	variety of home reading material: content	17a. recipes/cookbook	83
		17b. books	75
		17c. newspaper	67
		17d. manuals/directions	42
18.	location of home reading material	18a. kitchen	83
		18b. bedroom	67
		18c. living room	67
19.	speak "language?"	19a. yes	58
		19b. no	42
20.	name of language	20a. English	50
		20b. Spanish	17
		20c. American	17

Table 6
Students' Most Frequent and Most Divergent
Responses to the Burke Reading Interview (N = 13)

	Item/Type	Frequent	Divergent
1.	student's principal response to unknown word	1. ask teacher	1. sit and wait until told what to do
2.	student's alternative response to unknown word	2. sound it out	2. try to remember it
3.	example of good reader: first choice	3. another LD student in class	3. me (the student)
4.	example of good reader: second choice	4. teacher	4. librarian
5.	good reader characteristics	5. being a teacher	5. practice
6.	good reader encounter with unknown word	6. never	6. yes - once
7.	good reader response to unknown word	7. sound it out	7. find out by the office
8.	student strategy to assist another disabled reader	8. tell them the word	8. read a book to th then ask them to read a book to me
9.	teacher strategy to assist another disabled reader	9. tell them to sound it out	9. give them easier book
10.	how student learned to read	10. teacher	10. self-taught
11.	method of acquisition	11. phonics-related	11. practice
12.	future reading goals	12. read more	12. write books
13.	reading ability: self-evaluation	13. not good	13. good
14.	routine reading material	14. school books	14. pencil label of school district; lottery ticket
15.	most-liked reading material	15. comics/comic books	15. Playboy
16.	most memorable reading material	16. monster series	16. Walt Disney

Table 7

Descriptive Statistics of the Students' Summary and Profile of Reader Strengths (N = 12)

Area	Mean %	Range %	Median %
1a. miscues indicating high Graphic similarity	44	35-68	40
1b. miscues indicating high Sound similarity	36	16-59	34
1c. miscues indicating Graphic similarity	87	73-95	89
1d. miscues indicating Sound similarity	84.5	66-92	86
2. miscues indicating similar Grammatical Function	56	39-67	55
3. syntactically acceptable sentences and/or corrected syntactically unacceptable sentences	39	9-92	29
4. semantically acceptable sentences and/or corrected semantically unacceptable sentences	23	0-92	12
5a. no sentence meaning change	20	0-92	10
5b. minimal meaning chang	18.5	0-65	9
5c. retention of author's meaning	38	0-100	18
6. high quality graphic miscues (N = 4)	7	6-9	6
7. high quality grammatical function miscues (N = 9)	8	3-15	7

APPENDICES

APPENDIX A

PARENT AND STUDENT DEPENDENT MEASURES

1. PARENT QUESTIONNAIRE
2. PARENT INDIVIDUAL QUESTIONNAIRE
3. BOOK HANDLING KNOWLEDGE INVENTORY
4. CONCEPTS OF READING INVENTORY
5. CONCEPTS OF WRITING INVENTORY
6. READING INTERVIEW
7. READING MISCUE INVENTORY: EVALUATION
8. READING MISCUE INVENTORY: WORKSHEET

Table 1

Parent Questionnaire

Child's Name _____ Birthday _____

Sex ____ __ Number of older brothers _____ Sisters _____

Date _____

Directions: For each question, please circle the response that comes closest to describing your child's behavior.

Does your child point out the name letters of the alphabet when playing?

seldom occasionally very often

*How many different alphabet letters does your child try to print?

less than 5 about 10 more than 20

*Does your child recite the whole alphabet without any mistakes?

seldom occasionally very often

If your child prints, what case does he use?

upper (capital letters) lower both

Did someone teach your child to read?

no one older brother or sister parent/other

If other, please explain _____

If someone is teaching your child, what is being taught? Circle any being taught.

letter names	letter sounds
printing letters	printing words
reading words	reading stories
spelling words	other

Does your child read books by him or her self?

no occasionally often

What new words have you noticed your child reading? List as many as you can think of (but no more than 15) that he identified. For example did your child point out and read labels on foods, words in books or magazines? I am interested in which printed words your child noticed recently.

