Evaluation of Special Education

Program Evaluation Division
Office of the Legislative Auditor
State of Minnesota

Program Evaluation Division

The Minnesota Legislature established the Program Evaluation Division within the Office of the Legislative Auditor in 1975. The division's mission, as set forth in statute, is to determine the degree to which activities and programs entered into or funded by the state are accomplishing their goals and objectives and utilizing resources efficiently.

The division conducts six to eight major evaluations each year. Each evaluation includes a *program review*, which describes program activities. In addition, most evaluations address: 1) *compliance issues*, which examine whether the program is implemented consistent with law and legislative intent, 2) *economy and efficiency issues*, which assess whether the program is managed efficiently and cost effectively, 3) *program effectiveness issues*, which determine whether the program is achieving its objectives, and/or 4) *policy issues*, which concern the impact of current state policy and the costs and benefits of policy alternatives.

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Topics for study are approved by the Legislative Audit Commission (LAC), a 16-member bipartisan oversight committee. The division's reports, however, are solely the responsibility of the Office of the Legislative Auditor. Findings, conclusions, and recommendations do not necessarily reflect the views of the LAC or any of its members.

The Office of the Legislative Auditor also includes a Financial Audit Division, which annually conducts a statewide audit of the 25 largest agencies, the federal single audit, and approximately 40 financial and compliance audits of individual state agencies.

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PREFACE

In May 1983, the Legislative Audit Commission directed the Program Evaluation Division to conduct an evaluation of special education programs in Minnesota. The growth of special education services, particularly those for students labeled learning disabled, is a source of legislative concern. In the last fifteen years, the percentage of students identified as learning disabled has grown from one percent to five percent of public school enrollment. There is also general legislative concern about the effectiveness of special education programs that now require approximately $125 million in state categorical aids annually.

The report finds that there is a need for local school districts to improve policies and practices used to determine whether a student is handicapped, particularly in the area of learning disabilities. The Department of Education needs to draft specific eligibility criteria for school district consideration for all disabilities. The department also needs to show more leadership and provide more guidance to school districts regarding the monitoring of student progress and the evaluation of instructional methods and programs in special education.

We were assisted in our study by the full cooperation of the Minnesota Department of Education and administrators, teachers, and other staff from Minnesota school districts. We were able to visit with individuals from almost half of the more than 100 special education cooperatives and school districts with primary responsibility for service delivery. We were impressed by the dedication of administrators, teachers, and other staff serving handicapped students. We hope this report will help the Department of Education and local school districts improve eligibility decisions and program services.

This report was written by Joel Alter, Dan Jacobson, Jo Vos, and John Yunker of the Program Evaluation Division staff. John Yunker was the project manager for this study.

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PROGRAM EVALUATION DIVISION

The Program Evaluation Division is part of the Office of the Legislative Auditor. The division's general responsibility, as set forth in statute, is to determine the degree to which activities and programs entered into or funded by the state are accomplishing their goals and objectives and utilizing resources efficiently. A list of the division's studies appears at the end of this report.

Topics for study are approved by the Legislative Audit Commission (LAC), but the findings, conclusions, and recommendations in Program Evaluation Division reports are solely the responsibility of the Legislative Auditor and division staff and are not necessarily the position of the LAC or any of its members. Upon completion, reports are sent to the LAC for review and are distributed to other interested legislators and legislative staff.

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EXECUTIVE SUMMARY

This report examines special education instruction and services provided to handicapped children in Minnesota schools. We focus on two important issues: (1) eligibility for special education instruction and services and (2) the effectiveness of special education programs.

The report finds that there is a need for local school districts to improve policies and practices used to determine whether a student is handicapped, particularly in the area of learning disabilities. There is also a need for the Minnesota Department of Education to draft specific eligibility criteria for school district consideration for learning disabilities as well as all other disabilities. The guideline criteria drafted by the department for learning disabilities and emotional/behavioral disorders are not specific enough to implement.

The Department of Education also needs to show more leadership and provide more guidance to school districts regarding the monitoring of student progress and the evaluation of instructional methods and programs in special education. The department has begun to provide more leadership regarding regular education issues but needs to extend this leadership to special education programs. The department's Special Education Section has made some progress but that progress has been rather limited thus far.

The report also makes a number of more detailed findings and recommendations. The major findings and recommendations are discussed below.

A. ELIGIBILITY ISSUES

Historically, no state has used less specific definitions or eligibility criteria for the various handicapping conditions than Minnesota. Minnesota has had no statewide definitions or eligibility criteria. Only two other states are like Minnesota and have no state definitions or eligibility criteria.

As a result, it has been left up to local Minnesota school districts to decide who is eligible for special education instruction and services. This lack of state direction has resulted in much school district variation in determining who receives special education instruction and services, especially in the areas of learning disabilities, emotional/behavioral disorders, and speech/language impairments. The percentage of students identified as learning disabled by school districts ranges from less than one percent to almost 14 percent of public and non-public school enrollment. The percentage of students with emotional/behavioral disorders ranges from zero to 2.8 percent. The range for speech/language impaired students is from zero to 10

percent. There is also variation in the percentage of students identified as educable mentally retarded. The percentage varies from zero to five percent. If smaller districts are excluded, the variation in these categories is less but still considerable. For example, among special education cooperatives and districts with enrollment of 1,000 or more, the percentage of students identified as learning disabled ranges from less than two percent to more than eight percent.

Some of the variation is explained by differences in the true prevalence of disabilities. One district may happen to have more handicapped students than another district. However, much of the variation is due to differences in district policy and practice--particularly in the areas of learning disabilities, emotional/behavioral disorders, speech/language impairments, programs for the educable mentally retarded, and preschool programs for handicapped students. As a result, students eligible for special education in one district might not receive special education services in an adjacent district or might receive a different type of service.

In recent years, there has been an increase in concern about the lack of statewide eligibility criteria. That concern has focused largely on the category of learning disabilities and, to a lesser extent, on emotional/behavioral disorders. In the last fifteen years, the percentage of students identified as learning disabled has grown from one percent to five percent of public school enrollment. Nearly all the recent growth in the percentage of children identified as handicapped has been in the categories of learning disabilities and emotional/behavioral disorders. The percentage of learning disabled children has doubled in the last seven years. The percentage with emotional/behavioral disorders has almost doubled in the last four years.

Although both categories have grown substantially, the problems with each are different. The percentage of students identified as learning disabled in Minnesota is higher than both the national average and the range of prevalence estimates prepared for the federal government. The percentage of students identified as having emotional/behavioral disorders in Minnesota has been below the national average but may now have caught up with the national average. Minnesota's percentage is still below the range of prevalence estimates prepared for the federal government. In addition, about 170 school districts still do not identify any students as having emotional/behavioral disorders.

Concerns about the lack of criteria led the Department of Education to conduct workshops in 1981 throughout the state. The department obtained recommendations from special education professionals on possible eligibility criteria for learning disabilities. In 1982, the Legislature required the department to develop guideline eligibility criteria for districts to use in defining and serving students with learning disabilities, students who are emotionally disturbed, and students with special learning behavior problems.

The department was further required to field test the guidelines in a representative sample of school districts statewide and report back to the Legislature by February 1, 1984 on their operation and fiscal impact.

This report examines in detail the guidelines developed by the department in the area of learning disabilities (LD) and emotional/behavioral disorders (E/BD). The department is also currently developing guideline eligibility criteria for services to mentally retarded, speech/language impaired, and preschool handicapped students. Because guideline criteria for these areas have not been finalized, we were not able to evaluate them. However, we did review some eligibility considerations in the speech/language and preschool areas.

1. LEARNING DISABILITIES

In general, we found that the eligibility criteria and assessment practices used in Minnesota schools need to be improved. In the learning disabilities area, there are three main problems:

- Some school districts lack adequate eligibility criteria.
- Poor quality tests are used to assess students and make eligibility decisions in some districts.
- Test results are sometimes improperly interpreted.

The extent of these problems varies by school district. Some districts have adequate criteria, use good tests, and interpret tests properly. We have also found districts that have either no eligibility criteria or excessively lenient criteria and that use poor quality tests.

Evidence suggests that some schools use LD programs to serve a variety of programmatic needs besides providing instruction to learning disabled students. LD programs serve some students with learning difficulties whose needs could be met by remedial education programs if those programs were more readily available. In addition, students with other handicaps (particularly those with emotional/behavioral disorders or the educable mentally retarded) are served by some LD programs. Finally, some students whose educational difficulties should be addressed in the regular classroom are placed in LD programs.

The guideline criteria and handbook prepared by the Special Education Section of the Department of Education is a sincere effort to better define learning disabilities and to provide guidance to school districts on some assessment practices. However, the guidelines fall short of addressing problems in LD eligibility decisions. The major shortcomings of the guidelines are as follows:

- The criteria are not specific enough to be implemented by school districts. The criteria presented are conceptual but not operational. Nothing is said about whether certain specific criteria actually used by districts are too lenient or too restrictive.
- The conceptual criteria presented are controversial and need to be reexamined. In particular, the learning process deficit approach advocated by the department is appealing but, given

the current state of the art, is of questionable practical use. The department has provided little specific advice on how to implement that approach. Also, the outright exclusion of students with below average ability from LD programs is arbitrary and seems to be contradicted by advice given elsewhere in the handbook.

