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ABSTRACT

Definitions of dyslexia provided by general and special educators, support personnel, parents, and administrators were compared and contrasted to currently accepted definitions found in the literature. In addition, the effects of symposium attendance on changing participants' perceptions of the definition of dyslexia were assessed. Surveys were completed by respondents before and after attending the symposium, and definitions were categorized into 17 characteristics. Significant differences were found between general and special educators' definitions of dyslexia. Although the literature frequently characterizes dyslexia as a language problem, this was not mentioned frequently by respondents. Dyslexia was most frequently characterized as a reading difficulty, and the next most frequently mentioned characteristic was reversals and inversions. When compared to educators' and administrators' pre-symposium responses, parents' perceptions of dyslexic characteristics displayed an adherence to definitions found in the literature. Dyslexia was more often viewed as involving a writing problem after the symposium than before. (SW)

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## The Dilemma of Defining Dyslexia: Differing Perceptions

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### Abstract

Dyslexia has been defined, historically and functionally in many overlapping and sometimes conflicting terms, thus leading to confusion and imprecision in diagnosis, treatment, and remediation of the problem. This study was undertaken to ascertain if practitioners in the field (general and special educators, student teachers, and support personnel), define dyslexia in a similar way as do parents, and administrators, and if these definitions concur with currently accepted definitions of dyslexia in the literature. In addition, the study sought to determine if definitional emphasis on certain characteristics manifested by dyslexic students would change after attendance at an all-day symposium on dyslexia. Surveys, both pre- and post-symposium were collected, and attendees' responses were categorized into 17 characteristics, then ranked according to frequency. The Wilcoxon Matched-Pairs Signed Ranks Test indicated significant differences ( $p < .05$ ) existed, with writing as a characteristic moving from a rank of 11, to a rank of 1, as the most frequent response. Chi-Square Tests of Homogeneity used on the pre-symposium samples determined significant differences ( $p < .10$ ) between general and special educators' definitions of dyslexia as a language problem and as a learning disability. Parents' perceptions of dyslexic characteristics, when compared to Educators' and Administrators' pre-symposium responses, although not statistically significant, displayed an almost intuitive adherence to definitions found in the literature, and underscore the necessity of parental involvement in the diagnosis and treatment of dyslexic students.

## The Dilemma of Defining Dyslexia: Differing Perceptions

### Historical Perspectives

Unraveling the myths of dyslexia can be a somewhat daunting task. In the past, dyslexia was a term loosely applied to severe reading disabilities. However, professionals in both reading and other fields define dyslexia in various ways. Dyslexia has been described as a neurologically-based disorder in which there is an unexpected failure to read. Medical professionals consider dyslexia as a condition resulting from neurological, maturational, and genetic causes (Harrie 1984), while those in the field of psychology identify dyslexic individuals on the basis of specific reading problems evidenced, and do not refer to causation. Ophthalmologists view the disorder as a vision problem, and devise specific eye exercises to help children compensate for their lack of "fusion".

The term "congenital word blindness" was first used to refer to dyslexia by British ophthalmologists who viewed dyslexia primarily as a visual disorder (Rosenberger 1992). Samuel Orton, a British researcher noted in the field, was joined by American neurologists in the 1930's; these researchers saw the frequent association between reading disabilities and language disorders in primary grades, and, therefore classified dyslexia as a language disorder (Rosenberger 1992). Current researchers (Catts 1989; Duane 1979; Kamhi 1992) conclude that dyslexia involves a life-long, possibly genetic, difficulty with language in both expressive and receptive skills in written language. Similarly,

Slingerland (1982) perceives dyslexia as a Specific Language Disability (SLD), but one that is ideopathic. She cites the concerns of parents and teachers who have found that dyslexic students have difficulties with spelling and writing as well as reading.

Shaywitz (1992), however, believes that dyslexia occurs along a continuum that includes normal reading behavior, and can best be conceptualized as the tail of a normal distribution of reading ability. Shaywitz hypothesized that some dyslexic children may be diagnosed in an early grade because of weak phonological ability, but may not be considered dyslexic at a later time.

