Improving the Reading Comprehension of Children with Dysphonetic and Dyseidetic Dyslexia Using Story Grammar

Robert F. Newby, JoAnne Caldwell, and Donna R. Recht

Five 8- to 10-year-old children with dysphonetic and dyseidetic dyslexia were given instruction in reading comprehension using a story grammar strategy in which story instruction was differentially designed to match the simultaneous or sequential mental processing strengths of each dyslexia subtype. A multiple baseline, single subject experimental design and statistical analyses indicated that the experimental treatments yielded statistically and clinically significant improvements in the proportion of qualitatively important story elements recalled by the subjects, when compared to baseline traditional remedial instruction. The results suggested that students with dyslexia can increase their reading comprehension with training in metacognitive strategies. The question of whether the results were attributable to the subtype-matched methods per se or to strategy training in general, as well as a number of methodological issues, is being explored in subsequent research.

Dyslexia is defined as a disorder characterized by extreme difficulty in learning to read despite normal intelligence, adequate instruction, adequate vision and hearing, and sociocultural opportunity (Hynd & Cohen, 1983). Most recent definitions presume an underlying neurological basis for this disorder and for learning disabilities in general (Hammill, Leigh, McNutt, & Larson, 1981; Harris & Hodges, 1981). Once thought to be a unitary disorder, dyslexia is now thought to consist of several different subtypes.

Subgroup Identification

Several subgroups have been identified by logically sorting individuals with dyslexia according to their patterns of deficits on various diagnostic tests. Kinsbourne and Warrington (1963) identified two groups, one exhibiting a language disorder and the other a nonverbal sequential processing problem. Boder (Boder & Jarrico, 1982) described three groups, a dysphonetic group that exhibited difficulty using phonetic analysis, a dyseidetic group that had difficulties with whole word identification, and a mixed group. Bakker's research group (Bakker, 1984; Bakker, Moerland, & Goekoop-Hoefkens, 1981) distinguished between P-type and L-type dyslexics. P-type dyslexics overrelied on visual-spatial strategies for word identification, while L-type dyslexics overutilized sequential phonetic strategies. Mattis, French, and Rapin (1975) identified a language deficit group, a visual-spatial deficit group, and a group in which the children exhibited difficulty with articulatory and graphomotor tasks. Denckla (1972) also identified language deficit and visual-spatial deficit groups, but she added a third category, dyscontrol, which she described as "sweet, sloppy and silly." Lovett's research group (Lovett, 1987; Lovett, Ransby, & Barron, 1984; Lovett, Warren, Ransby, & Borden, 1987) used a battery of reading measures to identify an accuracy-disabled group that demonstrated problems in decoding proficiency and a rate-disabled group that exhibited a markedly deficient reading rate despite accurate performance in word recognition.

Several subtypes have been identified through statistical methods of cluster analysis. Using a variety of reading measures, Doehring, Trites, Patel, and Fiedorowicz (1981) reported three subtypes: Type O exhibited an oral reading deficiency; Type A was described as having an associative disability reflected in poor auditory-visual matching; and Type S was characterized as having a sequential disorder. Petrauskas and Rourke (1979) used neuropsychological tests to identify three subtypes: One exhibited a language disorder deficit; a second was described as having a mixed linguistic/sequencing deficit; and the third had an articulation graphomotor dyscoordination deficit. Satz and Morris (1981) identified four subtypes: The first exhibited a global language impairment; the second had a specific language impairment; the third had a mixed language and perceptual impairment; and finally, the fourth group showed no neurological impairment, and their disability might have been caused by emotional or motivational problems. Lyon and Watson (1981) identified six subtypes, three of which seemed to reflect different language disorders. The fourth displayed visual perception deficits and the fifth, deficits in auditory sequencing. The sixth group corresponded to Satz and Morris' (1981) motivational emotional group.