- The department has not incorporated the work of the Minnesota Institute for Research on Learning Disabilities (IRLD). The handbook does not mention the curriculum-based tests developed at the Minnesota IRLD and now used by several Minnesota school districts.

- The required diagnostic teaching during assessment is not explained sufficiently. Although diagnostic teaching would increase the costs of assessment, its benefits are not clear.

- The requirement of two documented pre-referral interventions is a good concept. However, little advice is given about the types of interventions that might be successful with different types of students.

- It is not clear how many tests and diagnostic procedures are required by the criteria. Overall, the criteria seem to require an increase in the resources expended during the assessment process. This could be undesirable because it would mean less resources available for instruction and services to learning disabled students. It would be desirable only if it significantly increased the accuracy of eligibility decisions.

- Developing state criteria is useful but not sufficient for addressing the problem of poor assessment and testing practices. Some districts do not use the criteria that they have submitted to the department. Also, some districts use and interpret tests improperly. As a result, there is a need for the department to assist districts in improving practices through both guidance to districts and oversight of district practices.

We recommend that:

- The department should develop LD eligibility criteria that are specific enough for districts to implement.

- The department should include other options besides the processing approach in its guideline criteria. One of these options should be the use of curriculum-based tests.

- The department should also provide specific advice to districts on how best to measure and interpret relevant concepts such as processing deficits, significant ability-achievement discrepancies, and cutoff points used in curriculum-based options.

- The department should reexamine the requirement of diagnostic teaching. The concept needs to be clarified and its benefits need to be examined in light of its potential costs.

- The department should clarify how many tests and procedures are required by its criteria. Examples of the kinds of testing required would be helpful.

- The department should assist districts by providing advice on the type of pre-referral interventions that might be successful.

- The department should more actively review local district criteria and assessment practices.

- In principle, we believe that districts should implement criteria that are no more lenient than those recommended by the department. However, we must reserve our judgment until the department has drafted specific criteria.

At this time, we believe the development of reasonable guideline criteria is preferable to mandatory state rules. The department needs additional time to develop specific criteria. Also, districts should have an opportunity to improve criteria and assessment practices voluntarily. However, we believe the Legislature should examine LD eligibility issues again after the department and school districts have an opportunity to address problems in this area. If the joint efforts of the Department of Education and local school districts do not adequately address these problems, the Legislature should consider the need for mandatory state rules on eligibility criteria or changes in the way certain special education programs are funded. The current funding method works to the advantage of districts that use special education aids rather than regular education resources to provide remedial education for some students. In the meantime, continued support for the use of guideline criteria in legislation would be helpful.

The Legislature needs to consider the impact on regular education of improving criteria and assessment practices. The likely result would be a reduction in the percentage of students receiving services from LD programs. Many of the students no longer eligible for LD services will likely need some type of assistance that regular education has not been providing. Regular education could provide needed assistance through a variety of approaches. However, the likelihood of regular education taking on these responsibilities is affected by the availability of regular education funds. In districts where existing funding is inadequate and where student-teacher ratios in the regular classroom are increasing, the likelihood is reduced. There is a need for a broader continuum of services to students with learning problems. However, simply shifting some of the responsibility from LD programs to regular education programs will not address this need. The capacity of regular education resources to address this need should also be considered.

One way of providing a broader continuum of services in ele-

mentary schools is the Adaptive Learning Environments Model (ALEM). The ALEM approach utilizes existing special education teachers (teachers of learning disabled and/or mildly mentally retarded children) and Title I staff (teachers and aides) within the regular classroom. Service is still delivered in special education resource rooms to those students who need additional help. The advantages of this approach include: (1) special education teachers work directly with regular classroom teachers to plan appropriate instruction for learning disabled and mildly mentally retarded students; (2) the morale of handicapped students may be improved by greater mainstreaming and this may improve their performance; (3) more efficient use of categorical staff results; and (4) categorical staff can help the classroom teacher address the learning problems of students who are not yet classified as LD--such action may prevent the need to later classify a low achieving student as learning disabled.

Currently, some variations of the ALEM approach are used in the Montevideo, Chisago Lakes, and North Branch school districts. The Evaluation Section of the Department of Education has evaluated these three programs and found them to be very successful overall. Some problems were noted and some data were inconclusive. However, in general, the programs have been successfully implemented and well received.

One concern that could be raised about the ALEM approach is a potential inequity in state funding. If some districts use state special education aids to, in part, provide some service for non-learning disabled students, is this fair to other districts that use local funds to support remedial or compensatory education programs? Of course, there are already inequities in special education funding because of differences in the way districts determine who is eligible for special education service. We do not believe this is sufficient reason to constrain the use of the ALEM approach. The ALEM approach has many advantages that should not be overlooked. However, we note that there are potential fiscal inequities in this approach just as there already are in more traditional approaches.

We recommend that the Legislature, Department of Education, and local school districts, in addressing the issue of LD eligibility, also address the need for a broader continuum of services to low achieving students in Minnesota schools. The Legislature may also wish to consider ways of reducing fiscal inequities among districts.

2. EMOTIONAL/BEHAVIORAL DISORDERS

Overall, we believe the department's eligibility criteria are a slight improvement over the existing federal definition. In part, the department is simply using the federal definition. The department has added the requirement that at least two planned and documented interventions be attempted before a student is labeled emotionally/behaviorally disturbed and placed in an E/BD program. If these interventions do not improve the student's condition or behavior, then an E/BD placement may be made if all other criteria are met. The department has also added the requirement that the condition or behavior must occur in more than

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one setting under school jurisdiction. This means, for example, that more than one teacher and staff member would have to have observed the student and verified that the behavior occurred.

However, the guideline criteria and handbook have several shortcomings. The criteria are not specific enough to implement and leave much room for district interpretation. For example, the frequency and duration of behaviors that justify special education placement are not specified. Also, little advice is provided on the type of pre-referral interventions that may be successful for different types of students and may help to avoid the need to make E/BD placements. Overall, we view the eligibility criteria as a step forward from previous definitions that existed. However, the criteria will need to be operationalized in order for districts to use them.

We recommend that:

- The State Department of Education should draft more specific eligibility criteria for districts' consideration.

- The State Department of Education should provide more specific guidance on instruments to use during the assessment process.

- The State Department of Education should provide more information and assistance to local school districts and regional E/BD facilitators on program options and successful intervention strategies. In part, this means a greater dissemination of information to districts on an ongoing basis.

3. SPEECH/LANGUAGE

The speech/language category includes a wide variety of handicapping conditions. They are: articulation problems, language disorders, stuttering (or fluency) problems, and voice problems. Articulation problems were once the largest category of speech/language disorders. At one time, perhaps 80 percent of students receiving speech/language therapy were served for articulation problems. The percentage of students receiving articulation therapy has declined nationwide in the past two decades while the percentage of students served for language disorders has increased dramatically. Today, the percentages of children served in articulation therapy and language therapy are probably about equal.

The overall decline in articulation services is warranted, in our opinion. Misarticulations are a normal part of growing up for young children. Schools should be cautious in labeling children with certain age-appropriate articulations as handicapped. However, some school districts in Minnesota continue to provide articulation therapy to large numbers of young children. It is often more appropriate to track the progress of children with mild articulation delays than to provide direct service. Many districts already employ tracking for young children. Department staff have encouraged the use of tracking but have not provided districts with specific criteria to use.

The growth in services to children with language disorders has occurred despite great ambiguity in the field regarding the definition of a language disorder and appropriate intervention techniques. The rapid growth in the language field produces some difficulties for school clinicians. First, standardized tests of language development are of questionable use in assessment at this point in their development. Second, many clinicians received their professional training prior to the emergence of the language emphasis in the field. Third, the current academic interest in the field is producing a flood of literature on language disorders. Clinicians who did not receive their professional training recently may feel ill-equipped to make eligibility decisions and provide services to students who have language disorders. Consequently, there is a need for professional discussion of this area at the state level. In addition, the incidence of language disorders needs to be monitored more closely in the future. Some special educators draw parallels between the language field and the learning disabilities field. They are concerned that ambiguity in the language field might lead to high incidence rates in the future.

We recommend that:

- The Department of Education should develop eligibility criteria for speech programs that are specific enough to implement.

- The Department of Education should provide some oversight of districts with high incidence of speech impairments. The department should make sure that districts are using appropriate caution regarding the identification of children with age-appropriate misarticulations as handicapped. Tracking of these students should be encouraged.

- The Department of Education should focus attention on the language area and assist districts in developing appropriate eligibility criteria, assessment practices, and intervention strategies.

4. EARLY CHILDHOOD PROGRAMS

Programs for handicapped children ages 4 to 7 are mandated in Minnesota, while programs for the birth through 3 population are not. School districts may choose to provide their own early childhood programs or contract with other service providers, such as developmental achievement centers, Head Start programs, day care programs, and nursery schools. Overlap among these service providers exists in some districts, especially metropolitan area school districts. However, other regions have too few early childhood services, especially birth through 3 services. Service gaps for the birth through 3 population primarily result because services are not required by law. Other service gaps are due in part to the insufficient number of early childhood teachers in the state.

