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ABSTRACT

This study surveyed the beliefs and perceptions of 547 Iowa teachers of students with learning disabilities (LD). Results indicated that these teachers possessed a sound knowledge base for their work which they are willing to modify to enhance their understanding of LD and their efforts to improve the performance of LD students. The survey addressed teachers' perceptions of: preferred definitions of learning disabilities; etiologies of learning disabilities; characterizations of LD students; functional problems and psychological process deficits of LD students; preferred assessment information sources; preferred service delivery options; professional journal preferences; and other sources of information. An appendix contains a copy of the survey questionnaire. Includes 61 references. (PB)

Research in Learning Disabilities

# TEACHER BELIEFS AND PERCEPTIONS ABOUT LEARNING DISABILITIES

## A Research Project of the Iowa Learning Disabilities Research Consortium

Bureau of Special Education
IOWA DEPARTMENT OF EDUCATION
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Iowa Learning Disabilities Research
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# TEACHER BELIEFS AND PERCEPTIONS ABOUT LEARNING DISABILITIES

Kenneth A. Kavale, Ph. D.
University of Iowa
Iowa City, Iowa

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What do teachers think about learning disabilities? Expert opinion is often widely disseminated and known, but what is not widely disseminated and less well known are the beliefs and perceptions held by practitioners with respect to basic issues and problems in the learning disabilities (LD) field. Do experts and practitioners share a conventional wisdom about LD? Expert opinion has been surveyed (Adelman & Taylor, 1985; Kirk et al., 1979; Tucker, Stevens, & Ysseldyke, 1983) but there has been little effort to explore practitioner thinking about fundamental concerns related to LD. If experts and practitioners share similar views, then problems may be resolved with a uniform perspective. If, however, their perspectives about LD differ, then positive change becomes more difficult because actions are not based on a shared set of assumptions and the parties may be inadvertently working at cross purposes. The divergence of opinion means that the gulf between research and practice widens instead of narrows.

What teachers believe about LD influence what they do about LD? It is possible to determine what teachers do in terms of performance but any attempt to modify these actions needs to be understood through a determination of teachers' basic beliefs and perceptions about LD. Knowing the basis for teacher action in the form of their fundamental assumptions makes it easier to modify LD service delivery. The purpose of this study is to survey LD teachers to provide a descriptive rendering of their beliefs and perceptions about LD.

## Design and Procedures

Survey research is typically conducted to establish the nature of an existing state of affairs. In the present case, the beliefs and perceptions of LD teachers with respect to fundamental issues and concerns is the focus of interest. As a form of inquiry, survey research possesses its own design requirements that include the following elements.

### Construction of Questionnaire

After a general review of the literature, five areas were considered important to address including nature and characteristics, assessment and diagnosis, service delivery and intervention, and information sources. Questions were generated for each area based on information gleaned from both the research literature and LD textbooks. Twenty questions were developed that required respondents to either choose a single option, rank order choices, or scale a response with differential weightings.

For any survey instrument, an important consideration is content validity in the sense of how well does the instrument represents the information being sought. Assessment of content validity is a judgmental process, and both experts and practitioners were asked to judge the appropriateness and comprehensiveness of

the questionnaire. Modifications of form and content were then made in accordance with these recommendations. A revised version was then submitted to members of the Iowa Learning Disabilities Research Consortium for their evaluation. After discussion and necessary modification, the questionnaire was deemed ready to serve as the research instrument (see Appendix A).

**Data Collection**

The target population was all LD teachers in Iowa. A total of 968 LD teachers were identified through a computer search at the Iowa Department of Education. Surveys were mailed, along with a cover letter (see Appendix B) and a postage paid return envelope during the first week of March, 1988. Return was requested by May 15, 1988.

To maximize participation, two follow-up letters were planned at about one month intervals following the initial mailing. These follow-up letters were not needed, however, because of the excellent return. By April 1, 1988, 31% (n = 300) were returned and by May 1, 1988, 55% (n = 532) were received. These return rates exceeded expectation and the final 57% (n = 547) was quite high for research of this nature. Thus, the data base was quite large and the high level of participation makes for confidence in the findings.

**Data Analysis**

The questionnaires were tabulated and coded for computer analysis as they were received. The SPSS program was used for analysis and was primarily descriptive (e.g., percentages, proportions). Data analysis was completed by September 15, 1988.

## Profile of Respondents

Teachers were asked to provide demographic information and this was used to develop a profile of the average respondent. The average respondent was a 40 year old (Median = 38) female (89% vs. 11%) with 13 years of teaching experience and 8.5 years of experience with LD students. This teacher possesses LD certification (93% vs. 7%) and has an MA degree (69%) granted by an institution out of state (62% vs. 38%). If the degree was granted by an Iowa institution, it was most likely UNI (30%), followed by UI (27%), ISU (22%), and Drake (16%). Most of this teacher's LD courses were taken in 1980 and LD inservice courses and workshops were often taken. This teacher works at the elementary level (56% vs. 44%) and is employed in a resource setting. If not a resource setting, the teacher most likely works in a regular class, self contained class with integration, full time special class, and special school respectively. Thus, the average LD teacher was well experienced, possessed LD certification and an advanced degree, came from out of state, was about equally likely to work in elementary or secondary levels, and was

employed in a resource setting. The experience level, the almost equal split between elementary and secondary respondents, and percentage of resource teachers in accord with present practice suggested no inherent bias in the sample and confidence in generalizing findings to all LD teachers.

## Teacher Beliefs and Perceptions About Learning Disabilities

Findings are reported by question (not necessarily in order) and grouped according to the five general classifications.

### Nature and Characteristics

Because the "definition problem" is paramount in the LD field (Kavale, 1988), the first question asked LD teachers to choose their preference from among four definitions and one option indicating that none of the four were descriptive or appropriate. The LD teachers were not provided with the source of the definition. The definitions either were commonly used or emphasized different aspects of LD. The definitions with their source and the percentage of LD teacher choosing it as their preference is shown in Table 1.

Almost half the respondents (44%) chose the definition provided by Bateman (1964) which was among the first to emphasize discrepancy. This preference seemed in accord with the current zeitgeist in LD that has made discrepancy a primary identification criterion (Kavale, 1987). The Iowa guidelines formalized in the **Rules of Special Education** (1985), also emphasized discrepancy which was operationalized through standard score tables for determining severe discrepancy (see **The Identification of Pupils with Learning Disabilities**, 1981). With the prominence of discrepancy in conceptualizations of LD, it was not surprising that a majority of LD teachers chose the definition including a clear statement about discrepancy.

Slightly less than one-third (30%) of LD teachers chose the definition first proposed by the National Advisory Committee on Handicapped Children (NACHC) (1968). The NACHC definition provides the standard statement about LD and was included almost intact in PL 94-142. It was thus not surprising that LD teachers also preferred this definition. At this point in time, it is almost the classic definition and, in the face of continuing dispute, has, by reason of longevity, become an integral part of the LD field.

Only one in five LD teachers preferred the newest entry into the definition foray. The National Joint Committee on Learning Disabilities (NJCLD) (1981) was formed to forge definitional consensus among six professional organizations involved with LD students. The definition was crafted with the idea of overcoming past difficulties and each of its assumptions was designed to eliminate problems with extant definitions (Hammill, Leigh, McNutt, & Larsen, 1981). Apparently, LD teachers were not convinced about the merits of the

## TABLE 1

### Preferences for Definitions of Learning Disabilities

| Definition | % Preferring |
|---|---|
| • Children who have learning disorders are those who manifest an educationally significant discrepancy between their estimated intellectual potential and actual level of performance related to basic disorders in the learning process, which may or may not be accompanied by demonstrable central nervous system dysfunction, and which are not secondary to generalized mental retardation, educational or cultural deprivation, severe emotional disturbance or sensory loss (Bateman, 1965). | 44 |
| • Learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though learning disability may occur concomitantly with other handicapping conditions (e.g., sensory impairment, mental retardation, social and emotional disturbance) or environmental influences (e.g., cultural differences, insufficient/inappropriate instruction, psychogenic factors), it is not the direct result of these conditions or influences (NJCLD, 1981). | 20 |
| • Children with learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. These may be manifested in disorders of listening, thinking, speaking, reading, writing, spelling, or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage (NACHC, 1968). | 30 |
| • Learning disability refers to those children of any age who demonstrate a substantial deficiency in a particular aspect of adademic achievement because of perceptual or perceptual-motor handicaps. The term perceptual as used here relates to those mental (neurological) processes through which the child acquires basic alphabets of sounds and forms (Wepman, et al., 1975). | 2 |
| • None of these definitions are descriptive or appropriate. | 4 |

NJCLD definition. Possibly, it is still too new or not disseminated widely enough to replace, for example, the "tried and true" definition of the NACHC.

The least preferred definition was the one formulated by Wepman, Cruickshank, Deutsch, Morency and Strother (1975) for the Project on the Classification of Children. The definition is narrow and presents a singular point of view about both the etiology and nature of LD. Apparently Iowa's LD teachers did not favor this viewpoint and preferred a less restrictive view of LD.