Other researchers support the hypothesis that dyslexia is a heterogeneous disorder. They note that reading is composed of a number of subprocesses that include auditory sequencing, visual-motor-spatial integration, short-term memory, and auditory and visual integration. Any breakdown in the synthesis of these processes may result in a reading difficulty.

Consensus in the field suggests that dyslexia is both a reading problem and a written-language disability (spelling and writing) of students of average or above intelligence, who have had adequate instruction in the reading field. Three descriptors: reading problem; language problem (spelling or writing) ; and average intelligence were used by the authors of this report as the ones most accepted in the field, and the responses of the symposium attendees were compared to these to

determine if the practitioners' pre-symposium responses in the current sample agreed with the commonly accepted definitions. Parents' responses were also compared to find if their perceptions were congruent with the literature, and/or with the collective perceptions of the practicing professionals.

### Purpose of the Study

It was the purpose of this study to analyze current definitions of the term "dyslexia" from the literature and compare those definitions with definitions commonly held by practicing multi-disciplinary professionals who deal with individuals who have been labeled "dyslexic", or who may exhibit behaviors that are commonly labeled "dyslexic". This comparison of classic definition with accepted beliefs and practices could provide the literature with alternative, but valid descriptions of dyslexia, to provide more information about dyslexic individuals' disabilities in reading and related areas.

It was also the purpose of this study to investigate whether professionals' long-held definitions and beliefs about dyslexia could be modified within the relatively short period of an all-day symposium. (The assumption was made that significant differences would be found between the pre-, and post symposium definitions of dyslexia.)

### Research Questions

Four research questions were posed to answer concerns about professionals' agreement as to dyslexia characteristics and definitions.

- (1) How did practicing professionals' definitions of dyslexia differ from the classic definitions, i.e. those found most frequently in the literature?
- (2) What dyslexia characteristics were mentioned most frequently in the pre-symposium sampling?
- (3) In what specific areas did the symposium respondents' definitions of dyslexia, and listing of dyslexia characteristics change after participating in the symposium?
- (4) What differences in dyslexia characteristics and/or definitions, if any, were observed among the several groups attending the symposium?

### Assumptions

It was assumed that there would be agreement among practitioners, of all disciplines represented at the symposium, that dyslexia is evidenced by persons of otherwise normal intellectual capacity who have not learned to read, despite exposure to adequate instruction. All of the accepted definitions of dyslexia contain an emphasis upon dyslexia as a

reading or language (spelling and hand-writing) problem, and it was anticipated that most participants would identify the problem as such.

## Method

Sample. Parents, as well as teachers, administrators, college faculty, students, and support personnel in the fields of general and special education, interested in the subject of dyslexia attended an all-day symposium, the Special Education Evolution Symposium (S.E.E.) at Saint Mary's College in California. Several speakers, practicing professionals, presented papers, shared their stories and remediation efforts, and entertained questions about the subject of dyslexia.

Data Collection. As the 143 participants entered the symposium hall, a short, open-ended survey was distributed. The surveys were collected, and reserved for future analysis. Post-surveys were collected before the group dispersed.

The S.E.E. Symposium participants answered the open-ended question, "Please define 'Dyslexia' in your own words". Only those participants who returned both a pre-, and post-symposium survey were included for the purposes of this report. The answers were then organized into 17 categories by two faculty members who teach in the Reading Leadership and Special Education Programs at Saint Mary's College. The frequencies were then used to construct a table of pre-, and post symposium rankings for the 17 characteristics, as well as for contingency

tables for the computation of Chi Squares for between group variations.

Data Analysis. The responses in each category were tallied for both pre-, and post-symposium sessions for total group response, then the total responses for both sessions were grouped according to the seven professional interest groups, who had attended the symposium, i.e., administrators, college faculty, general educators, parents, special educators, support personnel, or other (student, psychologist, etc.). Comparisons were made between the characteristics mentioned in the literature and those of the respondents.

The frequencies in each category were then used to construct rank order tables of the 17 most frequently mentioned characteristics. The Wilcoxon matched-pairs, signed-ranks test was used to determine if differences found in the pre-to post-symposium, ranking of characteristics were significant ( $p < .05$ ).