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Many preschool children are referred to special education

programs through the state's comprehensive Preschool Screening Program. There is evidence that a significant number of districts poorly utilize the Preschool Screening Program as a special education referral mechanism. Nearly one-third of Minnesota's districts, including some large districts, referred no children to special education after preschool screening. Other districts appear to make excessive special education referrals, up to 71 percent of all children screened. The use of the Preschool Screening Program for the purpose of special education referrals needs to be improved in a significant number of school districts.

Once screened and referred, children are assessed prior to special education placement. This identification process is hindered by the inadequacy of many standardized tests used for assessing preschool children. Identification is also hindered by the current lack of specific state eligibility criteria for early childhood special education programs. The state's draft criteria for "developmentally delayed" children are particularly ill-defined. Since some mild delays are normal in young children, districts need assistance in distinguishing between children with mild, age-appropriate problems and children with more severe handicaps.

There are clearly some gaps in services for birth through 3 handicapped children, even though the extent of these gaps may have been overstated by a 1981 report to the Legislature. The report stated that five percent of the birth through 3 population is handicapped and should be served by special education programs. The report then concluded that only 34 percent of the birth through 3 handicapped population was actually being served. The five percent estimate is too high. Nonetheless, it is clear that in certain parts of the state, services are not being provided to severely handicapped students.

The Department of Education, along with the Departments of Health and Public Welfare, have been working on interagency agreements to address both the overlap in services to the 4 to 7 handicapped population and gaps in services to the birth through 3 population. In addition, the Legislature is considering bills to mandate services to the birth through 3 handicapped population. We believe it is important to address the inadequacy of services to severely handicapped children from birth through 3. However, mandating services has some problems.

Our report recommends that:

- The Department of Education should develop specific early childhood special education criteria.

- Interagency agreements between the Departments of Education, Health and Public Welfare should continue to be pursued, especially for birth through 3 services. The 1985 Legislature should consider how best to meet the needs of severely handicapped children from birth through 3.

- The Legislature should consider funding travel costs for teachers providing in-home special education services to the birth through 3 handicapped population. Such reimbursement

may result in higher quality and more cost-effective service than school-based services.

5. OUT-OF-HOME PLACEMENTS

There continues to be a problem with assessment practices at residential facilities that serve students who are chemically dependent, delinquent, or have committed status or other offenses. At many of these facilities, students have been routinely labeled learning disabled or emotionally/behaviorally disturbed. Many of these students were not identified as handicapped by their home school districts. While some of these students may be handicapped, it is necessary to conduct a comprehensive assessment prior to labeling them handicapped and providing special education instruction and services. In most instances, a comprehensive assessment is not conducted for the purpose of determining eligibility for special education. The net impact is that state special education aids are paying for some costs that should be paid out of the regular education budgets of the students' home districts.

Some of the problems exist because school districts providing instruction at these residential facilities could not bill the costs of regular education back to home districts until fiscal year 1983. As a result, provider districts billed the state and received state special education aids to pay the costs of instruction. However, at a number of facilities, assessment and billing practices have not changed.

Recently, the Department of Education examined the assessment and billing practices of some residential facilities. As a result, the practices of some provider districts are being corrected. Recognizing the limited extent of the department's efforts to date, we make the following recommendations:

- The Department of Education should take steps to determine if state aid has been claimed and paid for students not properly assessed at all residential facilities.

- The department should schedule a review of the assessment and billing practices at these residential facilities at the earliest possible date.

B. EFFECTIVENESS CONCERNS

State and federal regulations require schools to periodically monitor the progress of handicapped students and to evaluate the effectiveness of special education programs. For example, schools are required to review each student's individualized education program (IEP) once each year. Schools must also completely reassess a student's needs for special education instruction and services once every three years. In addition, school districts are required to "evaluate the effectiveness of programs in meeting the educational needs of handicapped children and provide evidence that the results of the evaluation are utilized."

Despite these requirements, insufficient attention is being paid to measuring the outcomes of special education, evaluating alternative instructional techniques or program models, and improving program effectiveness. There is wide variation among districts in their efforts to systematically measure student progress and evaluate effectiveness. There is also considerable variation among teachers or schools in the same district in the degree to which student progress is monitored on an ongoing basis. In some classrooms and schools throughout the state, more attention is paid to effectiveness concerns. Overall, however, there is room for much improvement.

Improvement is needed in these areas:

- Ongoing measurement of outcomes: Currently, monitoring of student progress tends to be either infrequent or informal. This is because schools rely on either standardized tests or informal observations. Standardized tests are given infrequently due to cost considerations. Informal observation can be more frequent but may be less accurate and objective.

- Evaluation of instructional techniques and programs: There is insufficient attention paid to evaluation. Few districts conduct systematic evaluations of special education programs. There is a lack of guidance and assistance provided to districts by the Department of Education. Districts are perhaps reluctant to evaluate programs because state funding has not been available.

- Dissemination of information on effective instructional techniques and program models: Existing research on instructional techniques and program models needs to be reviewed by the Special Education Section of the Department of Education. Information on effective techniques or models should be disseminated to local school districts and cooperatives. The department is beginning to address this need for regular classroom instruction but needs to extend its efforts to special education programs as well. The guideline handbooks on learning disabilities and emotional/behavioral disorders do not adequately address this need.

We recommend that the Department of Education play the leading role in addressing these concerns about effectiveness. In particular:

- The department, in cooperation with special education professionals from local school districts, should suggest various ways in which the progress of handicapped students can be more systematically and accurately measured on an ongoing basis.

- The department should provide guidance and assistance to local school districts on how to use outcome data that would be collected on an ongoing basis. The department also should facilitate interdistrict sharing of results.

- The department should provide guidance and assistance to local school districts on how to evaluate special education programs.

- The department should review existing research on special education instructional techniques and programs and disseminate information on effective techniques and programs to local school districts.

The department has begun to address effectiveness concerns in a limited way. Next year the department will use $200,000 in federal discretionary funds to fund about a dozen evaluation proposals. The department's efforts are a step in the right direction but are limited in scope.

We recognize that the State Department of Education cannot fully respond to our recommendations without the assistance of others. The department's Special Education Section is limited by the number of staff it has and the staff's capabilities. For that and other reasons, the department will need to involve special education professionals in local school districts, academic experts, advocacy groups, and others in the process of developing outcome measures, suggesting methods of evaluation, and reviewing existing research. The department has used similar approaches in developing guideline eligibility criteria.

To accomplish these objectives, districts will need to allocate more resources to measuring and evaluating effectiveness. However, the net result should be beneficial. For example, the curriculum-based tests developed at the University of Minnesota's Institute for Research on Learning Disabilities appear to be a viable method for measuring the progress of learning disabled children. Monitoring student progress on an ongoing basis using curriculum-based tests requires some initial costs for developing the tests and training staff. There are also some recurring costs for measuring and evaluating student progress. Evidence suggests that the investment in curriculum-based tests produces significant benefits. Students make better progress when frequent data-based progress measurement is used than when only teacher observation is used.

Increasing attention to effectiveness can produce positive results in our schools. The Legislature and the Department of Education should consider how the state can best use state and federal discretionary funds to encourage districts to measure outcomes and evaluate programs.

INTRODUCTION

This report is divided into five chapters. Chapter I provides an overview of special education programs in Minnesota. Detailed information is presented on the number and types of handicapped children served, the levels of service provided, the types of service providers, student-teacher ratios, and funding from state, federal, and local sources.

The remaining chapters address the key issues of (1) eligibility for special education instruction and services and (2) the effectiveness of special education programs. Chapter II examines programs for students with learning disabilities. Chapter III reviews services to students with emotional/behavioral disorders. In these two chapters, particular attention is paid to the guideline eligibility criteria that the Minnesota Department of Education recently developed as required by 1982 legislation. The department's guideline criteria are reprinted in Appendices A and B of this report.

Due to the constraints of time and resources, it has not been possible to evaluate services in every disability category to the same extent as we evaluated programs for children with learning disabilities and emotional/behavioral disorders. However, Chapter IV examines a number of other special education issues. Included in Chapter IV is a review of services to children with speech/language impairments, early childhood special education programs, programs for severely handicapped students and others with low incidence disabilities, and out-of-home placements of students labeled learning disabled or emotionally/behaviorally disturbed.

Chapter V discusses the actions needed to address existing eligibility problems and concerns about the effectiveness of special education programs. Recommendations for action are directed to the Minnesota Department of Education and local school districts. Issues for legislative consideration are also discussed.

I. OVERVIEW

This chapter provides an introduction to special education services in Minnesota. Information is presented on the types and numbers of handicapped children served, the level of service provided, the special education service system, student-teacher ratios, and funding from state, federal, and local sources. Where possible, we compare Minnesota to other states. We also discuss the roles of local school districts and special education cooperatives in providing services and the roles of the State Department of Education and the federal government in regulating service providers.