A small portion (4%) of LD teachers believed that none of the definitions presented were descriptive or appropriate. This may be a reflection of the continuing controversy over definition wherein it has been concluded that LD cannot be defined and any attempt is futile (e.g., Ysseldyke & Algozzine, 1983).

An integral part of most LD definitions is an exclusion clause that attempts to eliminate from consideration those students whose learning problems are due primarily to some other condition (Kavale & Forness, 1985). A variety of such conditions have been included either implicitly or explicitly and LD teachers were asked to select 6 categories from a list of 13 who should not be included under the LD classification. These findings are presented in Table 2.

The LD teachers appeared to support the conventional wisdom about who should not be considered under the LD rubric. The categories typically included in the exclusion clause were supported by, at least, 60% of LD teachers surveyed. Better than 8 out of 10 supported the exclusion of the two groups also included under the mildly handicapped designation (EMR and BD) (Hallahan & Kauffman, 1977). The problematic "slow learner" category should be excluded according to 42% of LD teachers (Ysseldyke, Algozzine, Shinn, & McGue, 1982). The remaining conditions listed may be viewed as correlative conditions of LD and some differences emerged. Better than 1 in 4 LD teachers viewed hyperactivity as a distinct entity that should be excluded from LD consideration while dyslexia was excluded by only 2% of LD teachers. Apparently, the prevalence of reading problems among LD is acknowledged through a perception that no differentiation between LD and dyslexia should be attempted (Stanovich, 1988). The difference between hyperactivity and attention deficit disorder is noteworthy given the relationship between these entities (Shaywitz & Shaywitz, 1988). It appeared, however, that LD teachers were more inclined to include attention problems within the symptom complex of LD. The almost1 in 5 LD teachers excluding underachievers was surprising given the preference for discrepancy in LD definitions. Perhaps there exists the perception that, while underachievement is integral to LD, it can exist separately and LD must be something above and beyond simply underachievement (see Kavale, 1987).

Definitions of LD also, either implicitly or explicitly, make some presumptions about etiology. To determine what teachers believed about the causes of LD, they were asked to select 6 from a list of 16

**TABLE 2**

**Rank Ordering of Categories Teachers Excluded Under LD Classification**

| Category | % of LD Teachers Excluding |
|---|---|
| Educable mentally retarded | 86 |
| Emotionally disturbed | 82 |
| Behaviorally disordered | 79 |
| Autistic | 75 |
| Socially maladjusted | 65 |
| Culturally - economically disadvantaged | 58 |
| Slow learner | 42 |
| Hyperkinetic behavior syndrome | 28 |
| Underachiever | 17 |
| Minimally brain damaged | 11 |
| Perceptually handicapped | 6 |
| Attention deficit disorder | 5 |
| Dyslexic | 2 |

and rank order their etiologic selections. The findings are displayed in Tables 3 and 4.

Table 3 presents overall totals showing what percentage of LD teachers included the particular etiology. These findings showed a strong preference for medical causes of LD. Better than 3 out of 4 LD teachers believed that LD is caused by neurological dysfunction (Clements, 1966). Family influence was the only non-medical cause to be checked by more than one-half of the LD teachers surveyed. Somewhat surprising was the low percentages for biochemical and physiological etiologies given the high percentages for the other medically based etiologies. The remaining causes were listed by no more than 1 in 3 LD teachers. Causes related to schooling were recognized by no more, on average, than 1 in 5 LD teachers suggesting these were not seen as primary etiologies.

The rank orderings for each etiology is shown in Table 4. The strong perception that LD is caused primarily by medical influences was affirmed by the rankings of all medical etiologies, including the causes that did not achieve better than 50% overall (biochemical, physiological, and nutrition). The causes related to schooling revealed a more even distribution based on these individual rankings. Similarly, family influences, psychological causes, and low socio-economic status also showed fairly even distribution across rankings.

Thus, LD teachers appeared to believe that LD was caused primarily by medical factors. The remaining etiologies revealed fairly equal distribution across rankings suggesting that, beyond medical factors, LD teachers show no strong preferences about the causes of LD.

A major difficulty facing the LD field is to determine a legitimate prevalence rate (Kavale, 1988). These rates can vary widely and little consensus exists about what the proper prevalence rate should be. This was assessed by asking LD teachers to mark a point on a scale as shown in Table 5.

The average percentage was 6% but the range was from 0% to 30% which caused considerable variability (standard deviation = 5%). It appears that LD teachers were uncertain about the prevalence rate but their average figure (6%) was in accord with the latest government figures which came in at about 5% (U. S. Department of Education, 1988) . The 6% figure seems to suggest that LD teachers were willing to have LD as the largest category of special education and that the 2% figure found in PL 94-142 was perhaps too low.

The next set of questions dealt directly with the way teachers perceive the characteristics of LD. These questions asked LD teachers to rate the truth value of characterizations about LD and the findings are shown in Table 6. More than 80% of the teachers believed the following statements about LD were somewhat true or almost always true; that is, LD is associated with:

1) a discrepancy between ability and achievement;
2) learning strengths as well as learning weaknesses;
3) academic strengths as well as academic weaknesses;

**TABLE 3**

**Rank Ordering for Etiologies of Learning Disabilities**

| Etiology | % of Teachers Including |
|---|---|
| Neurological | 78 |
| Genetic | 69 |
| Maturational lag | 53 |
| Pre-, Peri-, or Post-natal | 53 |
| Family influences | 51 |
| Psychological | 37 |
| School inflexibility | 34 |
| Social/behavioral | 34 |
| Biochemical | 31 |
| Physiological | 28 |
| Poor teaching | 20 |
| Low socio-economic staus | 19 |
| Nutrition | 15 |
| Personality problems | 12 |
| Ecological | 10 |
| Pedagogical | 9 |

**TABLE 4**

**Rank Orderings Among Etiologies of Learning Disabilities**

| Etiology | Rank Orderings by LD Teachers (%) | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Neurological | 49 | 20 | 11 | 8 | 7 | 5 |
| Genetic | 33 | 25 | 16 | 11 | 9 | 6 |
| Maturational lag | 20 | 11 | 18 | 19 | 18 | 13 |
| Pre-, Peri-, Post-natal | 24 | 28 | 18 | 12 | 12 | 6 |
| Family influences | 16 | 15 | 20 | 17 | 16 | 16 |
| Psychological | 19 | 15 | 17 | 14 | 14 | 21 |
| School inflexibility | 8 | 9 | 15 | 24 | 23 | 22 |
| Social/behavioral | 3 | 8 | 20 | 26 | 25 | 18 |
| Biochemical | 13 | 22 | 26 | 18 | 13 | 9 |
| Physiological | 8 | 16 | 17 | 21 | 18 | 21 |
| Poor teaching | 8 | 7 | 18 | 15 | 17 | 25 |
| Low socio-economic status | 3 | 16 | 12 | 25 | 15 | 29 |
| Nutrition | 8 | 10 | 8 | 15 | 20 | 40 |
| Personality problems | 3 | 5 | 7 | 16 | 37 | 32 |
| Ecological | 13 | 5 | 13 | 20 | 29 | 21 |
| Pedagogical | 21 | 4 | 11 | 21 | 26 | 17 |

**TABLE 5**

**Percentage of School Children Who Should Be Identified LD**

| 0% | 2% | 3% | 5%X | 8% | 10% | 12% | 15% | 20% | 25% | 30% |
|---|---|---|---|---|---|---|---|---|---|---|

Mean = 6%

## TABLE 6

### How Teachers Characterize Students with Learning Disabilities

| LD Students Characterized as Having | Not at All True | Somewhat Not True | Not Certain How True | Somewhat True | Almost Always True |
|---|---|---|---|---|---|
| ..discrepancy between ability and achievement | 4 | 4 | 2 | 12 | 86 |
| ..learning strengths as well as learning weaknesses | 4 | 2 | 5 | 33 | 60 |
| ..academic strengths as well as academic weaknesses | 4 | 4 | 8 | 43 | 45 |
| ..average or above intelligence | 4 | 2 | 7 | 27 | 63 |
| ..a need for special materials and instructional techniques | 4 | 2 | 7 | 27 | 63 |
| ..a processing deficit that interferes with learning ability | 4 | 1 | 16 | 41 | 41 |
| ..a neurological impairment | 3 | 10 | 63 | 19 | 5 |
| ..the ability to learn at a faster rate than slow learners | 7 | 19 | 36 | 30 | 9 |
| ..the ability to learn at a different rate than the mentally retarded | 4 | 6 | 14 | 39 | 40 |
| ..a lifelong condition that will continue through adulthood | 3 | 8 | 21 | 29 | 39 |

4) a processing deficit that interferes with learning ability;
5) average or above intelligence;
6) a need for special materials and instructional techniques;
7) the ability to learn at a different rate than the mentally retarded.