*How many printed words altogether do you think your child can read?

less than 5 about 10 more than 20

Table 1

Parent Questionnaire Continued

Does your child ask for a printed word to be read to him/her?

seldom occasionally very often

Does your child try to identify a printed word by sounding out the letters?

seldom occasionally very often

Does your child spell out the letters in printed words?

seldom occasionally very often

*How many alphabet letters do you think your child can recognize?

less than 5 about 10 over 20

How often is your child read to at home per week?

less than 1/2 hour about 1 hour more than 2 hours

How often does your child visit the public library?

irregularly monthly once or twice a month weekly

Does your child have a subscription to a children's magazine?

no yes please identify the magazine _____

Does your child ask to have favorite books reread?

very often occasionally seldom

What is the average time your child watches T.V. per day?

less than 1/2 hour about 1 hour more than 2 hours

*Does your child hear story records at home?

very often occasionally seldom

*Does your child watch Sesame Street on T.V.?

seldom occasionally very often

*Does your child watch Electric Company on T.V.?

seldom occasionally very often

*Does your child watch Saturday A. M. cartoons on T.V.?

seldom occasionally very often

Table 1

Parent Questionnaire Continued

*Does your child talk to you about Sesame Street or Electric Company material?

seldom	occasionally	very often

*How often does your child go on outings with you (trips to special places, shopping, visits to friends, etc.)?

less than twice a week	about four times a week	more than six times a week

*Does your child own any alphabet books?

no	one	several

*omitted for this investigation

Source: Mason (1974), adapted and reprinted by permission.

Table 2

Parent Individual Questionnaire

If possible, both parents should fill out this page.

Please identify parent completing this page as Mother or Father_____

How did you learn to read?

School home self-taught other_____

Do you think you are a good reader?

yes sometimes no

What makes a good reader?

What would you like to do better as a reader?

When you come to a word you don't know, what do you do?

What do you read routinely? How often?

What do you like to read?

Is there anything you don't like to read?

Do you recall a special book or the most memorable thing you have read?

Does your child see you read? yes no

What is your occupation?_____

How far did you go in school?

Did not complete High School High School College Graduate School

How many parents are at home with this child?

Table 3

Book Handling Knowledge Inventory

Item	Administration	Instructions	Response	Child's Response
1	Show book; title covered by hand. Flip over pages.	"What's this called?" "What's this thing?" If child answers with the name of the book, record and ask, "What's (say name of book given by child)?"	"Book" "Story Book" "Story" Name of Book	
2	Displaying book.	"What do you do with it?"	"Read it" "Look at it" "Tell it" "Open it"	
3	Displaying book.	"What's inside it?"	"Story" "Picture" "words" "pages" "letters" "things"	
4	Present wrong way up and back towards S.	"Show me the front of this book." "Take the book and open it so that we can read it together."	Any indication of front or first page.	
5	Turn to page 3.	Hold on to a page and say, "Show me a page in this book." "Is this a page?"	Point to page. "Yes"	
6	Give the book to child.	Read this to me.	Record all responses	
7	If child doesn't read the back or does inappropriate book reading continue: give the book to the child. Read the first page.	"I'm going to read you this story. You show me where to start reading." "Where do I begin?"	Indicates print on first page	

Table 3

Book Handling Knowledge Inventory Continued

tem	Administration	Instructions	Response	Child's Response
8	Turn to the next page.	"Show me the top of this page." "Show me the bottom of this page.	Indicates top edge or toward top. Indicates bottom of page or towards bottom.	
9	Show the page to the child.	"Show me with your finger exactly where I have to begin reading."	Points to the first word on the page.	
10	Show the page to the child.	"Show me with your finger which way I go, as I read this page.	Left to right, on the page.	
11	Continue to show the page.	"Where then?" (This may already have been done or stated in #9; if so, credit but do not repeat.)	Top line to bottom line.	
12	Read the page.	"You point to the story while I read it." (Read slowly)	Exact matching of spoken word with written word. Close matching.	
13	If there is print on both pages, display the pages.	"Where do I go now?"	Points to the first line of print on the next page.	
14	Read the next two pages. If possible, turn to a page with print and a picture on it. Turn the book upside down without the child seeing you.	Can you or I read this now? Why or why not?		