A. TYPES OF CHILDREN SERVED

It is essential to start our discussion of special education with a brief review of who is eligible to receive special education services. Minnesota statutes guarantee all handicapped children ages 4 to 21 the right to a free and appropriate public education.[1] Handicapped children are defined in M.S. §120.03 as:

> Subdivision 1. Every child who is deaf, hard of hearing, blind, partially seeing, crippled or who has defective speech or who is otherwise physically impaired in body or limb so that he needs special instruction and services, but who is educable, as determined by the standards of the state board is a handicapped child.
>
> Subd. 2. Every child who is mentally retarded in such degree that he needs special instruction and services, but who is educable as determined by the standards of the state board, is a handicapped child.
>
> Subd. 3. Every child who by reason of an emotional disturbance, or a learning disability, or a special behavior problem needs special instruction and services, but who is educable, as determined by the standards of the state board is a handicapped child.
>
> Subd. 4. Every child who is mentally retarded in such degree that he requires special training and services and who is trainable as defined by standards of the state board is a trainable handicapped child.
>
> Subd. 5. A child with a short-term or temporary physical or emotional illness or disability, as determined by the standards of the state board, is not a handicapped child.

While statutes list the disabilities that are considered handicapping conditions, they require the Minnesota State Board of

Education to further define who does or does not specifically qualify as handicapped within each disability. In particular, M.S. §120.17, subd. 3 requires the state board to promulgate rules on a number of matters including pupil eligibility for special education programs.

State Board of Education rules, however, go no further in defining who is handicapped than do statutes. The board's rules simply define handicapped school children as follows: "'Pupil' means a handicapped person eligible for special education according to Minnesota Statutes, Sections 120.03 and 120.17. Persons who are pregnant or chemically dependent and do not have a handicapping condition are not handicapped" (5 MCAR §1.01201 L).

Federal regulations are somewhat more specific than state statutes or state regulations. In general, these regulations define the same groups of children as handicapped: those who are "... mentally retarded, hard-of-hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, other health impaired, deaf-blind, multi-handicapped, or as having specific learning disabilities, who because of those impairments need special education and related services" (34 CFR 300.5(a)). In addition, federal regulations go farther than state rules in defining what is meant by each disability group. Like state rules, they do not set forth specific eligibility criteria for special education services, except in the area of learning disabilities. Table 1 lists the federal definitions of handicapped children. Table 2 lists the federal criteria for determining the existence of a learning disability.

Because of the lack of state rules, it has been left up to local Minnesota school districts to decide who is eligible for special education instruction and services. This lack of state direction has resulted in much school district variation in determining who receives special education instruction and services, especially in the areas of learning disabilities, emotional/behavioral disorders, and speech/language impairments.

Although the State Department of Education has not provided much guidance to school districts regarding eligibility criteria in the past, the department recently began to examine the eligibility criteria used by local districts. As part of the department's 1983 review of local special education plans, school districts were asked to submit their eligibility criteria for each disability to the department. Department staff reviewed whether district criteria were based on measurable or observable behaviors and whether they indicated specific performance levels necessary for program admission. Districts were not required to change their criteria as a result of this review, but were informed if their criteria did not meet these minimal standards.

During 1984, districts whose criteria did not meet these standards are being asked to resubmit criteria for review. In addition, in 1984 the department will review the quality of district eligibility criteria for any district that wants a quality review. This latter review will provide "... districts with some judgement as to the implications of their criteria in terms of the underlying philosophical

TABLE 1

FEDERAL DEFINITIONS OF HANDICAPPED CHILDREN

(1) "Deaf" means a hearing impairment which is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification, which adversely affects educational performance.

(2) "Deaf-blind" means concomitant hearing and visual impairments, the combination of which causes such severe communication and other developmental and educational problems that they cannot be accommodated in special education programs solely for deaf or blind children.

(3) "Hard of hearing" means a hearing impairment, whether permanent or fluctuating, which adversely affects a child's educational performance but which is not included under the definition of "deaf" in this section.

(4) "Mentally retarded" means significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period, which adversely affects a child's educational performance.

(5) "Multihandicapped" means concomitant impairments (such as mentally retarded-blind, mentally retarded-orthopedically impaired, etc.), the combination of which causes such severe educational problems that they cannot be accommodated in special education programs solely for one of the impairments. The term does not include deaf-blind children.

(6) "Orthopedically impaired" means a severe orthopedic impairment which adversely affects a child's educational performance. The term includes impairments caused by congenital anomaly (e.g., clubfoot, absence of some member, etc.), impairments caused by disease (e.g., poliomyelitis, bone tuberculosis, etc.), and impairments from other causes (e.g., cerebral palsy, amputations, and fractures or burns which cause contractures).

(7) "Other health impaired" means (i) having an autistic condition which is manifested by severe communication and other developmental and educational problems; or (ii) having limited strength, vitality or alertness, due to chronic or acute health problems such as a heart condition, tuberculosis, rheumatic fever, nephritis, asthma, sickle cell anemia, hemophilia, epilepsy, lead poisoning, leukemia, or diabetes, which adversely affects a child's educational performance.

(8) "Seriously emotionally disturbed" is defined as follows:

- The term means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree, which adversely affects educational performance:

- An inability to learn which cannot be explained by intellectual, sensory, or health factors;

- An inability to build or maintain satisfactory interpersonal relationships with peers and teachers;

- Inappropriate types of behavior or feelings under normal circumstances;

- A general pervasive mood of unhappiness or depression; or

- A tendency to develop physical symptoms or fears associated with personal or school problems.

• The term includes children who are schizophrenic. The term does not include children who are socially maladjusted, unless it is determined that they are seriously emotionally disturbed.

(9) "Specific learning disability" means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain disfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation of emotional disturbance or of environmental, cultural, or economic disadvantage.

(10) "Speech impaired" means a communication disorder such as stuttering, impaired articulation, a language impairment, or a voice impairment, which adversely affects a child's educational performance.

(11) "Visually handicapped" means a visual impairment which, even with correction, adversely affects a child's educational performance. The term includes both partially seeing and blind children.

Source: 34 CFR §300.5.

TABLE 2

FEDERAL ELIGIBILITY CRITERIA FOR LEARNING DISABILITIES

(a) A team may determine that a child has a specific learning disability if:

(1) The child does not achieve commensurate with his or her age and ability levels in one or more of the areas listed in paragraph (a)(2) of this section, when provided with learning experiences appropriate for the child's age and ability levels; and

(2) The team finds that a child has a severe discrepancy between achievement and intellectual ability in one or more of the following areas:

(i) Oral expression;
(ii) Listening comprehension;
(iii) Written expression;
(iv) Basic reading skill;
(v) Reading comprehension;
(vi) Mathematics calculation; or
(vii) Mathematics reasoning.

(b) The team may not identify a child as having a specific learning disability if the severe discrepancy between ability and achievement is primarily the result of:

(1) A visual, hearing, or motor handicap;

(2) Mental retardation;

(3) Emotional disturbance; or

(4) Environmental, cultural or economic disadvantage.

Source: 34 CFR §300.541.

assumptions and the probabilities of which children will, or will not, be identified as handicapped."[2] Once again, districts will not be required to change their criteria to coincide with department reactions.

Both the Minnesota Legislature and the State Department of Education are exploring the feasibility of statewide criteria for special education services. In 1982, the Legislature required the Department of Education to develop and test guidelines including entrance and exit criteria for districts to use in defining and serving students with learning disabilities, students who are emotionally disturbed, and students with special learning behavior problems. The department was further required to test the guidelines in a representative sample of school districts statewide and report back to the Legislature by February 1, 1984 on their operation and fiscal impact.

At the time this law was passed, the department had already begun to develop general entrance and exit criteria for these disabilities. In 1981, the department conducted criteria workshops to obtain recommendations on guideline components from special education professionals throughout the state. Draft guidelines were submitted to the Legislature in February 1984.[3]

The department is also currently developing eligibility criteria for services to mentally retarded, speech impaired, and preschool handicapped students.[4] While the department's initial efforts focused on developing broad general statements of eligibility that might be useful for school districts developing their own criteria, the department has recently changed its approach. Eligibility criteria being developed during the current year will be specific enough to implement. The department will recommend but not require that school districts adopt these criteria. Local districts may adopt the state developed criteria as an alternative to developing their own criteria.

B. SPECIAL EDUCATION SERVICE SYSTEM

This section briefly describes the levels of service provided to handicapped students, the educational agencies that deliver these services, and the instructional models by which services are provided.

1. LEVELS OF SERVICE

Minnesota's special education rules describe six levels of service that must be available to handicapped children. As shown in Table 3, they range from Level 1 in which students attend a regular class without any special education services, to Level 6 in which students receive their education at a residential facility for handicapped children.

Most school districts are not able to provide all levels of service for all handicapping conditions within their own district. They must instead rely on a number of different service delivery systems to

TABLE 3

LEVELS OF SPECIAL EDUCATION SERVICE IN MINNESOTA

1. In level 1 a nonhandicapped pupil is placed in a regular classroom and does not receive special education, or is not enrolled in school. This level includes assessment services, monitoring, observation, and follow-up.