More than 60% of the teachers were either uncertain or believed that the following were at least somewhat untrue; that is, LD is associated with:

1) a neurological impairment;
2) the ability to learn at a faster rate than slow learners.

The finding about neurological impairment was surprising given the strong perception about neurological causes as the basis for LD. Perhaps neurological involvement was viewed primarily as an etiological agent which, once introduced, was not seen as a basic characteristic itself but rather manifested through something like a psychological processing deficit. The uncertainty about learning rate was not surprising given the equivocation surrounding the question of whether or not to exclude the slow learner from LD consideration (Ysseldyke, Algozzine, Shinn. & McGue, 1982). Although there was sentiment for viewing LD as a lifelong condition, uncertainty also surrounded this characterization suggesting that LD teachers simply do not know what to expect as outcomes. This uncertainty may reflect the lack of information on the long-term consequences of LD (Kavale, 1988).

The next question sought to determine what teachers perceived to be the basic problems associated with LD. They were asked to select six and rank order them by importance. The findings are shown in Table 7. More than 3 out of 4 LD teachers believed that information processing problems were basic to LD. This belief may again reflect the etiological perceptions and the characterization of LD as a processing deficit. Historically, information processing has been a major framework for describing LD and its associated problems (Swanson, 1987). In contrast, more specific processing difficulties (e.g., perceptual-motor and psycholinguistic) were not perceived to be important problem areas. It thus appears that the processing deficits believed important were of a generalized variety that may subsume a number of component problems under the general rubric.

Achievement deficits were believed to be a basic problem by LD teachers. Almost 3 out of 4 LD teachers believed reading achievement to be the basic problem while just over one-half felt that math achievement was primary. The greater emphasis on reading as a basic problem was in line with expectation about the relative position of reading and math in LD thinking (Kirk & Elkins, 1975).

Memory and attention were perceived to be important deficit areas. These specific areas have been major emphases in LD and several conceptualizations have been proposed which centered around problems in either memory or attention (e.g., Keogh & Margolis, 1976; Torgesen & Kail, 1980). Although general cognitive processes

**TABLE 7**

**Rank Odering of Basic Problems in Learning Disabilities**

| Area of Functioning | % of LD Teachers Including |
|---|---|
| Information processing | 77 |
| Reading achievement | 73 |
| Memory processes | 68 |
| Attention | 59 |
| Learning strategies | 57 |
| Math achievement | 54 |
| Cognitive processes | 41 |
| Social/behavioral skills | 36 |
| Motivation | 36 |
| Integrative processes | 36 |
| Linguistic processes | 22 |
| Perceptual-motor processes | 22 |
| Psycholinguistic processes | 10 |
| Neurological correlates | 4 |
| Intelligence | 3 |

were mentioned by only 4 out of 10 LD teachers, deficits in learning strategies were believed to be important by almost 6 out of 10 LD teachers. This perception was in accord with the prominent cognitive view that LD is marked by passive and inactive learning (Torgesen, 1977). It represents a generalized performance problem which can be improved through strategy training that aids the LD student to approach tasks and monitor their own performance (Alley & Deshler, 1979).

The increased emphasis on the social/behavioral side of LD seems not to have influenced LD teachers belief that these difficulties represent a basic problem (Vaughn, 1985). The 36% figure suggested that social/behavioral problems were perceived to be correlative problems. They may represent basic LD problems, but were probably effects rather than causes.

Only slightly more than 1 in 5 LD teachers believed linguistic problems were basic to LD. Although language is a basic process, LD teachers did not believe problems in this area were nearly as important as, for example, reading and math achievement (Wiig & Semel, 1984). Language, while a legitimate achievement area, was apparently not viewed as basic as reading or math deficits in explaining LD.

Basic deficits related to neurological correlates or intelligence were not perceived to be fundamental to LD. Again, neurological correlates were more often viewed as related to etiology rather than present functioning. Intelligence was not believed to be a problem. This perception appeared to reflect the view that LD is characterized by average or above intelligence and that EMR students should be excluded from LD consideration.

The rank orderings for each basic problem are shown in Table 8. In this analysis, information processing deficits no longer revealed the largest percentage and was replaced by reading achievement. The relative position of math achievement was seen clearly with its large percentage in the second position but only a 3% total in the first position. Fairly even distribution was seen for learning strategies, cognitive processes, linguistic processes, and psycholinguistic processes suggesting difficulty among LD teachers in reaching definitive conclusions about these problem areas. The highest percentage in the sixth position was found for social/behavioral skills which suggests, when combined with the low percentages for the first and second positions, that LD teachers viewed these problems as secondary manifestations. Other high percentages in the sixth position were found for perceptual-motor processes, neurological, and intelligence which tended to confirm the assumption that LD teachers did not view these as basic problems. Although memory and attention overall were primary problems, the individual rankings revealed a wider divergence of opinion about their perceived importance.

The next question asked LD teachers to indicate which features they believed best characterized LD. There was considerable overlap

**TABLE 8**

**Rank Orderings Among Basic Problems in Learning Disabilities**

| Area of Functioning | Rank Orderings by LD Teachers (%) | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Information processing | 30 | 21 | 19 | 12 | 11 | 7 |
| Reading achievement | 43 | 12 | 11 | 13 | 14 | 7 |
| Memory processes | 9 | 18 | 23 | 20 | 17 | 13 |
| Attention | 11 | 8 | 15 | 23 | 23 | 19 |
| Learning strategies | 19 | 17 | 18 | 18 | 15 | 13 |
| Math achievement | 3 | 34 | 14 | 14 | 15 | 20 |
| Cognitive processes | 22 | 18 | 20 | 14 | 15 | 20 |
| Social/behavioral skills | 8 | 8 | 13 | 16 | 20 | 36 |
| Motivation | 11 | 9 | 15 | 18 | 23 | 24 |
| Integrative processes | 9 | 16 | 23 | 20 | 14 | 18 |
| Linguistic processes | 16 | 19 | 14 | 17 | 23 | 11 |
| Perceptual-motor processes | 13 | 8 | 14 | 17 | 15 | 33 |
| Psycholinguistic processes | 20 | 13 | 16 | 14 | 16 | 21 |
| Neurological correlates | 21 | 26 | 11 | 5 | 11 | 26 |
| Intelligence | 25 | 6 | 6 | 31 | | 31 |

with the previous questions and provided the opportunity for some reliability assessment. The overall rankings are displayed in Table 9.

Only four features were chosen by more than one-half of the LD teachers in contrast to six basic problems noted by at least 50% of LD teachers. A majority of the common elements, with the exception of reading and memory, revealed differences as evidenced by the percentage variations. The differences may reflect partially the perceived distinction between basic problem and feature. Basic problems may imply an underlying and generalized condition which affects performance adversely while a feature may suggest a more tangible and direct manifestation of the basic problem.

The most dramatic example was in the area of language. Linguistic processes, perhaps perceived as a generalized difficulty, were not viewed among the primary LD problems but their more direct and tangible manifestations as revealed by specific language deficits were perceived to be the most important feature of LD (Wiig & Semel, 1984). The percentage decline for attention, cognition, and social/emotional/behavioral functioning as features may also reflect the problem versus feature distinction. They may be seen as basic problems that undermine performance but were seen as less descriptive of observable LD behavior. The variations in psycholinguistic and perceptual-motor may also be accounted for by the problem versus feature distinction with psycholinguistic disabilities viewed as observable manifestations while perceptual-motor difficulties may be viewed as more underlying problems.

A difference in theoretical versus practical implication may explain the variation found between learning strategies and passive/inactive learning. Poor learning strategies were the most direct and observable manifestation of cognitive deficits while passive/inactive learning was the generalized theoretical performance deficiency associated with cognitive deficits (Deshler, Warner, Schumaker, & Alley, 1983; Torgesen, 1980). The LD teachers apparently believed that the more practical implication was the better descriptor of LD.

Like the prominent position maintained by reading and memory, difficulties associated with intelligence were again not seen as an important feature of LD. Similarly, neurophysiological correlates were not perceived as important features. This tended to support the finding that LD teachers viewed neurological factors more as etiological agents rather than basic characteristics. Even though there was a strong preference for a definition emphasizing discrepancy, there was less belief among LD teachers that either underachievement or academic discrepancy were among the more important features of LD.

The strong perception that poor learning opportunities were the most important feature of LD was in contrast to the one-third or less of LD teachers who believed that LD was caused by school related factors (Kavale & Forness, 1986). Although not seen as a primary cause, it appeared that LD teachers viewed poor learning opportunities

**TABLE 9**

**Rank Ordering of Features of Learning Disabilities**

| Feature | % of Teachers Included |
|---|---|
| Language deficits | 72 |
| Poor learning opportunities | 72 |
| Reading disability | 70 |
| Memory problems | 62 |
| Intra-individual deficits | 47 |
| Attention deficits | 43 |
| Underachievement | 31 |
| Psycholinguistic disabilities | 31 |
| Cognitive deficits | 29 |
| Academic discrepancy | 26 |
| Low socio-economic status | 19 |
| Neurological dysfunction | 18 |
| Hyperactivity | 15 |
| Passive/inactive learning | 12 |
| Social/emotional problems | 7 |
| Physiological deficits | 6 |
| Perceptual-motor deficits | 5 |
| Developmental lag | 1 |
| Intellectual impairment | 1 |

as an excellent descriptor of LD. Some inconsistency should be noted between the percentages for intra-individual deficits and developmental lags which resemble each other conceptually (Bender, 1957). The difference may reflect the historical emphasis on intra-individual deficits (Kirk & Chalfant, 1984) as a prominent feature of LD while developmental lags may be viewed more as a possible etiological factor.