Although different researchers have not reached a definitive conclusion concerning the essential subtypes of dyslexia (for a review, see Harris, 1982; Hynd & Hynd, 1984), some common threads are emerging. Hynd and Cohen (1983) reviewed the field and summarized the most commonly found subtypes as dysphonetic, dyseidetic, and mixed. Bakker's (1984) P-type dyslexics are likely to appear dysphonetic, while L-type show many features of dyseidetics. Lovett's (1987) accuracy-disabled group may consist largely of dysphonetics, who are inaccurate in phonetic analysis, whereas her rate-disabled group may correspond to the dyseidetic pattern, where poor sight word recognition leaves the reader with the tedious strategy of sounding out most words. Pirozzolo (1985) aptly extended the labels for the basic dysphonic and dyseidetic subtypes to "auditory-linguistic dyslexia" and "visuo-spatial dyslexia," respectively.

To summarize, dysphonetic or auditory-linguistic dyslexia refers to problems with sequential phonetic processing of written text, while visual-spatial dyslexia involves difficulty in processing words as wholes. Remaining differences in the subtype literature are probably based upon the subject selection criteria, tests, and methods used for grouping by various researchers. Subtyping offers the possibility of studies that test the efficacy of different instructional interventions.
for dyslexics by using subtype by treatment paradigms. The research program described here began investigating the effectiveness of such a paradigm in relation to reading comprehension.

Subgroup Treatment

Several research programs have begun to test differential instructional programs for subtypes of children with reading disabilities. Bakker et al. (1981) developed differential classroom/instructional and laboratory treatments for children with P-type or L-type dyslexia. The P-type group, presumed to overrely on right-hemisphere visual-spatial strategies, received compensatory left-hemisphere stimulation by projecting words to the right visual field and hence to the left hemisphere, and by presenting reading instructional tasks with all special typefaces and pictures removed in order to focus students’ attention on the linguistic aspects of the text. The converse treatments were used with the L-type group: left visual field word presentations and perceptually complex texts with letters within individual words printed in different typefaces. Results indicated electrophysiological evidence of the differential treatment effects with the two subtypes, that is, increased evoked response amplitudes in the previously weaker hemisphere.

Fiedorowicz and Doehring (1984) administered three instructional methods matched to children in their Type O, Type A, and Type S subtypes (Doehring et al., 1981). All treatments involved presentation of letters, syllables, and words on computer monitor screens. The Type O treatment involved reading orally as accurately and quickly as possible. Type A children matched an auditory sample with a visual item. Type S subjects matched a visual sample with a visual item. Compared to delayed-treatment controls, all subjects improved on the directly trained procedures, on recognition of isolated words, and on phonics skills.

Accuracy-disabled and rate-disabled subtypes were given one of three treatments by Lovett et al. (1984). The Decoding Skills (DS) program focused on word recognition and spelling skills using a phonics approach for regular words and a sight vocabulary approach for irregular ones. The Oral and Written Language Stimulation (OWLS) program involved intensive work on oral language comprehension, reading comprehension, and written composition. The Classroom Survival Skills (CSS) program was a control procedure involving social skills, classroom etiquette, life skills, and self-help techniques. Accuracy-disabled children improved their decoding of both regular and irregular words through the DS program only. The DS and OWLS programs were equivalent in the magnitude of improvements for the rate-disabled group. It was suggested that only readers who are rate disabled may benefit significantly from a comprehensive language stimulation program. On the other hand, readers with more severe disabilities (i.e., accuracy disabled) may lack a linguistic basis for such a program.