To address the question of differences in the responses of the seven interest groups, Chi-square tests of homogeneity were applied to determine significant differences ( $p < .05$ ) among professional interest groups' mention of dyslexia characteristics.

## Results

Definitions of Dyslexia. In the pre-symposium session, the respondents provided a total of 351 responses to the open-ended Dyslexia

definition question. This represents a little over 2.45 definitions per respondent. The most frequent response was "dyslexia as a reading difficulty", which was mentioned 78 times and accounted for 22.22% of the total responses. (Table 1). This is consistent with the definitions found in the literature. The next most frequently mentioned characteristic was reversals and inversions: mentioned 45 times and accounting for 12.82% of total responses. This appears to agree with characteristics mentioned by recent researchers, namely, Lloyd, Kauffman and Hallahan (1980); and Shaywitz (1992), but this sub-characteristic has not appeared in the literature with any degree of regularity.

Place  
Table 1  
Here

The Symposium evidently encouraged participants to widen the scope of their Dyslexia definitions, because in the post-symposium session, respondents provided 603, almost doubling the number of their responses to the open-ended dyslexia question. Dyslexia as a reading difficulty, although mentioned 92 times, did not retain its Number 1 Rank in the post symposium sampling. It accounted for only 15.26% of the responses, and was superseded by Writing as the primary definition of dyslexia.

Furthermore, only 6.27% of the pre-symposium responses included dyslexia as a language problem. Parents were as likely to mention language as were both special and general educators. This finding suggests that parents, who deal daily with a dyslexic child, may have greater insight into the dyslexic child's limitations than do the educators.

The first research question, i.e. if the practicing professionals' definitions of dyslexia agree with classic definitions, must be answered "not completely". Agreement was found mainly in respondents' listing of dyslexia as a reading problem, with a special emphasis upon difficulty with reversals and inversions. Dyslexia as a perceptual problem (10.26% in the pre-assessment) indicated that many professionals agree with Slingerland (1982). The mention of dyslexia as a language problem was mentioned only by 6.27% of the respondents, although this characteristic is prominent in the literature.

The second research question, i.e, the most frequently mentioned dyslexia characteristics in the pre-symposium sampling, can be answered that dyslexia as a reading problem (78 responses) was the most frequent response, with a specific mention (45 responses) of difficulty with reversals and inversions .

The third research question, i.e., the particulars in which the symposium respondents' definitions of dyslexia, and listing of dyslexia characteristics change from pre-to-post symposium, is addressed as follows.

Place  
Figure 1  
Here

The biggest change in dyslexia definition. pre-to-post symposium, was found in the writing area (Figures 1 and 2). In the pre-symposium session, writing was mentioned 12 times, and accounted for only 3.42% of the 351 responses, while the post symposium session found that 15.42% of 603 responses included Dyslexia as a Writing Problem. It was, however,

Place  
Figure 2  
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in the ranking (Wilcoxon  $T = 30$ ;  $df = 16$ ;  $p < .05$ ) of the dyslexia characteristics pre-to-post symposium that a significant difference in respondents' answers can be seen. Writing's rank changed from eleventh to first; Spelling's rank changed from fourteenth to third. (Table II).

PLACE  
TABLE II  
HERE

Unexpected changes in several other categories, though not significant at the  $p < .05$  level, indicated respondents' new perceptions of the dimensions of dyslexia. These changes made the respondents' perceptions more consistent with the research literature, and included dyslexia as a language disorder (from 6.27% to 11.61%); as occurring in individuals of average or above average intelligence (from 3.51% to 7.72%); as being hereditary (from 0.28% to 3.98%); and as a neuro-brain dysfunction (from 7.69% to 11.44%).

Professional Interest Group Differences. Research question 4 concerned changes in the responses of participants, both pre-, and post symposium. No significant differences ( $p < .05$ ) between groups were found in dyslexia definitions for the pre-symposium samples, although a slight difference was observed between special and general educators' definition for Dyslexia as a Language Disorder. Also, general educators, who comprised only 25% of the respondents, listed dyslexia as a learning disability so frequently that their responses constituted over 50% of the total responses for that category.