The rank orderings for each feature are shown in Table 10. Language deficits and poor learning opportunities maintained their prominence while reading disability lost its prominent position with only 8% of LD teachers placing it in the first position. Intra-individual deficits were strongly supported while development lags received support in the second position suggesting that LD teachers believed that some form of individual variability was an important aspect of LD. When viewed across rankings, the differences noted for memory and attention tended to disappear. Similarly, there appeared to be a fairly even distribution across rankings for underachievement and academic discrepancy. The low overall standing for cognitive deficits, passive/inactive learning, social/emotional problems, and physiological deficits were supported in this analysis with a majority of their rankings falling in the lower positions.

Because of the historical emphasis on process deficits as underlying LD (Kephart, 1971), the teachers were surveyed to determine which psychological processes were most likely to be manifested by an LD student. The findings are shown in Table 11.

The two processes identified most often were comprehension and decoding which are not processes in the classical sense, but rather integral aspects of reading (Stanovich, 1986). The LD teachers apparently viewed processes in relation to the primary academic deficit rather than as separate deficits underlying LD. The identification of short-term memory was again in accord with the identification of memory as a primary deficit area (Torgesen & Kail, 1980). The only classical processes perceived to be contributors to LD were visual and auditory discrimination identified by about 4 in 10 LD teachers. The only process identified by a majority of LD teachers not related to any previous belief was sequencing. This may reflect the view that it was a generalized skill necessary for success in a variety of academic areas.

The teachers were asked to choose 8 from among 32 processes listed and the remaining 25 processes revealed a steady decline to range from 40% to 1%. Several classical processes (e.g., auditory-visual integration, visual-motor integration, figure-ground discrimination) were not believed to be important correlates of LD (Strauss & Lehtinen, 1947). Perhaps the only surprising figure was the low percentage given verbal mediation considering its relationship with the realm of meta-cognition and its use in learning strategies (Wong, 1987).

**TABLE 10**

**Rank Orderings Among Features of Learning Disabilities**

| Feature | Rank Orderings by LD Teachers (%) | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Language deficits | 37 | 22 | 14 | 11 | 11 | 6 |
| Poor learning opportunities | 20 | 26 | 16 | 16 | 14 | 9 |
| Reading disabilities | 8 | 18 | 24 | 22 | 17 | 12 |
| Memory problems | 22 | 13 | 19 | 19 | 9 | 19 |
| Intra-individual deficits | 33 | 17 | 13 | 15 | 11 | 12 |
| Attention deficits | 11 | 19 | 21 | 18 | 18 | 14 |
| Underachievement | 22 | 16 | 15 | 15 | 15 | 17 |
| Psycholinguistic disabilities | 22 | 14 | 17 | 14 | 17 | 16 |
| Cognitive deficits | 4 | 8 | 11 | 17 | 27 | 33 |
| Academic discrepancy | 14 | 15 | 15 | 14 | 18 | 24 |
| Low socio-economic status | 27 | 16 | 16 | 11 | 14 | 16 |
| Neurological dysfunction | 7 | 14 | 20 | 22 | 18 | 20 |
| Hyperactivity | 10 | 11 | 9 | 25 | 17 | 28 |
| Passive/inactive learning | 2 | 3 | 15 | 20 | 32 | 28 |
| Social/emotional problems | 6 | 8 | 6 | 17 | 29 | 36 |
| Physiological deficits | 9 | 13 | 9 | 22 | 16 | 31 |
| Perceptual-motor deficits | 12 | 8 | 15 | 15 | 19 | 31 |
| Developmental lags | 12 | 38 | | 25 | | 25 |
| Intellectual impairment | 33 | | | 33 | 33 | |

## TABLE 11

**Rank Ordering of Psychological Process Deficits Associated with Learning Disabilities**

| Psychological Process | % of LD Teachers Including |
|---|---|
| Comprehension | 74 |
| Decoding | 65 |
| Short-term memory | 64 |
| Sequencing | 58 |
| Visual discrimination | 43 |
| Conceptualization | 42 |
| Auditory discrimination | 41 |
| Expression | 41 |
| Encoding | 37 |
| Analysis | 29 |
| Auditory-visual integration | 26 |
| Visual-motor integration | 24 |
| Fine motor skills | 24 |
| Blending | 22 |
| Association | 21 |
| Directionality | 20 |
| Synthesis | 19 |
| Spatial orientation | 17 |
| Reception | 16 |
| Symbolization | 13 |
| Figure-ground discrimination | 13 |
| Revisualization | 13 |
| Semantics | 12 |
| Syntax | 12 |
| Sensory integration | 11 |
| Verbal mediation | 8 |
| Laterality | 7 |
| Gross motor skills | 4 |
| Vigilance | 4 |
| Body image | 3 |
| Form perception | 3 |
| Haptic discrimination | 1 |

**Assessment and Diagnosis**

The first question examined the composition of LD evaluation teams (Chalfant, 1985). Teachers were asked to choose which specialists should be included for valid diagnosis. Teacher preferences are shown in Table 12.

Three participants were included by 90% or better of LD teachers. They included the school psychologist (98%), the LD teacher (94%), and parents (90%). Only slightly less preferred was the regular education teacher (88%). Thus, there appeared to be a strong preference among LD teachers that they, as well as the regular teacher, along with parents, and the school psychologist (presumably to provide objective test data) were required for LD diagnosis.

The LD teachers apparently did not believe that "a representative of the public educational agency who is qualified to provide or supervise the provision of special education" (USOE, 1977) was necessary as evidenced by the percentages obtained for school administrators (52%) or special education director (38%). The teachers appeared to believe that they can serve as the representative of the school district.

The remaining participants ranged from 64% to 1% and possibly reflect perceptions based on individual LD cases. Among these participants, the speech-language clinician, reading teacher, and school nurse were most often viewed as necessary participants. The remainder were selected only by about 1 in 10 LD teachers suggesting that these individuals were required in only very few LD cases. The LD teachers did not believe the staffing team required either child advocates or a legal adviser.

The increased attention directed towards early childhood LD led to the question of whether LD teachers believed preschool identification of LD was possible. The LD teachers were equally divided on this question with 50% suggesting it was possible and 50% saying it was not possible. These percentages reflect the difficult nature of the problem and the fact that, in theory, it is a good idea but, in practice, it presents many pragmatic difficulties (Keogh & Becker, 1973).

The next question asked what type of assessment information was preferred by LD teachers (Ysseldyke, 1983). The teachers were asked to mark the assessment data as either essential, helpful, or not necessary. The findings are shown in Table 13.

Eight types of assessment information were viewed as essential by, at least, 6 out of 10 LD teachers. A majority of the "essential" assessments focused on evaluating academic performance and would be appropriate for program planning. The LD teachers most often wanted diagnostic testing data followed by an achievement battery, classroom observation, school history, work samples, and curriculum based assessment. Among the auxiliary evaluations, the area of language was most often seen as essential. The "essential" list also included a psychological evaluation and may be viewed both as a

**TABLE 12**

**Rank Ordering of Staffing Team Members for Learning Disabilities Evaluation**

| Member | % of LD Teachers Including |
|---|---|
| School psychologist | 98 |
| LD Teacher | 94 |
| Parents | 90 |
| Regular education teacher | 88 |
| Speech-language clinician | 64 |
| School administrator | 52 |
| Reading teacher | 38 |
| Special education director | 38 |
| School nurse | 37 |
| Audiologist | 30 |
| Pediatrician | 11 |
| Child advocate | 11 |
| Clinical psychologist | 9 |
| Neurologist | 9 |
| Ophthalmologist | 6 |
| Optometrist | 6 |
| Occupational therapist | 6 |
| Pschiatrist | 5 |
| Physical therapist | 3 |
| Legal adviser | 1 |

**TABLE 13**

**Assessment Information Preferences of Learning Disabilities Teachers**

| Assessment Information | Essential | Helpful | Not Necessary |
|---|---|---|---|
| Curriculum based assessments | 63 | 31 | 3 |
| Physical examination | 27 | 54 | 3 |
| Neurological evaluation | 17 | 50 | 4 |
| Achievement battery | 80 | 16 | 3 |
| School history | 72 | 23 | 3 |
| Psychiatric evaluation | 10 | 36 | 5 |
| Language evaluation | 60 | 34 | 4 |
| Curriculum history | 33 | 46 | 4 |
| Work samples | 64 | 31 | 3 |
| Medical history | 53 | 39 | 3 |
| Social work evaluation | 32 | 53 | 5 |
| Psychological evaluation | 79 | 15 | 4 |
| Audiological evaluation | 59 | 33 | 4 |
| Optometric examination | 47 | 41 | 4 |
| Diagnostic testing data | 84 | 12 | 4 |
| Classroom observation | 77 | 19 | 3 |

general evaluation of cognitive functioning as well as an adjunct to diagnostic testing data (Forness & Kavale, 1987).