2. In level 2 a pupil is placed in a regular classroom. Instruction and related services are provided indirectly through the regular teacher, teachers, parents, or other persons who have direct contact with the pupil. The consultation and indirect services include ongoing progress review; cooperative planning; demonstration teaching; modification and adaptation of the curriculum, supportive materials, and equipment; and direct contact with the pupil for monitoring, observation, and follow-up.

3. In level 3 a pupil receives direct instruction from a teacher, or related services from a related services staff member for less than one-half of the day. Consultation and indirect services are included.

4. In level 4 a pupil receives direct instruction from a teacher for one-half day to less than full-time. Consultation and indirect services are included.

5. In level 5 a pupil receives full-time direct instruction from a teacher within a district building, day school, or special station or facility. Integrated activities solely for socialization or enrichment, and related services are excluded when determining full-time. Consultation and indirect services are included.

6. In level 6 a pupil is placed in a residential facility and receives direct instruction from a teacher. Consultation and indirect services are included.

Source: 5 MCAR §1.0224B.

provide comprehensive services. For example, in Minnesota, three publicly operated schools provide Level 6 service: The Minnesota School for the Deaf and the Minnesota Braille and Sight-Saving School in Faribault, operated by the Minnesota Department of Education, and the Lakeview School for physically handicapped children in Worthington.[5] Most Level 6 service is provided by local school districts within privately operated residential treatment facilities or in treatment facilities operated by correctional and welfare agencies. School districts also may rely on special education cooperatives, intermediate districts, or educational cooperative service units (ECSUs) to provide services at levels 4 and 5. School districts are more likely to rely on these other providers for instruction and services to the severely handicapped and to those disabilities that are low incidence populations.

2. SERVICE PROVIDERS

In general, there are four main types of service providers through which services to handicapped children are provided: (1) the resident school district, (2) special education cooperatives, (3) special intermediate school districts, and (4) educational cooperative service units (ECSUs). Data on the number of special education cooperatives and school districts in various regions of Minnesota are provided in Table 4. Figure 1 shows the location of the ECSU regions throughout Minnesota.

a. Resident District

The school district where a handicapped child's parent lives is the district with the financial responsibility for providing special education services to that child. Generally, only the larger school districts provide a full range of services for children across all disability categories. Many small districts only provide Levels 1, 2 and 3 service for the learning disabled, speech impaired, and educable mentally retarded.

b. Special Education Interdistrict Cooperatives

Many school districts, especially those in sparsely populated areas of the state, find it difficult to provide a full range of service options for all handicapping conditions. To remedy this, Minnesota statutes permit school districts to form interdistrict cooperatives to provide comprehensive services to handicapped children. Districts may do this through either a joint powers agreement or a host district arrangement. In a joint powers agreement, member districts establish a separate board to plan for specific special education services. This board employs staff as permitted by the agreement. In a host district cooperative, the host district assumes the general responsibility for planning and providing services agreed upon by its member districts.

As of January 1983, there were 46 cooperatives serving 360 school districts. Twenty (20) of these operated under a joint powers

TABLE 4

NUMBER AND TYPE OF SERVICE PROVIDER BY REGION

Region	Enrollment*	Districts	Single Districts	Number of Cooperatives	Districts Served by Cooperatives	Intermediate Districts	Districts Served by Intermediate Districts	Districts Served by ECSU
1 & 2	34,082	55	10	4	45	0	0	0
3	65,057	36	9	6	27	0	0	0
4	36,228	39	2	5	37	0	0	0
5	29,072	28	0	4	28	0	0	0
7	75,034	43	2	7	41	0	0	0
6 & 8	60,999	90	2	6	88	0	0	0
9	41,563	47	4	7	39	0	0	4
10	79,211	49	4	5	45	0	0	0
11	383,277	48	38**	2	10	3	30	0
TOTAL	804,523	435	71	46	360	3	30	4

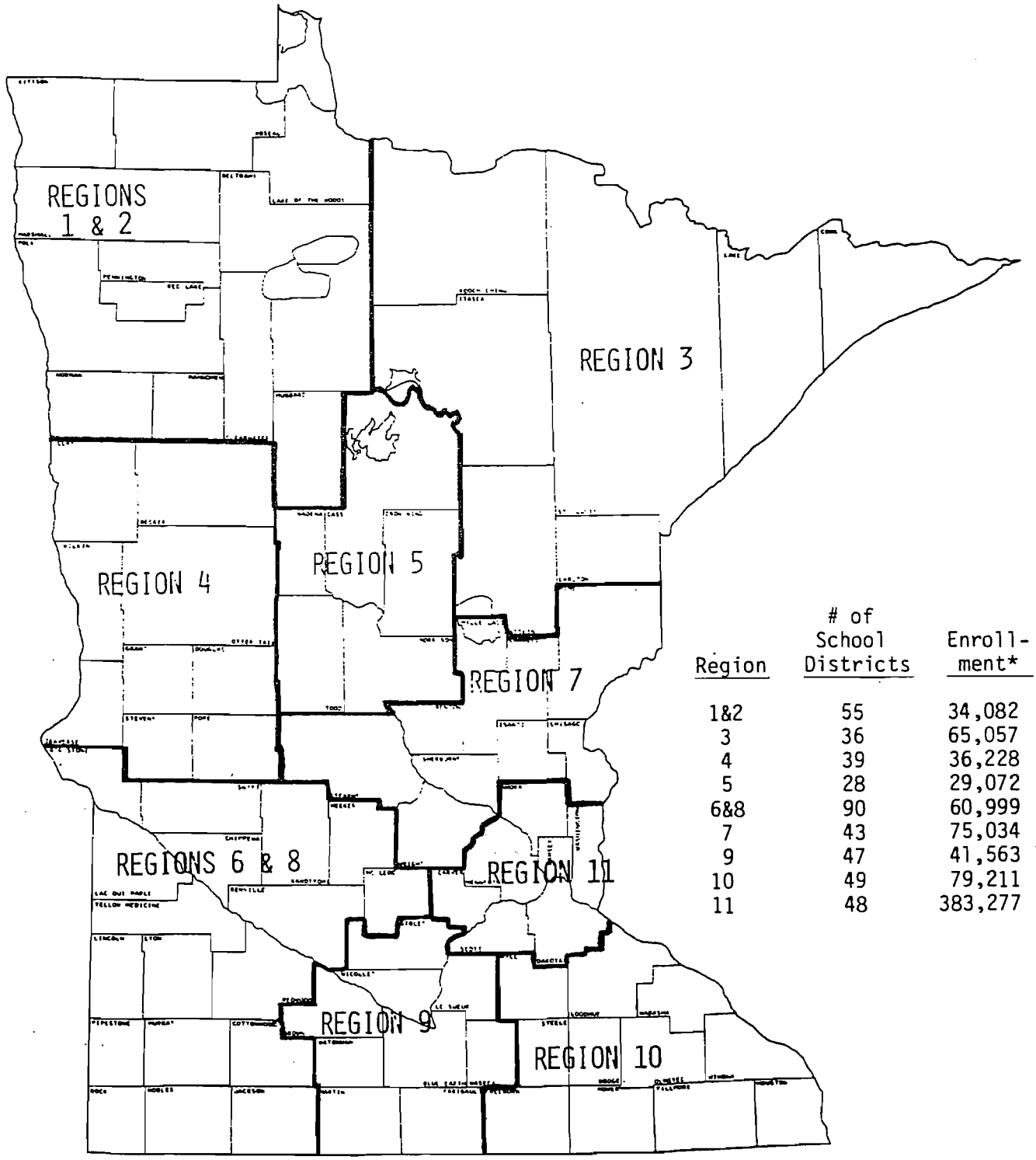
Source: Minnesota Department of Education Directory of Special Education Directors, January 1983.

*Includes public and non-public enrollment for the 1982-83 school year.

**Includes the 30 districts in the intermediate districts.

FIGURE 1

MINNESOTA EDUCATIONAL COOPERATIVE SERVICE UNITS



Region	# of School Districts	Enrollment*
1&2	55	34,082
3	36	65,057
4	39	36,228
5	28	29,072
6&8	90	60,999
7	43	75,034
9	47	41,563
10	49	79,211
11	48	383,277

Source: Minnesota State Department of Education Directory of Special Education Directors, January 1983.

*Enrollment refers to both public and private school enrollment as of December 1982.

agreement and 26 operated under a host district agreement. While the number of districts in a cooperative ranged from 2 to 24, the average cooperative had 8 member districts. Forty-one school districts had not joined either a special education cooperative or an intermediate district.