Other small, but not significant, differences between groups were observed. In the pre-symposium survey, parents and administrators were

more likely to include an above average I.Q. as a characteristic in their dyslexia definition than were support personnel or special and regular education teachers. Interestingly, parents' perceptions of dyslexia as a reading difficulty actually declined in post-symposium surveys. In their post-symposium surveys, parents placed much more emphasis on other factors (writing, processing problems, and spelling).

Responses also increased numerically, as well as categorically. Support personnel (N=8) used only eight comments for their pre-symposium dyslexia definitions. They made 33 comments in their post-symposium surveys: an indication of their increased awareness of the complexity of the problem of dyslexia. Administrators (N=12) made 22 comments in their pre-symposium surveys, and 42 comments in their post-symposium surveys. General educators (N=33) more than doubled their number of comments (from 51 -pre-, to 126 post-). Special educators (N= 51) made 130 more comments from their pre-, to their post-symposium surveys. These results, though not statistically significant, are indicative of a marked change in all participants' understanding of the many characteristics that must be included in a definition of dyslexia.

## Conclusions

The case has been made that professional educators can, and will, change their long-held definitions of a subject such as dyslexia when enough corroborating evidence to facilitate the change is provided at a one

day symposium. It is also heartening to learn that support personnel and parents can be made to feel more secure about the importance of their role in the treatment of dyslexic students and their knowledge about students' learning problems, when presented with material that is understandable, and when the group presentation is supportive and encourages less well-informed individuals to participate actively in discussions and debates about a topic of common interest, such as dyslexia.

It was rather surprising that many professionals directly concerned with the diagnosis and remediation of students' severe reading difficulties were unfamiliar with several widely-accepted dyslexia characteristics. This does, of course, underscore the necessity for frequent in-service programs to update professionals' knowledge of dyslexia and other complex learning problems. More research in the field is essential and teacher in-services need to disseminate current research findings.

Although an all-encompassing definition of dyslexia is still elusive, it appears that more practitioners are becoming aware of the varied dimensions of dyslexia, and are eager to learn more about the problem to address the needs of their dyslexic students.

Table 1 Dyslexia Characteristics: Pre and Post Symposium

Pre-Symposium			Post-Symposium		
<u>Characteristic</u>	<u>f</u>	<u>%</u>	<u>Characteristic</u>	<u>f</u>	<u>%</u>
Reading Difficulty	78	22.22	Reading Difficulty	92	15.26
Reversals/Inversions	45	12.82	Reversals/Inversions	4	.66
Perceptual Problem	36	10.26	Perceptual Problem	3	.50
Neuro./Brain Dysfunction	27	7.69	Neuro./Brain Dysf.	69	11.44
Processing Problem	26	7.41	Processing Problem	43	7.13
Letters & Numbers	23	6.55	Letters & Numbers	23	3.81
Learning Disability	22	6.27	Learning Disability	36	5.97
Language Disorder	22	6.27	Language Disorder	70	11.61
Decoding Problem	20	5.70	Decoding Problem	14	2.32
I.Q.:Average or Above	13	3.70	I.Q.:Average or Above	40	6.63
Writing Problem	12	3.42	Writing Problem	93	15.42
"Word-Blindness"	10	2.85	"Word-Blindness"	0	0.00
Sequencing Problem	6	1.71	Sequencing Problem	0	0.00
Spelling Problem	6	1.71	Spelling Problem	69	11.44
Comprehension	4	1.14	Comprehension	11	1.82
Hereditary/Genetic	1	.28	Hereditary/Genetic	24	3.98
Attention Deficit Disor	0	0.00	A.D.D.	12	1.99
<b>TOTAL Terms Used</b>	<b>351</b>	<b>100%</b>	<b>TOTAL Terms Used</b>	<b>603</b>	<b>100%</b>

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**Table II      Rankings of Dyslexia Characteristics**