The assessment information viewed as "helpful" included those evaluations that would not routinely be given but were contingent upon the problems presented by the LD student. About half the LD teachers believed that a physical or neurological examination and social work evaluation might be helpful. The remaining possibilities were viewed as helpful by about one-third of the LD teachers. No more than 5% of the LD teachers believed that any of the assessment information was not necessary (Ysseldyke & Thurlow, 1984).

Thus, these data suggested that LD teachers have a strong preference for assessment information that possesses educational utility (Zigmond, Vallerorsa, & Silverman, 1983). Although some adjunct information was viewed as either essential or helpful, LD teachers probably viewed this information as useful for providing related service rather than direct intervention.

The next question focused on tests and asked LD teachers what tests were most useful in LD diagnosis (Ysseldyke, Algozzine, Regan, & Potter, 1980). Teachers were given the name of a test and asked to choose whether it was essential, often, sometimes, or never useful. If the test was not known, teachers were to mark "Don't know test." The findings for the 15 tests in the first four categories are displayed in Table 14.

The perception of tests by LD teachers was marked by considerable variability. For example, 4 of the 15 tests viewed as "essential" were also included in the "never useful" category (i.e., **Stanford-Binet Intelligence Scale, Snellen Vision Screening Test, Bender Visual-Motor Gestalt Test, Wide Range Achievement Test**). Eight tests, however, appeared to be favorably perceived since they appeared on both the "essential" and often useful lists (i.e., **Wechsler Intelligence Scale for Children--Revised, Brigance Diagnostic Inventories, Test of Language Development, Woodcock Reading Mastery Test, Woodcock-Johnson Psychoeducational Battery, KeyMath Diagnostic Test, Informal Reading Inventory, Test of Written Language**). Conversely, seven tests were not perceived favorably since they were included in the "sometimes" and "never useful" categories (i.e., **Iowa Test of Basic Skills, SRA Achievement Test, Peabody Picture Vocabulary Test, Peabody Individual Achievement Test, Wepman Auditory Discrimination Test, Frostig Developmental Test of Visual Perception, Illinois Test of Psycholinguistic Abilities**). Thus, about 15 tests were perceived either favorably or unfavorably with enough consistency to be confident in the findings (Salvia & Ysseldyke, 1988).

The real question becomes one of what was the major influence on these perceptions. Do LD teachers base these perceptions on direct experience with these tests, indirect experience based on their use in the local district or by the school psychologist, or, finally, perhaps by what they were exposed to in their own training?

Of the 50 tests listed, 28 (56%) were not known by 33% or more of the LD teachers. Of the 28, 16, however, were not listed

**TABLE 14**

**Perception of Tests by Learning Disabilities Teachers**

| Fifteen Tests Viewed as Essential for LD Assessment | |
|---|---|
| Wechsler Intelligence Scale for for Children - Revised | Woodcock Reading Mastery Test |
| Woodcock-Johnson Psycho-educational Battery | Stanford-Binet Intelligence Scale |
| Informal Reading Inventory | Test of Written Spelling |
| KeyMath Diagnostic Arithmetic Test | Test of Written Language |
| Brigance Diagnostic Inventories | Stanford Diagnostic Mathematics Test |
| Snellen Vision Screening | Behavior Rating Profile |
| | Bender Gestalt Test |
| | Test of Language Development |

| Fifteen Tests Viewed as Often Useful for LD Assessment | |
|---|---|
| KeyMath Diagnostic Arithmatic Test | Peabody Picture Vocabulary Test |
| Test of Written Language | Peabody Individual Achievement Test |
| Woodcock-Johnson Psycho-educational Battery | Informal Reading Inventory |
| Brigance Diagnostic Inventories | Wechsler Intelligence Scale for Children - Revised |
| Test of Language Development | Stanford-Binet Intelligence Scale |
| Gates-MacGinitie Reading Test | Iowa Test of Basic Skills |
| | Metropolitan Achievement Test |

**TABLE 14 continued**

**Perception of Tests by Learning Disabilities Teachers**

| Fifteen Tests Viewed as Sometimes Useful for LD Assessment | |
|---|---|
| Iowa Test of Basic Skills | Stanford Achievement Test |
| Gates-MacGinitie Reading Test | Stanford Diagnostic Mathematics Test |
| Peabody Picture Vocabulary Test | Spache Diagnostic Reading Scales |
| Peabody Individual Achievement Test | Frostig Developmental Test of Visual Perception |
| SRA Achievement Test | Illinois Test of Psycholinguistic Abilities |
| Durrell Analsis of Reading Difficulties | Wepman Auditory Discrimination Test |
| Gray Oral Reading Test | |
| Metropolitan Achievement Test | |

| Fifteen Tests Viewed as Never Useful for LD Assessment | |
|---|---|
| Stanford-Binet Intelligence Scale | Peabody Individual Achievement Test |
| Frostig Developmental Test of Visual Perception | Slingerland Screening Tests for Identifying SLD Children |
| Iowa Test of Basic Skills | Wide Range Achievement Test |
| Bender Gestalt Test | Illinois Test of Psycholinguistic Abilities |
| Wepman Auditory Discrimination | Snellen Vision Screening Test |
| California Achievement Test | SRA Achievement Test |
| Cognitive Abilities Test | Gilmore Oral Reading Test |

previously. Thus, about one-third of the tests were actually not familiar. Perhaps the most surprising test on the list was **The Kaufman Assessment Battery for Children** given the attention it has received over the past several years (see Journal of Special Education, 1984). It is probably the case that test perception is a volatile area wherein LD teachers' perceptions were based on their own beliefs only partially and was influenced significantly by the current zeitgeist be it at the local, state, or national level.

**Service Delivery and Interventions**

The LD teachers were next asked about their preferences for providing service. The findings are shown in Table 15.

In terms of overall perception, two options were favored by better than 9 out of 10 LD teachers. The most favored service delivery option was the resource room followed by the special class with integration (Wiederholt, Hammill, & Brown, 1983). The next most favored options (by about 50%) of the LD teachers were the regular class and full-time special class. Thus, the perceptions were about equally divided between less restrictive and more restrictive options (Meyen & Lehr, 1980).

The LD teachers were also asked to make their service delivery option preference by severity level (mild, moderate, severe) (Poplin, 1982). There was a strong preference for mild LD students to be served in either resource rooms or regular classes. Tutoring was also believed to be a preferred option. The more restrictive settings (special class and special school) were not viewed as viable options for mild LD students. Conversely, for severe LD students, the favored options were the more restrictive settings. Only severe LD students were considered for special school placement. There thus appeared to be a direct relationship between severity levels and the restrictiveness of the placement setting.

The moderate level found a split with equal percentages of LD teachers favoring with the resource room or the special class with integration. Thus, with mild and severe LD students, teacher perceptions about service delivery were unequivocal with teachers favoring less restrictive options for mild LD students and more restrictive options for severe LD students. Perceptions were evenly divided about the moderate LD student with respect to setting restrictiveness. These perceptions appeared to be in accord with present practice and suggested that LD teachers agreed generally with the present thinking in the field.

The next question dealt with the focus of intervention and asked teachers to select those they favor and do not favor. The findings are shown in Table 16.

Better than 7 out of 10 LD teachers favored focusing intervention efforts on specific academic deficits. Although academic deficits were favored as the focus on intervention, a majority (77%) of LD teachers suggested that we should teach to academic strengths rather than

**TABLE 15**

**Preferences of Teachers for Providing Services to Students with Learning Disabilities**

| Service Delivery Option | LD Student Severity Level | | |
|---|---|---|---|
| | Mild | Moderate | Severe |
| Resource room (95%) | 56 | 37 | 2 |
| Regular class (51%) | 50 | 1 | |
| Tutoring (33%) | 29 | 3 | 1 |
| Itinerant teacher (20%) | 11 | 6 | 3 |
| Special class with integration (90%) | 2 | 37 | 51 |
| Full-time special class (48%) | 1 | 2 | 45 |
| Special school (20%) | | | 20 |

**TABLE 16**

**Rank Ordering for the Focus of Intervention**

| Focus | % Favoring | % Not Favoring |
|---|---|---|
| Specific academic deficit | 73 | 5 |
| Learning strategies | 72 | 3 |
| Language problems | 17 | 20 |
| Cognitive deficits | 17 | 29 |
| Social/interpersonal skills | 16 | 31 |
| Basic psychological processes | 10 | 52 |
| Behavioral deviations | 6 | 20 |

deficits when queried on this point. Almost as equally important were efforts directed at enhancing learning strategies. This focus was in accord with the earlier findings emphasizing learning strategies as a prominent feature in LD. The remaining five areas were favored by fewer than 1 in 5 LD teachers. Thus, LD teachers believed that they should be primarily responsible for remediating basic skill deficits and improving how LD students learn.