Table 3

Book Handling Knowledge Inventory Continued

tem	Administration	Instructions	Response	Child's Response
15	Show how to use masking card to close the "curtains" over the "window." (Use two pieces of black cardboard.)	"Let's put some of the story in this window. I want you to close the curtains like this until I can see just one letter." "Now just two letters."	One letter correct. Two letters correct.	
16	Open "curtains."	"Now close it until we can see just one word." "Now just two words."	1 word correct. 2 words correct.	
17	Open "curtains."	"Show me the first letter in a word- any word."	First correct. Last correct.	
18	Remove card.	"Show me a capital letter - any capital letter."	Points clearly to a capital letter. Points to any capital letter.	
19	Read to end of story. Close book and pass it to the child.	"Show me the name of the book" or "Name of story?"	Cover, fly-leaf or title page.	
20	Get at comprehension.	"Tell me something about the story."		
21	Leave the book with the child.	"Show me the beginning of the story." "Show me the end of the story."	Opens book to first page and points to the first line. Turns to last page line.	
22	Title page pointing.	"It says here (Read title of the book" by ...(Read the author's name). What does by...(say author's name) mean?"	"He wrote it." "He made up the story." "He made the book."	

Source: [illegible] (1977) reprinted by permission

Table 4

Concepts of Reading Inventory

Name of child:_____ Date:_____

Age of child (years & months):_____ Sex:_____

Name of interviewer:_____

(Please use a cassette tape recorder for the interview if possible)

1. Do you know how to read?
2. How did you learn to read?
   a. Did somebody help you learn to read? If yes, who?
3. Do you like to read?
4. What do you like to read?
5. Do you want to be able to read?
6. How will you learn to read?
7. Does someone have to help you learn how to read?
8. Who do you think will help you learn how to read?
9. Do you think that you could learn to read by yourself?
10. Do you think learning to read will be easy/hard?
11. Why do you think learning to read will be easy/hard?
12. Do the people you live with know how to read?
13. Do they ever read to you? Who?
14. What do they read to you?
15. Do you like it? Why?
16. What do you look at while you are being read to? (Probe with "Anything else?")
17. If I said I'm going to read you a story, what would I do?
18. If I said I'm going to tell you a story, what would I do?
19. Is it possible to read with your eyes closed?

    "Yes/No", ask "Why?"

Table 4

Concepts of Reading Inventory Continued

20. Do you have a T.V.?

21. Does anyone in your house ever read in the kitchen?

    a. What?

    b. Living room: Bedroom

    (Try to get at books, magazines and newspapers and labels without using those words. If not ask directly about them.)

22. Do you ever go to the store with your parents?

23. Why do people read?

24. Do you speak a language?

25. What do you speak?

Source: Goodman (1977), reprinted by permission.

Table 5

Concepts of Writing Inventory

Name of child:_____ Date:_____

Age of child (years & months):_____ Sex:_____

Name of interviewer:_____

(Please use a cassette tape recorder for the interview, if possible.)

1. Write for me (have available lined paper, unlined paper, pencil, pen, magic marker and crayon in front of child). If child says no, say, "Write your name for me."
2. Read me what you wrote.
3. Tell me about what you wrote. What's this and this? (Get at terms word, letter, etc.)
4. Write me a letter.
5. Do you write at home or school?
6. What do you write?
7. Why do people write?
8. Draw me a picture.
9. Is drawing like writing? How? Or, why not?
10. If the child can't write his/her own name, then write three different looking names including the child's and ask him to read his name.

Source: Goodman (1977), reprinted by permission.

Table 6

Reading Interview

Name_____Age_____Date_____

Occupation_____Education Level_____

Sex_____Interview Setting_____

1. When you are reading and you come to something you don't know, what do you do?

2. Who is a good reader that you know? (Ask about teacher.)

3. What makes her/him a good reader?

4. Do you think that she/he ever comes to something she/he doesn't know when she/he's reading?

5. Yes When she/he does come to something she/he doesn't know, what do you think she/he does about it?

   no Suppose that she/he does come to something that she/he doesn't pretend to know. What do you think she/he does about it?

6 If you knew that someone was having difficulty reading, how would you help that person?

7. What would a/your teacher do to help that person?

8. How did you learn to read?

   What did (they/you) do to help you learn?

9. What would you like to do better as a reader?

10. Do you think that you are a good reader? Yes____ No____

Additional Questions:

11. What do you read routinely? Like every day or every week?

12. What do you like most of all to read?

13. Can you remember any special book or the most memorable thing you have ever read?

Source: Burke (1974), reprinted by permission.

