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ABSTRACT

This paper discusses the outcomes of a survey of 39 special education practitioners (including 24 school psychologists) and 280 elementary classroom teachers on the identification of students with reading disabilities. Practitioners were asked to rate five empirically valid and five clinical-traditional non-valid student traits for their significance as predictors of reading disability and, if judged to be a separable condition, dyslexia. Among the first group, nearly half chose to make this classification distinction; and for the teacher group, this percentage was even greater (80 percent). Analysis of raters' trait "correctness" scores did reveal a relatively higher degree of trait validity awareness for the prediction of reading disability versus dyslexia. In general, however, these scores were not impressively higher, nor did they vary with respect to grade level taught or years of practitioner experience. Results of the survey, which are interpreted to indicate the continuing, pervasive influence of clinical tradition and folk belief about the nature of reading problems, have important implications for referral allocation, Program eligibility, and Program goal setting. The survey is attached. (Contains 10 references.) (Author/CR)

How Are Reading Disabled Children Identified?

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Abstract

This poster session presents the results of a survey study wherein 39 special education practitioners (including 24 school psychologists) and 280 elementary classroom teachers (grades 1 - 5) were asked to rate five empirically "valid" and five clinical-traditional "non-valid" student traits for their significance as predictors of "reading disability" and , if judged to be a separable condition, "dyslexia". Among the first group, nearly half chose to make this classification distinction; and for the teacher group, this percentage was even greater (80%). Analysis of raters' trait "correctness" scores did reveal a relatively higher degree of trait validity awareness for the prediction of reading disability (vs dyslexia). In general, however, these scores were not impressively high; nor did they vary with respect to grade level taught or years of practitioner experience. These results, pointing up as they do the continuing, apparently pervasive influence of clinical tradition and folk belief about the nature of reading problems, have important implications for referral allocation, program eligibility, and program goal setting.

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Poster presentation, 1998 Annual Convention of the National Association of School Psychologists.

I. Title. How are reading disabled children identified?

II. Rationale. For the past quarter century a burgeoning research literature concerned with basic reading processes has consistently validated the crucial importance of phonological competencies and other specific cognitive-linguistic skills to early reading development (e.g., Adams, 1990; Bialistok, 1996; Siegel, 1993). Concommitantly, most mainstream reading authorities now reject the empirically unsupported (hence outmoded) clinical concept of "dyslexia", describing , as it does, a condition of reading delay that is unique to the intellectually able, and closely associated with a number of symptomatic traits reflecting its presumed etiology (i.e., broad perceptual modality dysfunction; see, e.g., Shaywitz, 1996; Stanovich, 1994). Even so, our ongoing experience as education practitioners is that a great many parents and teachers, and even many of our school psychologist colleagues and fellow special education service providers, continue to believe strongly in the concept of clinical dyslexia, attaching great significance to its defining traits (when they are observed in children). In this study, we sought to determine just how pervasive such thinking may be.

III. Method. There were two participant groups for this study. Group one was a pilot study group of 39 special education practitioners that included 24 school psychologists, six special education program consultants, four speech/language pathologists, and five school social workers. Group two -the main participant group- was comprised of 280 general education elementary classroom teachers who, for the 1997-98 school year, were teaching in 23 public school buildings in Cedar Rapids, Iowa. One hundred eighty-five were primary grade teachers (i.e., grades 1,2, & 3), and 95 taught intermediate grades (i.e.,grades 4 & 5). Table 1 summarizes this group with respect to teaching experience.

The survey intrument that was developed for and used in this study is shown in Appendix A. It is comprised of 10 student trait items, each of which was to be rated by every participant as to its significance for predicting "reading disability" and (if judged appropriate by the rater) "dyslexia". Five of the trait items were selected from the contemporary literature on developmental reading processes on the basis of having empirically demonstrated relevance to reading skill delay (i.e., items 1, 4, 6, 8, & 10). The other five items (i.e., items 2, 3, 5, 7, & 9) were taken from the classical "clinical" literature and were without empirical validity. The 10 items were centrally arranged in a predetermined random sequence on the survey form so as to facilitate their rating for both reading disability and dyslexia. Additionally, the form was produced in two formats corresponding to alternative orders for the two disability designations (i.e., form 1 = reading disability first, dyslexia second; form 2 = dyslexia first, reading disability second).

IV. Design. The principal design for this study was a between-subjects 2 X 2 factorial, with two levels of teacher classification (primary and intermediate) and two levels of dyslexia validity judgment (dyslexia judged same as reading disability, dyslexia judged different than reading disability). A third, continuously distributed factor -years of teaching experience- was considered separately.