The present study moved beyond all but the OWLS program described by Lovett et al. (1984) by focusing instruction on the reading comprehension of the 2 subtypes of dyslexia, as opposed to word recognition or other more elementary decoding aspects of the reading process. Another major difference from prior research was that the treatments here were specifically designed to build upon the strengths of children with dyslexia, rather than remediate their deficits. This approach was guided by neuropsychological models of instruction that use methods that compensate for children’s processing weaknesses by strengthening and diversifying their areas of strengths (Hynd & Cohen, 1983; Kaufman, Kaufman, & Goldsmith, 1984). The Kaufman’s program, which emphasizes sequential or simultaneous mental processing strengths, is one of the most explicitly formulated neuropsychological models in the literature at present, but it has not yet been subjected to empirical outcome research. Finally, the present study incorporated instructional methods and materials that are presently in use in many schools in the United States, rather than novel, laboratory-based procedures.

The specific goal of the present study was to increase the narrative text comprehension of children with dysphonetic or dyseidetic dyslexia. Story grammar (Baker & Stein, 1978) was taught as a strategy for understanding and remembering stories. Story grammar describes parts of a well-formed story: setting, characters, problem, episodes, and resolution of the problem. These parts are intuitively understood by adults (Stein, 1979), but not well understood or utilized by children (Spiegel & Fitzgerald, 1986). Explicit instruction and directed practice in selecting and recording the story grammar elements have enhanced the reading comprehension of average readers (Whaley, 1981) and poor readers (Fitzgerald & Spiegel, 1983). Although story grammar in narrative text has increased reading comprehension in general groups of poor readers, it has not been used with a specific dyslexic population.

METHOD

Subjects

The subjects were 4 children with dysphonetic dyslexia and 3 with dyseidetic dyslexia aged 8 to 10 years (mean = 9.13) who applied for tutoring services at a college-based, professionally staffed reading clinic. Three of the 7 received learning disability services in the schools. All subjects were diagnosed using Boder and Jarrico’s (1982) dysphonetic, dysideetic, and mixed criteria based upon specific reading and spelling patterns. The dysphonetic subtype was intended to fit the broader concept of auditory-linguistic dyslexia reviewed above; the dysphonetic subtype, visuo-spatial dyslexia. In 2 cases, subjects with reading quotients above 80 were included because of clearly deficient scores on the reading comprehension battery. Because this study was concerned with comprehension instruction, more weight was given to the comprehension reading scores than to the reading quotient, which is based upon word recognition. Additional criteria included (a) at least average intelligence, as indicated by any of the three mental processing global scales on the Kaufman Assessment Battery for Children (Kaufman & Kaufman, 1983); (b) at least 1 year below current grade placement in reading comprehension for Grades 1 through 3 or at least 2 years below grade level for Grades 4 and above, as diagnosed by an informal reading inventory (Johns, 1985) and by standardized achievement batteries administered by
schools; (c) confirming evidence of dysphonetic or dyseidetic miscues (oral reading errors) judged qualitatively by reading specialists on an informal reading inventory; and (d) at least average mental processing standard score in the area of presumed strength (simultaneous for children with a dysphonetic pattern and sequential for a dyseidetic pattern) on the Kaufman Assessment Battery for Children. Four out of 5 subjects showed substantially better mental processing in their area of presumed strength as opposed to the area of presumed weakness, and three of these differences were statistically significant according to the criteria set by the test authors. Table 1 details diagnostic data on each of the subjects, excluding 2 children with a dysphonetic pattern who were dropped from the study later because reliability checks on the instructional method revealed inaccurate adherence to the treatment protocol. Five of the 7 children were Caucasian and two were black; all came from middle class backgrounds.

**Instruction**

The focus of instruction was on student comprehension of the information read. Certain general procedures were the same for both the baseline and experimental instruction periods. Five vocabulary words that were conceptually important for the story content were selected and taught with a focus on student understanding. For each word, the teacher used a piece of paper that was divided into four squares. The vocabulary word was written in the first square and discussed in a sentence and in a real life context. From the discussion, the student generated an example that was written in the second square and a nonexample that was written in the third square. The final square was reserved for a definition in the student’s own words. These vocabulary sheets were displayed on the walls and reviewed periodically. Across students, mastery of the words was so high that it did not differentiate the baseline from the experimental phases.