The specific services directly provided by a cooperative depend upon member needs. Thus, services may vary considerably from cooperative to cooperative. In general, cooperatives are most likely to provide the higher levels of service (levels 4 and up), services to low incidence populations, and services to the more severely handicapped.

c. Special Intermediate Districts

In the metropolitan Twin Cities area, three suburban areas outside of the cities of Minneapolis and St. Paul have intermediate school districts. These districts have been specifically created for vocational and special education purposes, are operated by area vocational-technical institutes, and are funded in part by a tax levy on residents of member districts.[6] Special education services are offered through Intermediate School Districts 287 (Suburban Hennepin County), 916 (Ramsey/Washington Counties), and 917 (Dakota County). Special education services available to their 30 member districts include both direct and indirect services for students who are trainable mentally retarded, multiply handicapped, hearing impaired, autistic, physically handicapped, visually impaired, and emotionally disturbed.

d. Educational Cooperative Service Units

Due largely to the population sparsity of much of the state and the need for greater regional coordination, the 1976 Legislature authorized the creation of Educational Cooperative Service Units (ECSUs) covering all regions throughout the state. Minnesota statutes permit these units to perform educational planning on a regional basis and to assist in meeting the specific educational needs of children in participating school districts that could be better provided by an ECSU than by the districts themselves.[7]

Currently, there are nine ECSUs. Each ECSU develops a local needs assessment process to help it determine what programs and services it will provide. Individual districts and cooperatives use ECSUs for whatever purposes they see fit and pay for whatever ECSU services and programs they use.

Generally, ECSUs do not provide much direct special education service. However, ECSUs differ considerably in the amount and type of special education services they offer. The ECSU most actively involved in providing special education services is located in Regions 6 and 8. It houses four special education service centers that serve 75 member school districts. Special education services provided include consultant and direct services such as school psychologists, speech clinicians and coordinators, educable mentally handicapped coordination, learning disabilities coordination, and child study. Typical special education

services offered by some of the other ECSUs include early childhood programs, mainstreaming in-service, public information, consultation and technical assistance, and consultant and technical services for low incidence disabilities.

3. SERVICE MODELS

There are three traditional models of instruction for handicapped students: the mainstream model, the resource room, and the special class.

Mainstream Model: A mainstream teacher of the handicapped provides consultation and indirect service to the regular classroom teacher. Assessment, monitoring, and follow-up services may also be provided directly to the student who is mainstreamed in a regular education program on a full-time basis.

Resource Room: Handicapped students are placed in a regular education program and report to a resource room to receive educational services that complement their mainstream class instruction. The resource room teacher, who is a licensed teacher of the handicapped, is also available to the regular classroom teacher for consultation and support services.

Special Class: A teacher licensed in education of the handicapped is assigned to a self-contained unit of students. The special class is most often found in more densely populated regions or administered jointly by local school districts since it requires sufficient numbers of handicapped students with homogeneous abilities to be brought together within a given area.

C. FUNDING

Approximately $177 million was spent directly on special education instruction and services in Minnesota during fiscal year 1983. This section of the chapter describes the different sources of funding that support special education in Minnesota. Information is provided on state, federal, and local sources of funds.[8]

1. STATE FUNDS

The primary source of funding for special education in Minnesota is state categorical aids. There are six types of state categorial aids for special education that help local school districts meet the costs of delivering special education instruction and services:

1. Aid for Salaries of Essential Personnel

2. Aid for Supplies and Equipment

3. Aid for Contracted Services

4. Special Pupil Aid

5. Aid for Summer School

6. Aid for Residential Facilities

These six aids provided approximately $102 million to local school districts and cooperatives during fiscal year 1983. Fiscal year 1984 aids are approximately $125 million.[9] The difference between these two figures does not indicate an overall increase in costs as much as a return to previous levels of state funding. During fiscal years 1982 and 1983, the state experienced severe budget problems. As a result, the Legislature decreased reimbursement rates for most aids and reduced by 2.48 percent the education aids payable in fiscal year 1983. Fiscal year 1984 reimbursement rates were returned to previously authorized levels.

a. Aid for Salaries of Essential Personnel

The state pays 70 percent of the salaries of essential special education personnel. These personnel include special education teachers, supervisors, and directors, as well as support personnel such as social workers, psychologists, aides, interpreters, and others. Due to financial difficulties, fiscal year 1983 aid paid only 61 percent of salaries and was subject to the statewide appropriation reduction. Aid entitlements for that year were approximately $96 million. Fiscal year 1984 aid entitlements for salaries of essential personnel are approximately $116 million.

b. Aid for Supplies and Equipment

State aid is also provided for the costs of supplies and equipment necessary to provide special education services. Reimbursable items must supplement those items normally provided to regular education students. The state pays 50 percent of the special education supplies and equipment costs incurred, not to exceed an average of $50 per handicapped pupil served. In fiscal year 1983, the state paid 44.4 percent of the cost, not to exceed $44.40 per pupil. Fiscal year 1983 aids entitlements were approximately $1.6 million dollars. Fiscal year 1984 aid entitlements are estimated to be about $1.9 million.

c. Aid for Contracted Services

School districts are allowed to purchase special education services from other public and private agencies. When districts contract for service, aid is paid on the basis of 60 percent of the difference between the contracted cost and the foundation aid formula allowance for the pupil. In fiscal year 1983, aid was 53.3 percent of the difference. Aid entitlements for contracted services were approxi-

mately $1.0 million for fiscal year 1983 and are estimated to be $1.3 million for fiscal year 1984.

d. Special Pupil Aid

The state pays the full educational cost for handicapped students living in public or private residential facilities when parental rights have been terminated or when the child's parents are not Minnesota residents. This aid covers the remaining costs of educating these students after all other aids have been deducted. During fiscal year 1983, this aid was approximately $341,000. Fiscal year 1984 aid is expected to be $366,000.

e. Aid for Summer School

The state provides aid to school districts for special education programs held during the summer months by providing essentially the same aids as it offers during the regular school year. Fiscal year 1983 foundation aid and special education aid for programs operated during the summer of 1982 were limited to those students served at levels 4, 5 and 6. Fiscal year 1983 special education aid paid was approximately $3.1 million. During the summer of 1983, categorical aids were again available for serving all handicapped students. Fiscal year 1984 state appropriations for 1983 summer programs were approximately $4.3 million. Foundation aid for special education students attending summer school is in addition to the above amounts. About $0.6 million in foundation aid was appropriated for fiscal year 1984. Calculation of foundation aid for fiscal year 1984 continued to be paid only for students served at levels 4, 5, and 6.

f. Aid for Residential Facilities

For handicapped students placed in public or private residential facilities, the state pays 60 percent of the difference between the tuition cost and the foundation aid formula allowance for the student. During fiscal year 1983, aid was 35.7 percent of the difference. Aid paid during fiscal year 1983 for fiscal year 1982 program costs was approximately $583,000. Fiscal year 1984 aid payments for fiscal year 1983 costs are estimated to be $1.7 million.

2. FEDERAL FUNDS

There are six categories of federal aids that supplement state and local funds for special education activities:

1. Education for the Handicapped Act, Title VI-B (P.L. 94-142)

2. Education for the Handicapped Act, Title VI-B Early Childhood (P.L. 94-142)

3. Education for the Handicapped Act, Title VI-C - Deaf/Blind

4. Education for the Handicapped Act, Title VI-D - Teacher Training

5. Chapter I of the Education Consolidation and Improvement Act (P.L. 89-750 - Neglected and Delinquent)

6. Chapter I of the Education Consolidation and Improvement Act (P.L. 89-313 - Handicapped)

During fiscal year 1983, total revenue from these six sources was approximately $18.6 million. Because of the carryover of funds from a previous year, expenditures were approximately $20.0 million.

a. Education for the Handicapped Act, Title VI-B (P.L. 94-142)

The general purpose of these funds is to assist the state in providing an appropriate education for all handicapped children, ages birth through 21. Minnesota receives an annual grant based on an unduplicated count of handicapped children ages 3 through 21 served on December 1 of the prior school year. During fiscal year 1983, expenditures from this source were about $18.2 million.

The state allocated approximately 90 percent of these funds to local school districts based on their individual child counts. Districts use these funds to supplement state and local funds spent on special education. However, these federal funds cannot be used to supplant state or local funds for special education purposes.

Federal regulations permit the state to retain up to 20 percent of its total grant and use this sum for state initiated projects. The state currently withholds approximately 5 percent of its total grant to fund discretionary projects. Most of these funds go to projects on a regional basis to equalize the availability of special education services throughout the state. Discretionary projects currently funded include planning and provision of services to low incidence populations. Other smaller projects funded include the development of regional personnel development plans and a number of unique projects with potential for having a wider impact on special education. This year the Department of Education will allocate $225,000 of its discretionary funds to school districts, colleges, universities, and other organizations or qualified individuals to conduct research related to special education. The department has set aside $200,000 for research related to the effectiveness of special education programs and $25,000 for analysis of existing data that will help determine trends in the delivery of services.

b. Education for the Handicapped Act, Title VI-B Early Childhood (P.L. 94-142)

The general purpose of these funds is to initiate and improve special education services for handicapped children ages 3 through 5. This grant is based upon the number of handicapped children ages 3 through 5 served by districts during the preceding school year. During

fiscal year 1983, the state received approximately $726,000 for early childhood services.

c. Education for the Handicapped Act, Title VI-C - Deaf/Blind

These funds are used to identify deaf/blind children and supplement educational services to deaf/blind children. Funds from this act staff one professional position within the State Services for the Blind in the Department of Public Welfare. This staff person assists in identifying and placing deaf/blind children in appropriate programs. Remaining funds provide supplemental services to programs serving deaf/blind children in the St. Paul Public Schools, Brainerd State Hospital, and the Minnesota Braille and Sight-Saving School in Faribault. Total funds available to the department from this act during fiscal year 1983 were approximately $150,000.