V. Procedure. Late in the spring of the 1996-97 school year (May) the survey instrument was administered to the pilot group participants at two special education service provider meetings (N = 22, N = 17). Three months later (September, 1997), over a period of three weeks, the survey was administered to the teacher participants in their home schools at a morning staff meeting, with half of the respondent group at each school site receiving one or the other alternate form of the survey. The same adult experimenter carried out the survey administration at all 23 schools, introducing the task with the explanation and directions presented in Appendix B. Essentially, these specified that the participants were to rate each of the survey's 10 trait items (on a seven point scale) as to its significance for predicting reading disability and (if judged by the rater to be a separable condition) dyslexia. The experimenter remained present throughout survey completion, to answer questions and to collect the completed forms. A maximum time of 30 minutes was allowed, with the average time for completion being about 18 minutes.

VI. Survey Scoring. Table 2 gives the simple statistics, by item, for participants' survey raw scores; and this is done for the ratings of both reading disability and dyslexia. (Note that 225, or 80%, of the 280 teacher respondents elected to rate dyslexia as a separable condition.) To facilitate data analysis, each raw score rating was transformed to a "degree of correctness" score by assigning it the numeric value (on the item's seven point scale) which corresponded to the validity of the trait (e.g., for item 3, which is a non-valid trait, raw score ratings of 7 and 1 were represented as "correctness" scores of 1 and 7, respectively. Similarly, for item 8, which is valid trait, scores of 2 and 6 were assigned "correctness" scores of 6 and 2, respectively - see Table 2, again, for a summary of "correctness" scores by survey item). Each participant's correctness scores then were summed across all 10 survey items for reading disability and for dyslexia, thereby yielding a composite correctness score (ranging from 7 to 70 points) for each of the two categories.

VII. Data Analyses. To evaluate the relationships among composite correctness scores, teacher classification, and participants' category validity judgments, a pair of 2 X 2 ANOVA'S were computed ; one for reading disability scores, and one for dyslexia scores. In the first case (reading disability) , this analysis yielded no main effects. However, the interaction effect was significant, $F(1, 264) = 9.15$, $p < .01$. The means for this (ordinal) effect are presented in Table 3, showing that, among teachers who judged reading disability and dyslexia to be the same condition, the reading disability correctness scores for intermediate grade teachers were higher than were those for primary grade teachers (via Bonferroni T test).

For the analysis of dyslexia correctness scores, there was no significant main effect for teacher classification. However, the main effect for category validity judgments was significant, $F(1, 264) = 39.82$, $p < .001$. Here, the correctness scores for teachers who judged reading disability and dyslexia to be the same condition were higher than were the scores for teachers who judged them to be different ($M = 45.83$, $SD = 5.27$ versus $M = 41.19$, $SD = 5.06$, respectively). Additionally, there was a significant interaction effect for this analysis, $F(1, 264) = 6.75$, $p < .01$. Once again, the nature of this effect was ordinal (see Table 4) such that, among teachers who judged reading disability and

dyslexia to be the same condition, the dyslexia correctness scores were higher for the intermediate (versus primary) grade teachers.

To assess the relationship between composite correctness scores and teachers' years of teaching experience, two linear regression analyses were computed ; one for reading disability scores, and one for dyslexia scores. Neither analysis yielded a significant outcome [for reading disability, F (2, 262) = 0.50, $p > .61$, $R^2 = 0.004$; for dyslexia, F (2, 262) = 1.93, $p > .14$, $R^2 = 0.014$] , indicating that the two variables were not reliably related in a linear way.

Finally, to determine the degree to which trait validity knowledge was related to disability category, a Bonfferoni repeated measures T test was computed on the correctness scores for reading disability and dyslexia for the 206 participants who had rated every trait across both categories. The outcome of this analysis was significant, T (205) = 1.97, $p < .05$, indicating that composite correctness scores were higher for reading disability (M = 46.58, SD = 4.03) than they were for dyslexia (M = 41.19, SD = 5.06).

VIII. Significance. Given that our single largest category of special education support is "learning disabilities", that the majority of the more than two million American students who are so classified have reading problems, and that most of these (LD) placements are driven by teacher-generated referrals for student evaluation (Algozzine, Christenson, & Ysseldyke, 1981; Horgan, 1996), it is critical that referral, placement, and programming decisions be based on sound information. Unfortunately, the results of this study indicate that, even among special education diagnostic practitioners and elementary classroom teachers (who "should" be well informed), a majority continue to (incorrectly) accept the concept of clinical dyslexia (50% and 80%, respectively), and to view as educationally significant many of its defining traits (symbol reversal errors and high level intelligence, in particular).