The area most often not favored were interventions focusing on basic psychological processes (Torgesen, 1979). More than half the LD teachers did not favor this focus and suggested that, even though psychological processes were prominent historically, the LD teachers did not believe that such efforts produced benefits. The increased emphasis on social skills and their training was not reflected since almost one-third of the LD teachers did not favor focusing intervention on social skills (Gresham, 1981). This finding was in accord with the earlier findings revealing that LD teachers did not believe social skill deficits to be a primary characteristic of LD. Thus, LD teachers appeared not to favor either process or social skills training, but rather favored focusing their efforts on enhancing primarily academic functioning and overcoming passive/inactive learning through strategy training.

The LD teachers were next given a list of 31 possible interventions and asked to rate them as either a favored treatment, a sometimes appropriate treatment, or a treatment they would never use (Smith, 1986). These findings are displayed in Table 17.

Five interventions were favored by better than 8 out of 10 LD teachers and all involved instructional practices. These preferences reflected the emphasis on remediating specific academic deficits and, while not themselves specific methods, provided a framework for structuring intervention to maximize performance. In this regard, teachers were asked whether it was important to match instructional method to preferred modality and a large majority (87%) of LD teachers responded affirmatively. Thus, even though the evidence is overwhelmingly against the modality model (Kavale & Forness, 1987), LD teachers still maintained a strong belief in the possibility of finding aptitude x treatment interactions. The strong preference for structured environment was unexpected and may reflect not the structure first mentioned by Strauss and Werner (see Strauss & Lehtinen, 1947), but rather a generalized model for delivering remediation like the Adaptive Learning Environment Model (ALEM) (Wang & Birch, 1984).

Strategy training was a favored intervention by 2 out of 3 LD teachers. This strategy training was probably perceived as a specific method like the University of Kansas Model (see Deshler *et al*, 1983) rather than a generalized method as evidenced by only about 33% favoring either cognitive behavior modification or cognitive developmental approaches and 15% favoring meta-cognitive therapy or verbal mediation training. Thus, LD teachers viewed strategy training as a specific methodology, but generally preferred global

**TABLE 17**

**Rank Orderings Among Etiologies of Learning Disabilities**

| Intervention Focus | Rank Orderings by LD Teachers (%) 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Specific academic deficits | 47 | 26 | 12 | 6 | 6 | 2 | 3 |
| Learning strategies | 41 | 31 | 12 | 8 | 4 | 2 | 1 |
| Cognitive deficits | 5 | 12 | 20 | 19 | 15 | 16 | 13 |
| Basic psychological processes | 5 | 5 | 11 | 11 | 16 | 17 | 35 |
| Social/interpersonal skills | 4 | 12 | 18 | 17 | 19 | 20 | 11 |
| Behavioral deviations | 2 | 4 | 12 | 15 | 18 | 26 | 22 |
| Language problems | 2 | 15 | 20 | 25 | 18 | 12 | 8 |

interventions that emphasized meeting individual student needs (Gerber, 1983).

Three areas were noteworthy for their low favorable ratings. Behavioral approaches were not perceived favorably by LD teachers. Classical LD interventions (e.g., perceptual-motor training, psycholinguistic training) were not rated favorably. Finally, although there has been increased attention directed at holistic approaches (Poplin, 1988), only about one-third of LD teachers were favorably disposed.

The interventions rated "sometimes useful" reflected some similar views found in the "favored" category. Again, methods that permitted teachers to structure interventions within a generalized framework were rated high. The generalized versions of strategy training were more highly rated in the "sometimes" category. Two areas receiving favorable ratings improved significantly under the sometimes heading. Both behavioral approaches and the classical LD interventions were perceived to be sometimes useful by almost 2 out of 3 LD teachers. Thus, these interventions, while not favored as primary interventions, were viewed as sometimes useful possibly as adjunct or secondary methods.

A majority of the treatments listed were perceived to be "never useful" by fewer than 2 in 10 LD teachers. The most noteworthy treatments believed to be never useful were psychotherapy and medically oriented therapies (Silver, 1987). A good proportion of LD teachers also believed that the classical LD interventions were never useful. These findings suggested that LD teachers preferred methods that provide the opportunity to intervene directly in deficit areas, especially academic rather than methods which were more indirect.

## Sources of Information

The next question attempted to determine which individuals influenced LD teachers' view of LD. From a list of 60 names spanning the past to the present, teachers were asked to select 10 names and rank order as well as indicate with an "X" those names recognized. The responses showed considerable variability and it was difficult to interpret the findings with confidence.

Three types of individuals appeared to have the most influence and included famous names outside the LD field (e.g., Skinner, Piaget), senior statesman and historical figures in the LD field (e.g., Cruickshank, Kirk, Kephart, Frostig) or present day LD professionals known for specific contributions like textbooks or methods (Lerner, Deshler). The percent of time individuals were recognized ranged from 55% to 2% and appeared to be rather evenly distributed. In general, it appeared that LD teachers were only partially influenced directly by LD professionals. The influence of these individuals tended to be more indirect and through secondary sources. Thus, LD teachers appeared to be independent in their thinking about LD and, while acknowledging some influence, they apparently use sources other than "expert opinion" to form their beliefs and perceptions about LD.

The next question surveyed LD teachers to determine their primary sources of information about LD (Summers, 1986). The LD teachers were presented with a list of 35 journals offering material on LD and asked to mark those read regularly, those occasionally read, and those never read. The findings for journals read regularly or never read are shown in Table 18.

The journals most often read by LD teachers fell into three categories. As expected, the most often read journals were the three specific to the LD field. This was followed by more general special education journals which included both research-oriented and practitioner-oriented articles related to LD. Finally, LD teachers also regularly read two practitioner-oriented reading journals. Thus, LD teachers read all the journals within their own field, a sample of the general special education focusing on both LD research and practice, and journals concerned with the primary deficit area (i.e., reading) for LD students.

The journals most often "never" read spanned a wide continuum. These findings suggested that LD teachers did not read the literature on mental retardation even though it is one of the three members of the global mildly handicapped group. The other journals listed include the areas of severely handicapped, emotionally disturbed, rehabilitation, behavioral research, and school psychology. The two entries for school psychology suggested that LD teachers did not regularly read this literature even though school psychology has demonstrated considerable interest in LD over the past several years. It thus appeared that LD teachers did not read regularly either the mental retardation or school psychology literature.

## Conclusion

The LD teachers in the State of Iowa appeared to be well-informed and knowledgeable about their field. The survey was a comprehensive evaluation and, although some questions were marked by considerable diversity of opinion, a majority revealed a strong consensus and well-developed beliefs and perceptions. It thus appeared that LD teachers did possess a sound knowledge base for their practical pursuits and did base their practice on what they believed.

The range of responses appeared to show that the LD teachers based their perceptions on a variety of sources. These sources included the conventional wisdom in the field, the current zeitgeist in the field, and information presented in the major LD journals. There appeared to be some relationship between particular perceptions and sources suggesting that LD teachers possessed some well-ingrained beliefs while other beliefs were more subject to modification. The beliefs most subject to change appeared to be those involved with assessment and intervention suggesting that the areas where LD

**TABLE 18**

**Professional Journal Preferences of Learning Disabilities Teachers**

| Ten Journals Most Often Read Regularly (40% or Better) | |
|---|---|
| Journal of Learning Disabilities | Learning Disabiltiies Research |
| Learning Disabilities Quarterly | Journal of Special Education |
| Exceptional Children | Teaching Exceptional Children |
| Reading Teacher | Academic Therapy |
| Journal of Reading | Focus onf Exceptional Children |

| Ten Journals Most Often Never Read (90% or Better) | |
|---|---|
| Education Unlimited | Rehabilitation Literature |
| Education and Training of the Mentlally Retarded | School Psychology Review |
| Perceptual and Motor Skills | Psychology in the Schools |
| American Journal of Ortho-psychiatry | Mental Retardation |
| Journal of Speech and Hearing Disorders | Behavior Research and Therapy |

teachers had the greatest involvement were the areas most likely to be modified in the face of new knowledge. The perceptions about the nature and characteristics of LD appeared to be more fixed and more often based on conventional wisdom as found, for example, in LD textbooks.