d. Education for the Handicapped Act, Title VI-D - Teacher Training

Prior to fiscal year 1982, these funds were used to assist in providing training for special education staff, school administrators, and parents of handicapped children. Beginning in fiscal year 1982, the state allocated these funds to the ECSUs to conduct regional needs assessments and to develop implementation plans for staff development within their respective regions. During fiscal year 1983, the state received $71,000 from this federal grant.

e. Chapter I of the Education Consolidation and Improvement Act (P.L. 89-750 - Neglected and Delinquent)

These funds are available to supplement educational programs for delinquent children in state correctional institutions. Funds support one staff position in the Department of Corrections for program administration. Remaining funds provide grants to the correctional institutions at Red Wing, Sauk Centre, and St. Cloud. During fiscal year 1983, the state received approximately $334,000 under this act.

f. Chapter I of the Education Consolidation and Improvement Act (P.L. 89-313 - Handicapped)

These funds supplement the educational programs for handicapped children in state operated schools and hospitals. Schools receiving funds under this act are the Minnesota School for the Deaf and the Minnesota Braille and Sight-Saving School in Faribault, and the school districts in which state hospitals are located (Faribault, Willmar, Cambridge, Fergus Falls, Brainerd, St. Peter, and Moose Lake). Approximately $450,000 was received from the federal government under this act during fiscal year 1983.

3. LOCAL FUNDS

It is difficult to estimate the amount of local funds used to support special education activities in the state. State and federal

special education aids paid approximately $120 million of the $177 million directly spent on special education by local districts during fiscal year 1983. State and federal funds will provide $143 million of the estimated $187 million in expenditures during the current fiscal year. It is difficult to determine whether the difference of $44 million represents the local contribution for fiscal year 1984. This is because districts also receive basic foundation aid from the state. The foundation aid formula allowance for the 1982-83 school year was $1,346 per pupil unit and increased to $1,475 for the 1983-84 school year. The portion of the allowance that is paid by the state depends on the adjusted assessed property valuation in a school district.

On the one hand, foundation aid revenue is available to pay the costs of educating handicapped students. On the other hand, part of that revenue must be available to support the regular education needs of handicapped students. Most handicapped students spend a majority of their school day in regular education programs. As a result, it is difficult to determine what portion of the foundation aid formula allowance represents net revenue available to support special education students. Consequently, it is not possible to state to what extent local funds support special education. It is likely, however, that the local share varies by school district and by level of service delivered.[10]

D. SERVICE DATA

1. CHILD COUNT DATA BY DISABILITY

In Minnesota, 79,290 children were receiving special education services on December 1, 1983, or 9.9 percent of public and private K-12 enrollment. Special education child count data are broken down by disability category in Table 5.

The unduplicated measure used in Table 5 counts each child receiving special education services only once regardless of how many types of services the child receives. Since some children receive more than one special education service, the unduplicated count can underestimate the number of children receiving a particular type of service. This is particularly important for speech services, which are often provided to students with other primary disabilities. The Department of Education collects additional data that include all children receiving a given service regardless of the child's primary disability. This duplicated child count is based on the estimated number of students served by individual teachers as reported in budget documents submitted by school districts.

Data on the duplicated child count for the 1982-83 school year are presented in Table 6. However, the duplicated child count may not be completely reliable. Duplicated child count data have several shortcomings:

TABLE 5

UNDUPLICATED CHILD COUNT AS A PERCENT OF K-12
PUBLIC AND PRIVATE ENROLLMENT*
December 1, 1983

Disability	Number	Percent
Learning Disabled	35,615	4.49%
Speech Impaired	19,140	2.41
Educable Mentally Retarded	9,668	1.22
Emotionally/Behaviorally Disturbed	6,793	.86
Trainable Mentally Retarded	3,714	.47
Hearing Impaired	1,726	.22
Physically Handicapped	1,351	.17
Vision Impaired	441	.06
Deaf/Blind	29	.004
Health Impaired		
- Other	690	.09
- Autistic	123	.02
TOTAL	79,290	10.0%

Source: Minnesota Department of Education.

*These figures are preliminary counts of the number of children of all ages served in Minnesota under P.L. 94-142 and P.L. 89-313. Total public and private enrollment is 793,159. Final figures may differ slightly.

TABLE 6

COMPARISON OF UNDUPLICATED AND DUPLICATED COUNTS BY DISABILITY 1982-83[a]

Disability	Unduplicated[b]	Duplicated
Learning Disabled	4.32%	5.05%
Speech Impaired	2.37	4.07
Educable Mentally Retarded	1.24	1.79
Emotionally/Behaviorally Disturbed	0.73	0.89
Trainable Mentally Retarded	0.48	0.66
Early Childhood[c]	--	0.42
TOTAL[d]	9.67%	13.25%

Source: Minnesota Department of Education.

[a]As a percent of public and private K-12 enrollment.

[b]Includes student counts, all ages, under P.L. 94-142 and P.L. 89-313 except students in state operated schools.

[c]Children in early childhood programs are classified by other categories in the unduplicated count.

[d]Includes other disability categories not listed above.

- They are estimated before the school year begins and are usually not revised as actual data become known.

- Districts may not submit accurate estimates because the data are not used for funding or other important purposes.

- If a child is served by more than one teacher in the same disability category during the year, the child may be counted more than once.

- If a student receives services provided by personnel other than a licensed special education teacher, the student may not be included in the count.

This duplicated count also differs from the unduplicated count because it includes all children receiving service at any time during the school year. The unduplicated count includes only those children being served on December 1.

As can be seen in Table 5, the largest disability category in Minnesota is learning disabilities. This is the primary disability of 4.5 percent of school age children. This category is followed by speech (2.4 percent), educable mentally retarded (1.2 percent), emotionally or behaviorally disturbed (0.86 percent), and several low incidence categories (totaling 1.03 percent), including trainable mentally retarded, physically handicapped, hearing impaired, vision impaired, and other health impaired.

While public schools provide special education services to both public and private school students, they serve a substantially higher percentage of public school students than private school students. On December 1, 1983, the number of children served as a percent of enrollment was 10.9 percent for public schools and only 2.6 percent for private schools.

2. CHILD COUNT DATA BY EDUCATIONAL SETTING

The data in Tables 7 and 8 summarize the educational settings in which special education students receive services. Table 7 is based on federal definitions of educational settings: regular class, special class, separate school, and hospital or homebound setting. According to these data, 74 percent of special education students receive most of their education in a regular class, 19 percent receive most of their education in a special class, 5 percent receive services in a separate school, and less than 1 percent receive services in a hospital or homebound setting.

Over 85 percent of learning disabled and speech impaired students receive most of their education in regular classes. For educable mentally retarded students, 53 percent receive most of their

TABLE 7

EDUCATIONAL SETTING BY DISABILITY: DECEMBER 1, 1983 AND DECEMBER 1, 1979*

Disability	December 1, 1983 Number	Percent Regular Class	Percent Special Class	Percent Separate School	Percent Other Environment	December 1, 1979 Number	Percent Regular Class	Percent Special Class	Percent Separate School	Percent Other Environment
Learning Disabled	35,615	88.8%	10.4%	0.8%	0.04%	35,279	94.7%	4.5%	0.7%	0.1%
Speech Impaired	19,140	85.3	14.1	0.5	0.07	23,343	94.9	4.8	0.2	0.1
Educable Mentally Retarded	9,668	53.4	45.1	1.4	0.1	10,898	65.4	32.4	2.1	0.1
Emotionally/Behaviorally Disturbed	6,793	48.2	21.7	25.8	4.2	3,953	43.1	26.9	25.0	5.0
Trainable Mentally Retarded	3,651a	0.5	54.7	40.0	4.7	4,243	4.9	67.6	13.2	14.3
Physically Handicapped	1,351	59.1	31.2	8.7	1.0	1,326	65.3	24.4	7.2	3.2
Hearing Impaired	1,726	55.7	26.2	17.3	0.8	1,657	63.8	24.7	11.4	0.1
Visually Handicapped	441	72.8	14.1	11.1	2.0	503	79.9	11.9	7.4	0.8
Deaf/Blind	29	3.4	44.8	51.7	-0-	24	20.8	4.2	75.0	-0-
Other Health Impaired	690	74.8	16.2	2.5	6.5	1,735	45.8	7.1	2.5	44.7
Autistic	123	5.7	63.4	30.1	0.8					
Multi-Handicapped	--	--	--	--	--	42	-0-	-0-	NA	NA
TOTAL	79,227	74.3%	19.4%	5.4%	0.7%	83,044	81.6%	13.3%	3.0%	2.1%

Source: Minnesota Department of Education.

*Unduplicated child count (all ages) under P.L. 94-142 and 89-313. Figures for December 1, 1983 are preliminary. Final 1983 figures may differ slightly.

[a]Sixty-three mentally retarded students who transferred from hospitals to school districts are excluded because their educational setting within the school district is unknown.