Table 7

Reading Miscue Inventory: Evaluation

Word level substitution in context: Evaluation

Evaluation of the following questions indicates whether the student is making appropriate use of grammatical function and of the graphophonic cueing system. Questions 1, 2, and 3 are answered for only word level substitution miscues. Under column headed Text, list the word that is involved in a substitution miscue. Next to it, under the column headed Reader, list the word which the reader substituted. Answer the following questions for each of these pairs of words. If dialect is involved, place a d next to the reader's substitution.

Q1.	Graphic Similarity:	How much do the two words look alike?
	high	TWO of their three parts are similar. Beginning and middle. Beginning and end. Middle and end.
	some	ONE of their three parts is similar. Beginning or general configuration. Middle. End.
	none	NONE of their three parts are similar.
Q2.	Sound Similarity:	How much do the two words sound alike?
	high	TWO of their three parts are similar. Beginning and middle. Beginning and end. Middle and end.
	some	ONE of their three parts is similar. Beginning or general configuration. Middle. End.
Q3.	Grammatical Function:	Is the grammatical function of the reader's word the same as the grammatical function of the text word? (To help answer this question, read the text sentence with the reader's miscue in it.)
	same	The reader's miscue is the same grammatical function as the text word.
	questionable	It is impossible to tell whether the grammatical function of the reader's miscue is the same or different from the grammatical function of the text.
	different	The reader's miscue is a different grammatical function than the text word.

Table 7

Reading Miscue Inventory: Evaluation Continued

Language sense: Evaluation

Evaluation of the following two questions indicates the degree to which the reader is concerned with producing acceptable language as he reads. Questions 4 and 5 are answered for every sentence which contains one or more miscues. If the miscues exceed sentence boundaries, include as many sentences as necessary to maintain the relationship of all the miscues caused by other miscues. To read for acceptability, consider each sentence as the reader finally produced it. All corrected miscues or attempts at correction should be read as finally resolved by the reader. When there are no attempts at correction, the miscues should be read as produced. Miscues which are acceptable within the reader's dialect should be considered acceptable.

Number each sentence in the text and place the numbers for sentences containing miscues under the column headed Sentence Number. Next to this, in the column headed Number of Miscues, indicate the number of miscues contained in each of the sentences.

Q4.	Syntactic Acceptability:	Is the sentence involving the miscues syntactically (grammatically) acceptable in the story?
	yes	When the sentence is read as finally produced by the reader, it is syntactically acceptable in the story.
	no	When the sentence is read as finally produced by the reader, it is not syntactically acceptable in the story.
Q5.	Semantic Acceptability:	Is the sentence involving the miscues semantically (meaning) acceptable in the story?
	yes	When the sentence is read as finally produced by the reader, it is semantically acceptable in the story.
	no	When the sentence is read as finally produced by the reader, it is not semantically acceptable in the story.

Comprehending: Evaluation

Evaluation of this question indicates the degree to which the reader changes the intended meaning of the author as he reads. Question 6 is answered for every sentence which contains one or more miscues. To determine the degree of change the sentence is read as the reader finally produced it. All corrected miscues or attempts at correction should be read as finally resolved by the reader. When there are no attempts at correction, the miscue should be read as produced.

Table 7

Reading Miscue Inventory: Evaluation Continued

Q6.	Meaning Change:	Is there a change in meaning involved in the sentence?
	no	When the sentence is read as finally produced by the reader, there is NO change in the intended meaning of the story.
	minimal	When the sentence is read as finally produced by the reader, there is a change, inconsistency or loss to minor incidents, characters or sequences in the story.

Source: Goodman, Y., Burke, C., & Lindberg, M. (1972), reprinted by permission.

Table 8
Reading Miscue Inventory: Worksheet

Word Level Substitution in Context										Language Sense				Comprehending		
		Q1 Graphic			Q2 Sound			Q3 Gram. Func.						Q6 Meaning Change		
NUMBER	READER / TEXT	High	Some	None	High	Some	None	Same	?	Different	Sentence or Line Number	Number of Miscues	Q4 Syntactic Acceptability	Q5 Semantic Acceptability	No	Minimal	Yes
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
Number of words in portion coded:	Column Total										Total Sents.	Total Miscue	Total Yes	Total Yes			
	Percentages:																

APPENDIX B

SUMMARY AND PROFILE SHEET OF READER'S STRENGTHS

Table 1

Summary and Profile Sheet of Reader's Strengths

Reader's Name _____

1. The percentage of substitution miscues which indicate high Graphic and high Sound similarities.

   enter % Q1 high _____
   enter % Q2 high _____

   The percentage of substitution miscues which indicate Graphic and Sound similarities.