Next, a narrative story from children’s literature or from a basal reader written at each subject’s instructional level was presented. During the baseline instruction, the teacher followed standard reading instruction procedure: The teacher set a purpose for reading that was tied to the content of the story, the student orally read the story, and afterward retold the story and answered an equal proportion of literal and inferential questions. During the experimental phase, the teacher again set the purpose and asked the student to read the story orally. A major part of the session, however, was spent teaching the story grammar strategy. All students were taught over the course of the first experimental sessions that stories generally contain the following parts: a main character, a setting, a problem encountered by the main character, events or attempts on the part of the main character to solve the problem, and a solution or resolution to the problem. Students were told that using these parts would help them to remember the story better.

Teachers used the initial stories to illustrate each component and gradually shifted the responsibility for identification to the students. Story grammar instruction with children who were dysphonetic attempted to capitalize on their simultaneous mental processing strengths by using pictographs (see Figure 1). As an individual story component was identified by the students, they drew or briefly notated it on separate index cards, without regard for sequential order. Students who were dyseidetic were given a sequentially based instruction. Using the prepared outline (see Figure 2), they were taught to first identify the main character, then the setting, and so on in a prescribed order. All students were encouraged to look at and reread the cards and outline prior to recall; however, they were not allowed to see them during the recall itself. Throughout the experimen-

### TABLE 1
Demographic and Test Data on Five Subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>Sex</th>
<th>Age Grade</th>
<th>School-reported reading grade level</th>
<th>Boder reading quotient</th>
<th>Boder dyslexia classification</th>
<th>Johns reading comprehension grade level</th>
<th>Kaufman Assessment Battery for Children standard scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Male</td>
<td>8–10</td>
<td>2nd</td>
<td>88</td>
<td>Dyseidetic</td>
<td>Familiar 2nd</td>
<td>Sequential 91</td>
</tr>
<tr>
<td>B</td>
<td>Male</td>
<td>8–6</td>
<td>3rd</td>
<td>82</td>
<td>Dysphonetic</td>
<td>Familiar 2nd</td>
<td>Unfamiliar 2nd 79*</td>
</tr>
<tr>
<td>C</td>
<td>Male</td>
<td>9–1</td>
<td>3rd</td>
<td>67</td>
<td>Dysphonetic</td>
<td>Familiar primer</td>
<td>Sequential 95</td>
</tr>
<tr>
<td>D</td>
<td>Female</td>
<td>8–7</td>
<td>1st</td>
<td>76</td>
<td>Dyseidetic</td>
<td>Familiar 2nd</td>
<td>Unfamiliar primer Simultaneous 109*</td>
</tr>
<tr>
<td>E</td>
<td>Female</td>
<td>10–8</td>
<td>5th</td>
<td>80</td>
<td>Dyseidetic</td>
<td>Familiar 3rd</td>
<td>Sequential 104</td>
</tr>
</tbody>
</table>

*Sequential vs. Simultaneous significantly different at p < .05.
tal sessions, students were repeatedly asked to verbalize the parts of the story and how identification of these words would aid their recall. In order to monitor how reliably tutors were applying the instructional methods, one of the authors (DR) observed randomly distributed sessions by each of the three tutors.

Following the story-based instruction, word recognition instruction ensued in both baseline and experimental phases. In the baseline, students received standard phonetic word recognition instruction that was appropriate for their reading level but undifferentiated according to their subtype. In the experimental phase, those with a dysphonetic pattern were taught using a combined auditory-visual-kinesthetic approach, while those with a dyseidetic pattern were taught using a more phonetic word phonogram approach.

**Procedure**

Each student was given two 70-minute, one-to-one tutoring sessions per week for 7 weeks. An experimental single subject design was used. Multiple baseline measures were taken across subjects (Barlow & Hersen, 1984), as follows: Each subject was randomly assigned to start with two, four, or six baseline sessions of traditional remedial tutoring, after which strategy instruction on story grammar matched to the appropriate dyslexia subtype was introduced for the next eight sessions. This single subject design was utilized to focus the study on each individual subject's time course of response to instruction, rather than obscuring individual differences in response by grouping all subjects' data together for analysis.