<b>Pre-Symposium</b>	<b>Post-Symposium</b>	
1. Reading Difficulty	1. Writing Problem	(11)
2. Reversals/Inversions	2. Reading Difficulty	( 1)
3. Perceptual Problem	3. Spelling	(14)
4. Neuro/Brain Dysfnct.	4. Neuro/Brain Dys.	( 4)
5. Processing Problems	5. Language Disorder	( 7)
6. Letters & Numbers	6. Processing Problem	( 5)
7. Language Disorder	7. Average/Abv. I.Q.	(10)
8. Learning Disability	8. Learning Disability	( 8)
9. Decoding Problems	9. Hereditary/Genetic	(16)
10. Average/Abv. I.Q.	10. Letters & Numbers	( 6)
11. Writing Problem	11. Decoding Problem	( 9)
12. Word Blindness	12. Attention Deficit Disorder	(17)
13. Sequencing Problem	13. Comprehension	(15)
14. Spelling Problem	14. Reversals/Inversions	( 2)
15. Comprehension Problem	15. Perceptual Problems	( 3)
16. Hereditary	16. Sequencing	(13)
17. Attention Deficit Disorder	17. Word-Blindness	(12)

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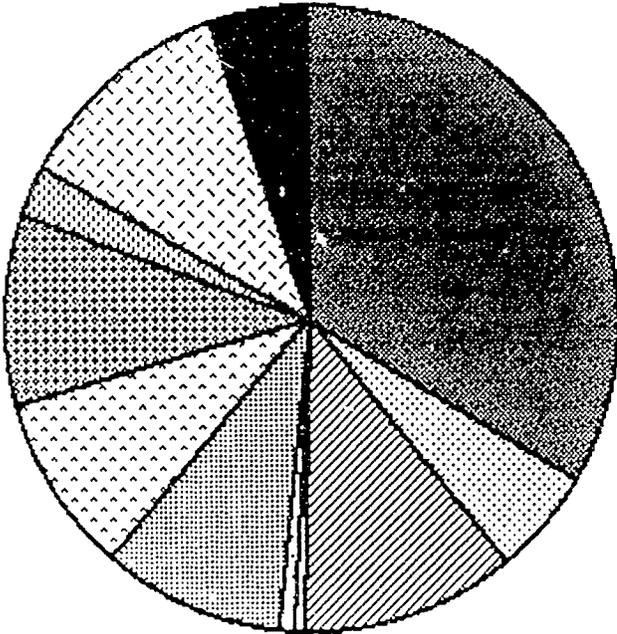


Figure 1  
Legend

Pre-Symposium Responses

-  = Reading Difficulty
-  = I.Q./Avg. or Above
-  = Processing Probl.
-  = Spelling Problem
-  = Hereditary
-  = Language Disord.
-  = Learning Disabl.
-  = Letters & Number:
-  = Decoding
-  = Neuro/Brain Dysf.
-  = Writing

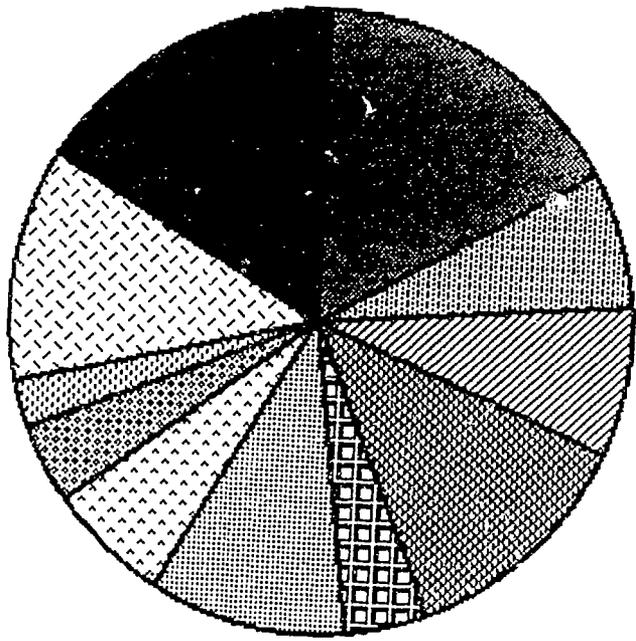


Figure 2  
Legend

Post-Symposium Responses

-  = Reading Difficulty
-  = I.Q./Avg. or Above
-  = Processing Probl.
-  = Spelling Problem
-  = Hereditary
-  = Language Disord.
-  = Learning Disabl.
-  = Letters & Numbers
-  = Decoding
-  = Neuro/Brain Dysf.
-  = Writing