   enter % Q1 some _____
   enter % Q2 some _____
   combine Q1 high plus some _____
   combine Q2 high plus some _____

2. The percentage of substitution miscues which indicate similar Grammatical Function.

   enter % Q3 high _____

3. The percentage of instances that the reader produced syntactically acceptable sentences and/or corrected syntactically unacceptable sentences.

   enter % Q4 yes _____

4. The percentage of instances the reader produced semantically acceptable sentences and/or corrected semantically unacceptable sentences.

   enter % Q5 yes _____

5. The percentage of instances that the reader retained the author's meaning.

   enter % Q6 no change _____
   enter % Q6 minimal change _____
   combine Q6 no change plus minimal change _____

In order to obtain data about the following two areas of strength, it is necessary to return to the worksheet for the information. Read the sentence in which the miscue asked about occurs as if it were the only miscue in the sentence.

6. Relationship between graphic dissimilarity and meaning change substitution miscues with Graphic similarity marked "none" but where the miscues are either high quality miscues (indicate minimal or no change of meaning) or are corrected.

7. Relationship between grammatical function dissimilarity and syntactically acceptable substitution miscues with no Grammatical Function similarity but where the miscues are in structures which are syntactically acceptable or are corrected.

Source: Goodman et al. (1972), reprinted by permission.

APPENDIX C

SAMPLE LESSON PLANS FOR COMPREHENSION

Strategy Lesson

1. Reading Area: Comprehension

2. Cue Emphasis/Comprehension Area: Pronouns/Predicting Semantic Cues

3. Process Strength Utilized: Visual/Auditory/Verbal Language Expression

4. Process Weakness Avoided: Written Language Expression

5. Description of Activity:

A. Specific rationale:

To help the learner develop better comprehension, utilizing words incontext; to aid the learner in gaining meaning of what he reads by eliminating miscues specifically in the area of pronouns.

B. Evaluation:

Given a book of autobiographies of male and female social figures, the student will be able to predict if the autobiography is about a male or female from pronouns within the context of the story. The student will be able to correctly name the sex of at least four of five authors of autobiographies by verbal response. The student's responses will be recorded on a progress chart which lists the number of correct and incorrect responses.

C. Reading strategy instruction

a. Initiating (motivational preparation) Craig, I am going to read five stories of five very interesting people. Can you tell me if the person is a man or a woman in the story and what words in the story makes you think it is a man or a woman?

b. Interaction ------ Craig, tell me about the stories I have just read to you. What words in story one tells you that the story is about a man? Can you tell me any other words you can use in place of Mr. Jones? Can you use the word "her" in place of Mr. Jones? Where can you use the words "her" and "she"? What

is another word for words like "she and "he"?

c. Applying----- Craig, now I want you to read for me from this newspaper article. I have taken out the person's name that this story is about. Can you tell me if the story is about a girl or a boy? What pronouns tell you that the article is about a girl? If you use "he" instead of "she," will this change the meaning of the story?

d. Expanding----- Craig, here is a science book. In the chapter on parts of the human body, I want you to locate every pronoun and list them according to the sex they represent. Why is it important that you place the right body part with the right pronoun?

6. Behavioral Objective for Activity:

The student will be able to read stories with ten or more pronouns and not make pronoun miscues that would change the meaning of the story.

7. General Goal for Activity:

The general goal of this activity is to teach the importance of using the correct pronoun in reading activities so that comprehension in terms of semantics is not lost.

8. Evaluation:

Given a book of autobiographies, a science book, and articles from the newspaper, the student will be able to predict the sex of the persons in the stories using semantic cues (pronouns) without making more than two miscues.

9. Specific allowance for a minority learning handicapped individual

To generate high interest, the autobiographies could all be from noted black stars, authors, athletes and/or politicians. Some of the student's own family members could be used in stories where predictions can be made as to the pronouns that would describe family members.