**Outcome Measures**

Outcome measures were taken at the end of each session following the word recognition skills component of the lesson, using the passage that had been covered during that session. They included (a) number of words read orally in 1 minute, starting at the beginning of the passage, discounting miscues; (b) percentage of words taught during the word recognition component that were read correctly in list format; and (c) number...
of idea units recalled from the passage. Two different methods were used to measure idea units, both based on propositional analysis (Clark & Clark, 1977) of verbatim transcripts from audiotapes of free recall periods. Instructions during the free recall periods were to “tell me everything you can remember from the story we read today.” Unlimited response time was allowed, and further encouragement for more details (e.g., “Can you remember anything else?”) was provided by the tutor as necessary. The first recall measure, termed here “quantitative analysis,” was to count all propositions in the story and all propositions in the students’ recall, then to compute the percentage of all propositions from the passage that were recalled. The second, called “qualitative analysis,” was to construct a composite of important idea units in the story using the independent judgment of two of the three authors. Each student’s recall was compared to the composite, and the idea units were counted to compute the percentage of propositions in these composites that were recalled. The qualitative method was devised to measure subjects’ comprehension of the most important or central ideas in each story, in contrast with the quantitative approach of cataloguing every detail from the story text. No penalties were applied for incorrect ideas or intrusions in the free recall. However, credit was not given for current inferences. The quantitative and qualitative scoring was done by one author (JC). A random sample was independently rescored by another author (DR). Interrater reliability checks indicated a correlation of .98 for both number of propositions and the percentage of recall that matched the adult summaries.

RESULTS

Each of the outcome measures was plotted on contiguous graphs and subjected to standard visual analysis procedures for multiple baseline designs (Barlow & Hersen, 1984). The main goals in interpreting these graphs were to identify the effects of intrasubject variability due to overly familiar or unfamiliar story topics, to evaluate whether stable baseline performance had been established, and to determine if the levels or slopes across time of each subject’s performance on each outcome measure differed between baseline and treatment. Because lengths of baselines were randomly assigned among subjects, increases in level or variability between baseline and treatment could be reasonably attributed to treatment effects.

The oral reading and vocabulary measures showed no treatment effects. Specifically, the number of words read correctly in context in 1 minute varied minimally to moderately within each subject, but neither the overall levels nor the slopes of the values across time changed substantially from baseline to treatment. The number of miscues during the 1-minute readings were uniformly low and stable across sessions for all subjects. The percentage of words recognized correctly in list format was uniformly high for all subjects during the treatment phases, but these were not judged to be meaningfully different from the very high baseline levels on this measure (see Note 1).

The quantitative comprehension recall measure showed an ambiguous treatment effect (see Figure 3). Subject B showed a slightly higher percentage of propositions recalled during treatment (4% to 23%) than during baseline (2% to 6%), but the magnitudes of the levels in both conditions were low and not substantially different from each other. Subject D showed wide variability but no consistent

![Figure 3. Percentage of ideas recalled from whole stories in each session (filled data points indicate dysphonetic subjects; open points, dyseidetics).](image-url)
pattern of level or slope changes between baseline and treatment. Subjects A, C, and E showed low and stable levels across both conditions.

Clear treatment effects were found using the qualitative analysis method, including increased variability of performance for 4 of the 5 subjects (A, B, C, and E on Figure 4) and, after an initial and expected period of one or two sessions to adjust to the new treatment, increased levels of performance for 4 of the 5 subjects (A, B, D, and E on Figure 4). Baselines were not ideally stable for Subjects B, C, and D, although the retrospectively discovered intrusion of several overly familiar stories may have been the major cause of this for the latter 2 subjects. Slope changes between baseline and treatment were thereby difficult to evaluate.