The question now arises as to how these beliefs and perceptions compare to those of LD teachers in other states. Thepresent data do not permit any comparison, but it is likely that a good proportion of the beliefs and perceptions would be shared by LD teachers in other areas, particularly those based on the conventional wisdom. It is also probable that particular perceptions (e.g., learning strategies, curriculum-based assessment) would be emphasized given their prominence in LD thinking in the State of Iowa. Thus, LD teachers bring an established belief system to their positions which are then modified by both new knowledge and the current trends popular in the state. All in all, the LD teachers in Iowa appeared to possess a sound knowledge base which they are willing to modify to enhance both their understanding of LD and their efforts to improve the performance of LD students. It thus appears that Iowa's LD students are in very good hands.

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# APPENDIX A

# QUESTIONNAIRE

# TEACHERS' PERCEPTIONS AND BELIEFS ABOUT LEARNING DISABILITIES

Please complete all questions in this survey. Each question has its own instructions and should take no more than 25-30 minutes.
Thank you in advance.

1. Definitions of learning disability have taken a variety of forms. Please check the one definition below that you believe to be most descriptive and appropriate.

_____Children who have learning disorders are those who manifest an educationally significant discrepancy between their estimated intellectual potential and actual level of performance related to basic disorders in the learning process, which may or may not be accompanied by demonstrable central nervous system dysfunction, and which are not secondary to generalized mental retardation, educational or cultural deprivation, severe emotional disturbance, or sensory loss.

_____Learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though learning disability may occur concomitantly with other handicapping conditions (e.g., sensory impairment, mental retardation, social and emotional disturbance) or environmental influences (e.g., cultural differences, insufficient/inappropriate instruction, psychogenic factors), it is not the direct result of these conditions or influences.

_____Children with learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. These may be manifested in disorders of listening, thinking, speaking, reading, writing, spelling, or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage.

_____Learning disability refers to those children of any age who demonstrate a substantial deficiency in a particular aspect of academic achievement because of perceptual or perceptual-motor handicaps regardless of etiology or other contributing factors. The term perceptual as used here relates to those mental (neurological) processes through which the child acquires basic alphabets of sounds and forms.

_____None of these definitions are descriptive or appropriate.

2. LD students are characterized as having.....
(Place a number next to each of the following statements according to the following scale:

1 Not at all true
2 Somewhat not true
3 Not certain how true it is
4 Somewhat true
5 Almost always true

_____a discrepancy between ability and achievement
_____learning strengths as well as learning weaknesses
_____academic strengths as well as academic weaknesses
_____average or above intelligence
_____a need for special materials and instructional techniques
_____a processing deficit which interferes with learning ability
_____a neurological impairment
_____the ability to learn at a faster rate than slow learners
_____the ability to learn at a different rate than the mentally retarded
_____a life-long condition that will continue through adulthood

3. LD basically represents problems in which of the following areas of functioning (please select 6 and rank order them by importance).

_____perceptual motor processes
_____linguistic processes
_____intelligence
_____achievement (reading)
_____achievement (arithmetic)
_____social/behavior skills
_____learning strategies
_____information processing
_____motivation
_____cognitive processes
_____attention
_____neurological correlates
_____psycholinguistic processes
_____memory processes
_____integrative processes

4. What percentage of school children should be identified LD? (Mark at the approximate point in the line below.)

0% 2% 3% 5% 8% 10% 12% 15% 20% 25% 30%

5. LD is best characterized by (please select 6 and rank order them by importance).

_____developmental lags
_____underachievement
_____intra-individual deficits
_____low socioeconomic status
_____perceptual-motor deficits
_____academic discrepancy
_____language deficits
_____attentional deficits
_____neurological dysfunction
_____memory problems
_____reading disability
_____poor learning opportunities
_____physiological deficits
_____intellectual impairment
_____social/emotional problems
_____cognitive deficits
_____psycholinguistic disabilities
_____hyperactivity
_____passive/inactive learning

6. Which of the following categories of children should <u>not</u> be included under the LD classification (please select up to 6).

_____behaviorally disordered
_____dyslexic
_____educable mentally retarded
_____perceptually handicapped
_____culturally-economically disadvantaged
_____slow learner
_____underachiever
_____autistic
_____minimally brain damaged
_____hyperkinetic behavior syndrome
_____attention deficit disorder
_____emotional disturbance
_____socially maladjusted

7. An LD child is likely to have a problem in which of the following psychological processes? (Please select up to 8.)

_____sequencing
_____visual discrimination
_____blending
_____gross motor skills
_____laterality
_____visual-motor integration
_____body image
_____short-term memory
_____conceptualization
_____spatial orientation
_____encoding
_____verbal mediation
_____semantics
_____association
_____comprehension
_____reception
_____auditory discrimination
_____symbolization
_____analysis
_____haptic discrimination
_____auditory-visual integration
_____directionality
_____synthesis
_____figure-ground discrimination
_____fine motor skills
_____syntax
_____vigilance
_____revisualization
_____decoding
_____form perception
_____sensory integration
_____expression

8. An interdisciplinary team is required for the diagnosis of LD. Which of the following specialists do you feel should be required for valid diagnosis? (Please limit your selection to 8.)

_____LD teacher
_____regular teacher
_____school psychologist
_____pediatrician
_____ophthalmologist
_____legal adviser
_____parents
_____psychiatrist
_____physical therapist
_____school nurse
_____occupational therapist
_____neurologist
_____speech-language therapist
_____audiologist
_____reading teacher
_____optometrist
_____school administrator
_____child advocate
_____clinical psychologist
_____special education director

9. With respect to etiology of LD, what do you believe to be primary causes? (Please select 6 and rank order them by importance.)

_____psychological
_____neurological
_____pedagogical
_____biochemical
_____pre-, peri-, or post-natal
_____maturation lag
_____school inflexibility
_____family influences
_____poor teaching
_____ecological
_____genetic
_____social/behavioral
_____physiological
_____nutritional
_____personality problems
_____low socioeconomic status

10. In planning a school program for an LD child, what diagnostic data is most useful? (Place 1 before essential data, 2 before data which is helpful but not essential, and 0 if not necessary.)

_____curriculum based assessments
_____physical examination
_____neurological evaluation
_____achievement battery
_____school history
_____psychiatric evaluation
_____language evaluation
_____curriculum history
_____work samples
_____medical history
_____social work evaluation
_____psychological evaluation
_____audiological examination
_____optometric examination
_____diagnostic testing data
_____classroom observation

11. Given the present state of knowledge, is pre-school identification of the LD child possible?

_____Yes _____No

12. What tests are most useful in the diagnosis of LD? (Circle the appropriate number after each test.)

| | Essential | Often Useful | Sometimes | Never Useful | Don't Know Test |
|---|---|---|---|---|---|
| Illinois Test of Psycholinguistic Abilities | 1 | 2 | 3 | 4 | 5 |
| Iowa Test of Basic Skills | 1 | 2 | 3 | 4 | 5 |
| Metropolitan Achievement Test | 1 | 2 | 3 | 4 | 5 |
| Gates-MacGinitie Reading Test | 1 | 2 | 3 | 4 | 5 |
| Key Math Diagnostic Test | 1 | 2 | 3 | 4 | 5 |
| Bender-Gestalt Test | 1 | 2 | 3 | 4 | 5 |
| Peabody Picture Vocabulary Test | 1 | 2 | 3 | 4 | 5 |
| Gray Oral Reading Test | 1 | 2 | 3 | 4 | 5 |
| Wide Range Achievement Test | 1 | 2 | 3 | 4 | 5 |
| Detroit Test of Learning Aptitude | 1 | 2 | 3 | 4 | 5 |
| Test of Written Language | 1 | 2 | 3 | 4 | 5 |
| Wepman Auditory Discrimination Test | 1 | 2 | 3 | 4 | 5 |
| Frostig Developmental Test of Visual Perception | 1 | 2 | 3 | 4 | 5 |
| Snellen Vision Test | 1 | 2 | 3 | 4 | 5 |
| Wechsler Intelligence Scale for Children-Revised | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Peabody Individual Achievement Test | 1 | 2 | 3 | 4 | 5 |
| Boehm Test of Basic Concepts | 1 | 2 | 3 | 4 | 5 |
| Vineland Social Maturity Scale | 1 | 2 | 3 | 4 | 5 |
| Test of Language Development (TOLD) | 1 | 2 | 3 | 4 | 5 |
| Test of Reading Comp. (TORC) | 1 | 2 | 3 | 4 | 5 |
| Test of Written Language (TOWL) | 1 | 2 | 3 | 4 | 5 |
| Behavior Rating Profile (BRP) | 1 | 2 | 3 | 4 | 5 |
| Woodcock-Johnson Psychoeducational Battery | 1 | 2 | 3 | 4 | 5 |
| Spache Diagnostic Reading Scales | 1 | 2 | 3 | 4 | 5 |
| Goodman Reading Miscue Inventory | 1 | 2 | 3 | 4 | 5 |
| SRA Achievement Test | 1 | 2 | 3 | 4 | 5 |
| Brigance Diagnostic Inventories | 1 | 2 | 3 | 4 | 5 |
| Berry-Buktenica Test of Visual Motor Integration | 1 | 2 | 3 | 4 | 5 |
| Gilmore Oral Reading Test | 1 | 2 | 3 | 4 | 5 |
| Stanford Achievement Test | 1 | 2 | 3 | 4 | 5 |
| Durrell Analysis of Reading Difficulties | 1 | 2 | 3 | 4 | 5 |
| Basic School Skills Inventory | 1 | 2 | 3 | 4 | 5 |
| Informal Reading Inventory | 1 | 2 | 3 | 4 | 5 |
| Test of Written Spelling | 1 | 2 | 3 | 4 | 5 |
| Slingerland Screening Tests for Identifying SLD Children | 1 | 2 | 3 | 4 | 5 |
| Stanford Diagnostic Mathematics Test | 1 | 2 | 3 | 4 | 5 |
| California Achievement Test | 1 | 2 | 3 | 4 | 5 |
| Vallett Developmental Survey of Basic Learning Abilities | 1 | 2 | 3 | 4 | 5 |
| Woodcock Reading Mastery Test | 1 | 2 | 3 | 4 | 5 |
| Gates-McKillop Diagnostic Tests | 1 | 2 | 3 | 4 | 5 |
| Quay-Peterson Problem Behavior Rating Scale | 1 | 2 | 3 | 4 | 5 |
| Benton Visual Retention Test | 1 | 2 | 3 | 4 | 5 |
| Stanford Binet Intelligence Scale | 1 | 2 | 3 | 4 | 5 |
| Cognitive Abilities Test | 1 | 2 | 3 | 4 | 5 |
| Test of Early Language Development (TELD) | 1 | 2 | 3 | 4 | 5 |
| Test of Early Reading Achievement (TERA) | 1 | 2 | 3 | 4 | 5 |
| Test of Mathematical Abilities (TOMA) | 1 | 2 | 3 | 4 | 5 |
| Test of Adolescent Language (TOAL) | 1 | 2 | 3 | 4 | 5 |
| Kauffman Assessment Battery for Children (KABC) | 1 | 2 | 3 | 4 | 5 |
| Matching Familiar Figures Test | 1 | 2 | 3 | 4 | 5 |
| Devereaux Pupil Rating Scale | 1 | 2 | 3 | 4 | 5 |