Reading Lesson Plan

1. Reading Area: Comprehension
2. Cue Emphasis/Comprehension Area: Predicting Semantic Cues
3. Process Strength Utilized: Visual Language Association, Visual Memory, Visual Discrimination, and Written Language Expression.
4. Process Weakness Avoided: Visual Closure and Auditory Sequential Memory
5. Description of Activity: Negative Contractions

The child consistently miscues on contractions. He reads cannot for can't, will not for won't, and does not for doesn't. The child should recognize that two words may be telescoped into one, as in contractions.

a. Iniating

The students will read the story "Bert's Bath" in their Sesame Street Library. The teacher will initiate a discussion of the story by having the child look at the pictures to get an idea of what the story is about. The student will read the story silently first, but will orally read certain parts to answer specific questions asked by the teacher. For example, find and read the part in the story that tells why Bert can't take a bath now.

b. Interacting

The student will be asked questions such as: What words in the story are contractions; what does each contraction mean, can you think of some other contractions?

c. Applying

The student will identify contractions in other written materials, in other subjects such as science and social studies, and use them in his daily conversations.

d. Expanding

The students will read the story "An A Story" and identify the

contractions, the two words that form the contraction, and their meaning. They will also discuss how the contraction changes the meaning of the sentence. The students will be given reproductions of small portions of the story with the contraction missing, and will have to fill in the blanks with the missing contraction.

6. Behavioral Objective for Activity:

The child will learn to recognize common contractions, how to form contractions, what they mean in a sentence, and how to use them in sentences in his spoken language.

7. General Goal for Activity:

The child will increase his ability to predict semantic cues.

8. Evaluation:

Part I - The child will be given a passage from a story to read containing various contractions. He will be asked to identify each contraction, tell what it means, and the two words that the contraction is made up of. The passage will contain twenty contractions. Criterion is 80%. The child must successfully complete 16 out of 20. Data collection form used will be percent data.

Part II of the evaluation will consist of a paragraph from a familiar story where the child will need to fill in the blanks with the missing contractions or ones that can complete the meaning of the paragraph. The criterion is 80%, eight correct responses out of a possible ten. Data collection will be percent data.

9. Specific allowance for a minority learning handicapped individual:

This activity can be changed to take into consideration that the child is a minority handicapped child by changing the selections or the stories to be read by the child. Selections can be chosen from stories about minority handicapped children. For example, an appropriate passage

could be chosen from "I Know Why the Caged Bird Sings."

Reading Lesson Plan

1. Reading Area: Comprehension

2. Cue Emphasis/Comprehension Area: Predicting Semantic Cues

3. Process Strength Utilized:

The process strengths utilized in this lesson are verbal language expression, written language expression, visual discrimination, and auditory discrimination.

4. Process Weakness Avoided:

The process weaknesses as shown by the child are in the areas of auditory sequential memory and visual closure. These weaknesses were taken into consideration in the strategy lesson and were avoided.

5. Description of Activity: Pronouns

The child's oral reading is characterized by pronoun substitutions. She constantly reads she for he, I for we, he for it, etc.

a. Initiating

The teacher will generate a discussion about the child's family and home life. Questions will be asked such as: How many people are in your family, do you have any brothers, what are their names, and what things do you do with your family? As the child answers these questions, the teacher will write down what the child says in the form of an experience story.

b. Interacting

These ideas will be shared with the other students in the class who will be encouraged to participate in the activity. Their ideas will be exchanged, thereby providing a basis for other experience stories.

c. Applying

As the experience story is being written, the child will be asked to read each sentence as it is written and then read the completed

story. The child will be given a copy of his story and will be asked to find all of the pronouns by using the context of the story to aid him. All pronouns will be underlined by the child.

d. Expanding

Each child's story will be duplicated and a copy given to each member of the class. In each story, the child will be given a choice of two pronouns from which to choose. The story will be read orally as it is presented in class and the child will be asked to choose the correct pronoun giving a rationale for his choice. These stories will be used over a two week period.

6. Behavioral Objective for Activity:

The child will learn to use contextual clues in his reading to aid him in determining if he is reading about a person who is male or female, is singular or plural, or if he is reading about nouns other than persons such as animals, places, or things.

7. General Goal for Activity:

The child will increase his ability to predict semantic cues.

8. Evaluation:

The child will be evaluated on his ability to use pronouns correctly. The child will be given a short story containing twenty pairs of pronouns (2 choices from which to choose). The story will be read orally in class. The child will identify the correct pronoun and underline his choice. The criterion will be 18 out of 20, 90%. The type of data used is percent data - the number of correct behaviors over the number of opportunities.

9. Specific allowance for a minority learning handicapped individual:

The language experience approach denotes a method of teaching in which the reading materials are developed by recording children's spoken

language. The content of pupil created reading materials represents the experiences and language patterns of the reader. Therefore, this activity is already geared to the minority learning handicapped individual and no other allowances are necessary.