A two-tailed $t$ test comparing the mean percentage across all subjects of ideas recalled in the last two baseline sessions (40%) with the last two experimental sessions (62%) was significant for the qualitative data, $t = 3.39(4), p < .05$, but not significant for the quantitative data, $t = 0.04(4), p < .10$.

**DISCUSSION**

These results provide initial evidence that children with dyslexia can benefit from strategy instruction to increase their recall of the qualitatively important ideas from reading passages to statistically and clinically significant higher levels. Children with dyslexia, like normally achieving readers (Whaley, 1981) and delayed readers (Fitzgerald & Spiegel, 1983) can effectively use metacognitive methods to organize their understanding of reading material. Although qualitative reading improvements were seen in both subtypes, a smaller proportion of children with the dysphonetic pattern (1/2) than those with the dyseidetic pattern (3/3) showed clear increases in the levels of ideas recalled during the treatment phase. If substantiated in further research, this finding would parallel Lovett et al.’s (1984) report that accuracy-disabled readers did not show as much word recognition improvement as rate-disabled readers in a comprehensive language stimulation program.

Selection of instructional materials for the current study was based primarily upon the readability level of each story, although effort was also made to choose narratives about topics that were moderately familiar to the subjects. However, some selections proved to be overly familiar (i.e., “The Little Red Hen,” Subject C, Session 2), so recall probably represented memory of what had been previously heard or read more than what had been specifically read during the session. Conversely, some topics proved to be quite unfamiliar for particular subjects (e.g., circuses, Subject E, Session 9). The facilitative effect of background knowledge upon reading comprehension has been well documented (Pearson, 1985). In the present study, it may have contributed to outlier scores. More care in passage selection with regard to this variable is warranted in future studies. In addition to the objectively specified facilitative effect of story grammar instruction, outlined above, informal analysis of recall transcripts provided evidence for changes in the structure of some subjects’ understanding of text materials. For example, in baseline, Subject E’s recall of each story was non-sequential and random. As experimental instruction progressed, her recall became more sequential and specific. When asked to recall, she started with “the setting is . . . , the characters are . . . , the problem is . . . , then . . . and the problem

**Figure 4.** Percentage of ideas recalled from adult summaries in each session (filled data points indicate dysphonetic subjects; open points, dyseidetics).
got fixed by. . . .” This type of improvement in the metacognitive organization of the subjects’ recall will be explored further in future studies using methodology currently under development.

Several important questions for follow-up arose. First, did the differential dysphonetic/simultaneous versus dysesidetic/sequential strategies have specific benefit for the matching subtypes of dyslexia, or was metacognitive strategy training in general without specific tailoring to subtype just as effective? Some variant of a single case reversal design (Barlow & Hersen, 1984) with alternations between the simultaneous and sequential treatments for all subjects may be most apt for addressing this question, although continuing effects of prior training may complicate the interpretation of results in a reversal design such as ABAB. Second, subjects in the present sample read, mapped, and recalled the story all in one 70-minute class. There is a need to determine the stability of such recall over longer periods of time.

Third, it will be important to test the transfer of the comprehension skills demonstrated here to other settings besides the tutoring sessions themselves, as well as the stability of gains after treatment terminates. Lovett et al. (1987) have found some transfer effects in a word recognition training program for accuracy-disabled readers. It is virtually certain that longer term and more intensive interventions need to be tested to substantially benefit typical children with dyslexia. Finally, it would be helpful to develop more sensitive measures of oral reading skill and vocabulary development as well as more focused, subtype-tailored training methods for these more elementary reading skills. Smith’s (1986) provocative theory that improvements in the subjects’ recall will be explored in future studies using methodology currently under development.