What can account for this outcome? Was the participant sample for this study somehow deficient in terms of its training or experience background? This seems unlikely since the Cedar Rapids Community School District, which has been recognized at state and national levels for the quality of its instruction to both at-risk and regular students , maintains close training and research connections with two nearby major universities and three local liberal arts colleges. Alternatively, do our findings simply reflect the normal delay that accompanies the transfer of empirical knowledge to the practitioner? This explanation, too, seems inadequate because a) much of what we now understand about the reading process has been available to education practitioners , in journals and textbooks, for the past 25 years, and b) the fact that our participants' correctness scores were uniformly high for item 8 (phonological insensitivity) suggests that they were at least partially familiar with this literature.

What, then, is the explanation? We believe that the concept of clinical dyslexia has long held the status of folk belief (Stanovich, 1994), or "urban legend" (Gould, 1998). Thus, even as contemporary reading authorities reject this concept, its "validity" is seemingly reinforced by many influences, including popular jokes about dyslexics' reversal mistakes, personal accounts of reading disabled adults describing the anomalies of print perception they experience when reading, an ongoing use of "controversial" perception-based reading diagnostic and remediation procedures, and the continuing

publication of clinical research devoted to the quest for a valid dyslexia "typology" (e.g., Cotton & Evans, 1994; Osmond, 1995; Roberts & Mather, 1997). If this is so, then by implication, the widespread acceptance of valid information about reading diagnosis, by teachers and other practitioners, may be beyond the efficacy of those vehicles by which information is normally transferred (thus, universities, schools, and service delivery agencies face a great challenge in trying to change this circumstance).

Table 1

Participant Sample Summarized for Years of Teaching Experience

	Years of Experience		
Grade Level Classification	M	(SD)	Range in Years
Primary (1st, 2nd, 3rd)	16.81	(10.17)	1 - 40
Intermediate (4th, 5th)	18.24	(9.88)	1 - 34
All Participants	17.54	(10.19)	1 - 40

Table 2

Simple Statistics for Survey Raw and "Correctness" Scores By Item For N = 280

Disability Category	Survey Item Means and Standard Deviations									
Reading Disability, Item:	1	2	3	4	5	6	7	8	9	10
Raw Score, M =	5.41	2.65	5.38	4.62	1.54	3.44	3.16	5.15	4.96	5.29
SD =	1.44	1.35	1.41	1.53	0.98	1.69	1.46	1.26	1.73	1.32
Dyslexia, Item:	1	2	3	4	5	6	7	8	9	10
Raw Score, M =	4.17	2.62	6.02	4.09	1.91	2.80	3.32	4.77	4.97	4.10
SD =	1.69	1.31	1.16	1.62	1.09	1.33	1.78	1.58	1.77	1.61
Reading Disability, Item:	1	2	3	4	5	6	7	8	9	10
Correctness Score, M =	5.41	5.34	2.62	4.63	6.46	3.46	4.87	5.25	3.04	5.28
SD =	1.26	1.41	1.39	1.45	1.04	1.58	1.56	1.42	1.72	1.38
Dyslexia, Item:	1	2	3	4	5	6	7	8	9	10
Correctness Score, M =	4.46	5.39	2.02	4.32	6.26	2.92	4.68	4.87	2.94	4.36
SD =	1.77	1.39	1.29	1.52	1.32	1.48	1.69	1.59	1.76	1.65

Items: 1. Poor short term memory
2. Stuttering
3. Symbol missequencing or misorienting
4. Word-finding problems
5. Left-handedness
6. Poor grammar
7. Poor physical coordination
8. Phonological insensitivity
9. High intelligence
10. Limited vocabulary

Table 3

Means and (Standard Deviations) for the Interaction of Teacher Classification and Same/Different Judgments for Reading Disability Scores

Teacher Classification	Disability Same	Disability Different
Primary	44.91 (4.39)	46.83 (4.12)
Intermediate	48.36 (7.16)	46.12 (3.87)

Table 4

Means and (Standard Deviations) for the Interaction of Teacher Classification and Same/Different Judgments for Dyslexia Scores

Teacher Classification	Disability Same	Disability Different
Primary	44.91 (4.39)	41.53 (5.13)
Intermediate	48.09 (6.60)	40.56 (4.92)