13. In your opinion, what is the best option for providing services to the mild LD child (indicate with #1), the moderate LD child (indicate with #2, and the severe LD child (indicate with #3)?

_____resource room
_____full-time special class
_____special school
_____tutoring
_____regular class
_____itinerant teacher
_____special class with integration

14. The focus of intervention for the LD child should be (please rank order)

_____specific academic deficits
_____basic psychological processes
_____language problems
_____social/interpersonal skills
_____learning strategies
_____behavioral deviations
_____cognitive deficits

15. In program planning for the LD child, should we teach to academic strengths_____ or deficits_____.

16. Over the years, the LD concept has been extended beyond the elementary school-aged child. Which of the following extensions do you believe are necessary and valid?

_____preschool
_____secondary
_____adult
_____gifted

17. Is it important to match the method of instruction to the child's preferred modality, e.g., phonics for teaching reading to the child who learns best through the auditory modality?

_____Yes _____No

18. Treatment of the LD child should include (place 1 before a favored treatment, 2 before a treatment sometimes appropriate, and 3 before treatment which you would never use).

_____psychotropic medication
_____psychoanalysis
_____cognitive behavior modification
_____clinical teaching
_____sensory integration therapy
_____diagnostic-prescriptive teaching
_____diet modification
_____behavior modification
_____psychoeducational teaching
_____mega-vitamin therapy
_____psychotherapy
_____applied behavior analysis
_____psycholinguistic training
_____open education
_____computer assisted instruction
_____individualized instruction
_____adaptive learning materials
_____basal readers
_____language experience
_____meta cognitive training
_____verbal mediation training
_____interactive language teaching
_____direct instruction
_____cognitive-developmental approaches
_____multisensory approaches
_____structured environment
_____token economy
_____educational therapy
_____developmental therapy
_____holistic approaches
_____strategy training

19. Which of the following individuals have most affected your view of LD? (Please select 10 names and rank order.) Also indicate with a "x" those whose name you recognize.

_____Ray Barsch
_____Don Hammill
_____Newell Kephart
_____William Cruickshank
_____Anna Gillingham
_____Alfred Strauss
_____Grace Fernald
_____B. F. Skinner
_____Keith Conners
_____Laura Lehtinen-Rogan
_____Dan Hallahan
_____Barbara Keogh
_____Ben Feingold
_____Janet Lerner
_____Jules Abrams
_____Frank Hewett
_____Jim Chalfant
_____John Arena
_____Robert Valett
_____Tanis Bryan
_____Elizabeth Koppitz
_____Corrine Kass
_____Ken Kavale
_____James Ysseldyke
_____Joe Torgeson
_____Cecil Mercer
_____Lee Swanson
_____Lester Mann
_____Sylvia Richardson
_____Doug Carnine
_____Helmer Myklebust
_____Carl Delacato
_____Sam Kirk
_____Marianne Frostig
_____Samuel Orton
_____Gerald Getman
_____Barbara Bateman
_____Segfried Engelman
_____Tom Lovitt
_____Jim Kauffman
_____Steve Forness
_____Norris Haring
_____Marion Monroe
_____Steve Larsen
_____Howard Adelman
_____Doris Johnson
_____Jean Ayres
_____Byrant Cratty
_____Maria Montessori
_____Jean Piaget
_____Katrina de Hirsch
_____Beth Slingerland
_____Gerald Senf
_____Bernice Wong
_____Bob Algozzine
_____Don Deshler
_____Reid Lyon
_____Esther Minskoff
_____Lee Weiderholt
_____Don McKinney

20. The following journals offer material in LD. Please place 1 before those which you read regularly, place 2 before those you occasionally read, and place 3 before those you never read.

_____Exceptional Children
_____Reading Teacher
_____Journal of Learning Disabilities
_____Perceptual Motor Skills
_____Learning Disability Quarterly
_____Behavioral Disorders
_____Academic Therapy
_____Journal of Applied Behavior Analysis
_____American Journal of Mental Retardation
_____Reading Research Quarterly
_____Education Unlimited
_____Journal of Special Education
_____American Journal of Orthopsychiatry
_____Reading Research Quarterly
_____Education Unlimited
_____Journal of Special Education

_____American Journal of Orthopsychiatry
_____Bulletin of the Orton Society
_____Journal of Speech and Hearing Disorders
_____Focus on Exceptional Children
_____Teaching Exceptional Children
_____Journal of School Psychology
_____Journal of Educational Psychology
_____Learning Disabilities Focus
_____Learning Disabilities Research
_____Journal of Reading
_____Rehabilitation Literature
_____Child Development
_____Behavior Research and Therapy
_____Journal of Abnormal Child Psychology
_____Remedial and Special Education
_____Education and Training of the Mentally Retarded
_____Mental Retardation
_____School Psychology Review
_____Psychology in the Schools

Demographic Information

1. How many years of teaching experience do you have? _____
   How many years of teaching experience do you have with LD children? _____

2. Please check degrees held

   _____bachelors
   _____masters
   _____specialist
   _____doctorate

3. Please list colleges and universities attended.

   _____
   _____
   _____

4. Do you possess LD certification?

   _____Yes _____No

5. Do you regularly take in-service courses and workshops in LD?

   _____often
   _____occasionally
   _____never

6. Please check present level of teaching.

   _____preschool
   _____primary (K-3)
   _____intermediate (4-6)
   _____junior high (7-9)
   _____secondary (10-12)

7. Please check settings where you have worked?

   _____resource _____special school _____special day
   _____regular _____clinic _____self-contained
   _____hospital

8. Please indicate age _____

9. Please indicate sex: _____Male _____Female

10. What year(s) did you take most of your LD classes? _____

# APPENDIX B

# COVER LETTER

**The University of Iowa**
Iowa City, Iowa 52242

College of Education
Division of Special Education
N259 Lindquist Center

(319) 335-5324

1847

April 8, 1988

Dear Colleague:

The field of learning disabilities is among the most controversial areas of special education. Much dispute has marked the LD field and it appears that issues are not easily resolved. Within the confines of debate in the LD field, we most often hear and read what "experts" believe. With a grant from the State Department of Education, I am undertaking a grass-roots survey of practitioners in the field in order to gather information on what LD teachers believe and perceive about the nature and characteristics of LD.

I believe it is important to determine what "front-line" people think about the field in which they practice. Their perceptions are important if we are to get a comprehensive perspective about the LD field. It is relatively easy to determine what experts believe but often it is more difficult for teachers to express their opinions about the significant issues. I would therefore, urge you to participate in this survey by completing the form and returning it by April 29, 1988. A stamped, self-addressed envelope is enclosed. We are sending this survey to all LD teachers in the state and it is important to obtain a good return if we are to get a true picture of LD teachers' beliefs and perceptions.

Thank you in advance for your cooperation.

Sincerely,

K. Kavale

Kenneth A. Kavale
Professor and Chair

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