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NATIONAL ASSOCIATION CONVENTION CALENDAR

May 23–26, 1989 • Child Welfare League of America • Chicago, Illinois • Contact: 440 First St. NW, Washington, DC 20001; 202/638-2952

May 24–28, 1989 • Association for Behavior Analysis • Milwaukee, Wisconsin • Contact: 258 Wood Hall, Western Michigan University, Kalamazoo, MI 49008; 616/387-4494

May 28–June 1, 1989 • American Association on Mental Retardation, Annual Conference • Chicago, Illinois • Contact: 1719 Kalorama Rd. NW, Washington, DC 20009; 202/387-1968

June 4–6, 1989 • Behavioral Teratology Society • Richmond, Virginia • Contact: PO Box 708, Greenfield, IN 46140; 317/467-4894.

June 25–29, 1989 • The American Association for Counseling and Development and the British Association for Counselling • West London, United Kingdom • Contact: 5999 Stevenson Ave., Alexandria, VA 22304; 703/823-9800

July 9–28, 1989 • Kephart Special Education Symposia • Breckenridge, Colorado • Contact: Kephart Center, University of Northern Colorado, Greeley, CO 80639; 303/351-2306

August 11–15, 1989 • American Psychological Association, Annual Conference • New Orleans, Louisiana • Contact: 1200 17th NW, Washington, DC 20036

August 30–September 1, 1989 • Second European Logo Conference • Gent, Belgium • Contact: State University Gent, Department of Education – EDIF, H. Dunantlaan 1, B-9000 Gent, Belgium; 91/25 41 00 ext. 342 or 354.

September 24–26, 1989 • CEC/CCBD Topical Conference on Behavioral Disorders • Charlotte, North Carolina • Contact: CEC, 1920 Association Dr., Reston, VA 22091-1589; 703/620-3660

October 4–6, 1989 • The Fourth International Symposium on Exceptional Children and Youth • Bangor, Maine • Contact: Department of Education and Cultural Services, State House Station #23, Augusta, ME 04333; 207/289-5950

October 19–21, 1989 • Learning Disabilities Association of Canada, Seventh National Conference • St. John's Newfoundland • Contact: PO Box 7122, St. John's, Canada NF A1E 3Y3; 709/757-0383.

October 21–25, 1989 • CEC/DEC 5th International Early Childhood Conference on Children with Special Needs • Minneapolis, Minnesota • Contact: CEC, 1920 Association Dr., Reston, VA 22091-1589; 703/620-3660

October 26–28, 1989 • 11th International Conference on Learning Disabilities • Denver, Colorado • Contact: CLD, PO Box 40303, Overland Park, KS 66204; 913/492-8755

October 28, 1989 • The Second New England Joint Conference on Specific Learning Disabilities • Brockton, Massachusetts • Contact: 340 Foster St., North Andover, MA 01845; 508/682-6154

November 3–6, 1989 • National Association for the Education of Young Children, Annual Conference • Atlanta, Georgia • Contact: 1834 Connecticut Ave. NW, Washington, DC 20009; 202/232-8777

November 8–12, 1989 • Tourette Syndrome National Conference • McLean, Virginia • Contact: 42–40 Bell Blvd., Bayside, NY 11361; 718/224-2999

November 9–10, 1989 • Society for Behavioral Pediatrics • Cambridge, Massachusetts • Contact: 241 East Gravers Ln., Philadelphia, PA 19118; 215/248-9168

November 17–20, 1989 • American Speech-Language-Hearing Association, Annual Convention • St. Louis, Missouri • Contact: 10801 Rockville Pike, Rockville, MD 20852; 301/897-5700

November 29–December 2, 1989 • Orton Dyslexia Society, 40th Annual Conference • Dallas, Texas • Contact: 724 York Rd., Baltimore, MD 21204

December 7–9, 1989 • TASH: The Association for Persons with Severe Handicaps, 16th Annual Conference • San Francisco, California • Contact: 7010 Roosevelt Way NE, Seattle, WA 98115; 206/523-8446