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Survey of Learning Disability Characteristics

Respondent Background Information:

Years of Teaching Experience: _____

Grade Level(s) Currently Teaching: _____

Position other than teaching: _____
(For example: administrator, PE instructor, media specialist, RTP special ed, Title 1, SCI special ed, music instructor, art instructor, counselor)

Directions:
Listed below are ten student performance or behavioral characteristics which have been cited in the clinical and educational research literature as potential predictors of significant reading and writing disabilities. With respect to the age or grade level(s) you currently teach, please rate each one as to its importance to you, first as a predictor of "dyslexia", then as a predictor of general "reading disability." If you regard these two conditions, that is "dyslexia" and "reading disability" as synonymous or completely overlapping "X" out one heading and make your ratings under the other.

Predictor of "Reading Disability"								Predictor of "Dyslexia"						
Unimportant			Moderate Important			Extremely Important		Unimportant			Moderately Important			Extremely Important
1	2	3	4	5	6	7	Poor short term memory (forgets information or directions he or she has just heard)	1	2	3	4	5	6	7
1	2	3	4	5	6	7	Stuttering	1	2	3	4	5	6	7
1	2	3	4	5	6	7	Symbol missequencing and/or misorienting (e.g. writes or reads "was" for "saw"; "b" for "p" or "d")	1	2	3	4	5	6	7
1	2	3	4	5	6	7	Problems with "word finding" (i.e., when talking, can't think of the word/phrase he or she wants to use)	1	2	3	4	5	6	7

Unimportant			Moderately Important			Extremely Important			Unimportant			Moderately Important			Extremely Important
1	2	3	4	5	6	7	Left-handedness	1	2	3	4	5	6	7
1	2	3	4	5	6	7	Uses poor grammar	1	2	3	4	5	6	7
1	2	3	4	5	6	7	Poor physical coordination	1	2	3	4	5	6	7
1	2	3	4	5	6	7	Phonological insensitivity (e.g. can't make rhymes, says "aminal" for animal; mispronounces words by virtue of sound discrimination errors, like "chrip" for trip.)	1	2	3	4	5	6	7
1	2	3	4	5	6	7	High intelligence (seems more capable)	1	2	3	4	5	6	7
1	2	3	4	5	6	7	Limited vocabulary	1	2	3	4	5	6	7

If there are other characteristics that you consider important predictors of learning disabililites and/or dyslexia please list and rate them.

Unimportant			Moderately Important			Extremely Important		Unimportant			Moderately Important			Extremely Important
1	2	3	4	5	6	7	_____	1	2	3	4	5	6	7
1	2	3	4	5	6	7	_____	1	2	3	4	5	6	7
1	2	3	4	5	6	7	_____	1	2	3	4	5	6	7

Thank you for taking the time to complete this survey.

Appendix B

Instructions To Participants

"Good morning. I am going to ask you to help me with a research project by completing this brief survey, which I will be handing out to you in a few moments. The purpose of the survey is to obtain information about the kinds of 'secondary' student traits or attributes which teachers today consider to be important for the prediction of reading disability. Let me explain a little more about this. As you are considering students in your classroom who you might refer to your school's Child Study Team as potentially reading disabled, you would focus first, of course, on those children whose academic skills are severely impaired. In many cases, however, a particular child's reading skill delay might not be 'objectively' different from that of several other students'. Nevertheless, because of some particular traits or attributes the child displays , you perceive that child to be at greater risk for reading disability; and you therefore refer that child to the Child Study Team. This is the circumstance I am concerned with for this study. On the survey I am about to hand out, I have listed 10 student performance or behavior characteristics that have been considered characteristic of reading disability. Very simply, I want you to rate each of them as to their importance, to you, as indicators of present or future reading problems. Before you start, please note that I have included the option of rating each characteristic twice - that is, once for the prediction of reading disability, and once for the prediction of dyslexia. The reason for this is because there is an ongoing debate among researchers and clinicians as to whether these two terms represent two different disorders. Each of you will have your own view on this issue. Go ahead, then, and complete the demographic section at the top of the page. Then, mark your ratings for each characteristic. Do this twice if you regard 'dyslexia' and 'reading disability' to be different conditions; but mark only once if you consider them to be synonymous or completely overlapping . In the latter case, please be sure to mark out the term you are not going to rate (demonstrate). Finally, if I have omitted an attribute or trait that you consider to be important, please use the space at the bottom of page two to write it in; and rate this, too. Please go ahead and complete the survey."

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