TABLE 8

LEVEL OF SERVICE BY DISABILITY
December 1, 1983*

Disability	Number	Percent Level 2	Percent Level 3	Percent Level 4	Percent Level 5	Percent Level 6
Learning Disabled	35,615	13.0%	75.7%	7.3%	3.5%	0.5%
Speech Impaired	19,140	17.7	67.6	4.8	9.8	0.1
Educable Mentally Retarded	9,668	3.7	49.7	33.0	13.1	0.5
Emotionally/Behaviorally Disturbed	6,793	10.3	38.0	11.0	23.0	17.8
Trainable Mentally Retarded	3,714	0.2	0.4	8.9	80.7	7.8
Physically Handicapped	1,351	15.9	43.2	10.1	27.5	3.3
Hearing Impaired	1,726	26.2	29.5	12.3	19.1	12.9
Visually Impaired	441	38.5	34.2	3.4	14.1	9.8
Deaf/Blind	29	3.4	-0-	6.9	55.2	34.5
Other Health Impaired	690	28.1	46.7	2.6	14.9	7.7
Autistic	123	0.8	4.9	9.8	78.0	6.5
TOTAL	79,290	12.8%	61.6%	10.3%	12.5%	2.8%

Source: Minnesota Department of Education.

*Unduplicated child count (all ages) under P.L. 94-142 and P.L. 89-313. These figures are preliminary and may be revised slightly.

education in a regular class and 45 percent in a special class. Less than 2 percent of the students in any of these three categories receive their education in a separate school, hospital, or homebound setting. In contrast, 30 percent of emotionally/behaviorally disturbed students receive their education in a separate school, hospital, or homebound setting; only 48 percent receive most of their education in a regular class.

Federal definitions of educational setting do not correspond exactly to Minnesota definitions of educational setting, especially in the higher levels of service. The State Department of Education has only recently begun to collect data based on state defined levels of service. These data are shown in Table 8. According to these data, 13 percent of special education students receive only indirect special education instruction and related services (Level 2). Sixty-two (62) percent receive direct instruction or related services from special education staff for less than one-half of the day (Level 3) while 10 percent receive special education services from one-half day to less than full-time (Level 4). Approximately 13 percent receive special education services on a full-time basis in a special class or school (Level 5) while 3 percent receive full-time special education services in a residential facility (Level 6).

3. GEOGRAPHIC DISTRIBUTION

The distribution of special education students on December 1, 1983 by geographic region in Minnesota is presented in Table 9. For all special education categories combined, the geographic differences are small. The percent of students in special education ranges from a low of 9.4 percent in the Twin Cities metropolitan area (Region 11) to a high of 11.2 percent in Regions 1 and 2 (northwestern Minnesota). Compared to the Twin Cities metropolitan area, the average rate in the other regions is 10 percent higher overall, 36 percent higher in speech, and 23 percent higher in LD. But for E/BD services, the rate outside the Twin Cities metropolitan region is less than half the rate in the Twin Cities metropolitan area. Also, the rate for low incidence disabilities is about 9 percent lower outside the Twin Cities metropolitan region.

4. DEMOGRAPHICS: SEX, ETHNIC BACKGROUND, AGE

Table 10 summarizes the percentages of students receiving special education on October 1, 1982 by sex and ethnic background. Males receive substantially more special education services than females in all major disability categories. Overall, 12.8 percent of males receive services compared to only 6.8 percent for females. Rates for males are more than twice as high as females for learning disabilities (LD), three times as high for emotional/behavioral disorders (E/BD), 63 percent higher for speech, and 34 percent higher in the educable mentally retarded (EMR) category.

TABLE 9

GEOGRAPHIC DISTRIBUTION OF SPECIAL EDUCATION SERVICES IN MINNESOTA*
December 1, 1983

Region	Public and Private Enrollment	LD	Speech	EMR	E/BD	Other	Total
TWIN CITIES METRO AREA (Region II)	377,543	4.01%	2.03%	1.16%	1.23%	1.01%	9.43%
OTHER REGIONS	415,616	4.92	2.76	1.27	.49	.92	10.37
Regions 1 & 2	33,788	5.64	3.84	.74	.33	.68	11.23
Region 3	63,319	4.49	2.62	1.27	1.06	.79	10.24
Region 4	36,015	5.49	2.55	1.31	.30	.75	10.42
Region 5	29,618	5.38	2.74	1.69	.19	.67	10.67
Regions 6 & 8	60,310	4.83	3.05	1.16	.37	1.73	11.15
Region 7	73,622	4.45	2.45	1.55	.27	.79	9.51
Region 9	41,044	4.56	3.03	1.12	.37	.65	9.74
Region 10	77,900	5.24	2.45	1.23	.66	.92	10.51
STATE TOTAL	793,159	4.49%	2.41%	1.22%	.84%	.96%	9.92%

Source: Minnesota Department of Education.

*Unduplicated child count under P.L. 94-142 as a percentage of public and private K-12 enrollment. These figures are preliminary and may be revised slightly.

TABLE 10

PERCENTAGE OF STUDENTS (K-12) RECEIVING SPECIAL EDUCATION SERVICES BY SEX AND ETHNIC BACKGROUND ON OCTOBER 1, 1982

	Male	Female	Total	White	Minority Total	Black	Asian	American Indian	Hispanic
Number of Students	367,458	347,763	715,221	668,875	46,346	16,269	13,878	10,538	5,661
Learning Disabled	6.0%	2.5%	4.3%	4.3%	4.1%	5.1%	1.3%	6.2%	4.7%
Speech Impaired	3.1	1.9	2.5	2.5	2.3	1.9	2.4	2.7	2.7
Educable Mentally Retarded	1.5	1.1	1.3	1.2	2.5	4.7	0.5	2.1	1.9
Emotionally/Behaviorally Disturbed	0.9	0.3	0.6	0.5	1.4	2.6	0.2	1.2	1.2
Trainable Mentally Retarded	0.54	0.43	0.49	0.49	0.39	0.42	0.22	0.60	0.34
Multi-Handicapped	0.21	0.12	0.17	0.16	0.25	0.33	0.14	0.21	0.34
Orthopedically Impaired	0.19	0.13	0.16	0.16	0.21	0.20	0.27	0.17	0.19
Other Health Impaired	0.14	0.11	0.13	0.13	0.10	0.15	0.07	0.09	0.04
Deaf	0.08	0.07	0.08	0.07	0.16	0.14	0.19	0.11	0.21
Hard-of-Hearing	0.09	0.08	0.08	0.08	0.06	0.03	0.09	0.05	0.09
Visually Handicapped	0.05	0.04	0.05	0.04	0.05	0.01	0.06	0.05	0.12
Deaf-Blind	0.004	0.005	0.004	0.004	0.006	0.012	0.0	0.009	0.0
TOTAL	12.8%	6.8%	9.9%	9.8%	11.6%	15.5%	5.5%	13.4%	11.8%

Source: Minnesota Civil Rights Information System, Minnesota Department of Education.

Most minority groups receive more special education services than do white students, as a percentage of students in kindergarten through 12th grade. Black students have the highest percentage rate (15.5 percent), followed by American Indian students (13.4 percent) and Hispanic students (11.8 percent), all of which are higher than the rate for white students (9.8 percent). Students in these minority groups are more likely than white students to be classified as learning disabled, emotionally/behaviorally disturbed, or educable mentally retarded. Unlike most minority groups, Asian Americans receive much fewer special education services than do white students. Only 5.5 percent of Asian American students receive services primarily because of low rates for LD, E/BD, and EMR. While 4.3 percent of white students receive LD services, only 1.3 percent of Asian Americans receive LD services.

Table 11 summarizes child count data by disability and age, based on the December 1, 1983 child count data. Overall, the percentage of children receiving special education services increases from 6.0 percent in kindergarten to 11.4 percent in 3rd grade, and steadily declines to 6.8 percent in 12th grade. Speech service rates are near 4.5 percent between kindergarten and 3rd grade and then rapidly fall to less than 1 percent in grades 7 through 12. Incidence rates for the learning disabled increase rapidly from less than 1 percent in kindergarten to 5 percent by grade 4. These rates remain at about 5 percent through 9th grade and gradually decline in high school. Incidence rates for the emotional/behavioral disorders increase gradually from 0.16 percent in kindergarten to 0.59 percent in 7th grade, increase rapidly to 1.12 percent in 9th grade and reach their peak of 1.21 percent in the 10th and 11th grades. Rates for the educable mentally retarded steadily rise from 0.35 percent in kindergarten to 1.55 percent in 9th grade and taper off to 1.34 percent by 12th grade. Low incidence categories do not vary nearly as much by grade.

5. HISTORICAL CHILD COUNT DATA

Table 12 summarizes child counts in Minnesota from school years 1976-77 through 1983-84, based on unduplicated child counts reported under federal P.L. 94-142. All historical data in this section are based on public enrollment only because private school enrollment is not available for earlier years. Thus, the reported percentages would be lower if all enrollment was included.

The percentage of children receiving special education services in Minnesota grew from 8.26 percent in 1976-77 to 10.51 percent in 1979-80 and thereafter increased more slowly, reaching 11.12 percent in 1983-84.

Most of this growth is due to the growth in learning disability services. The percentage of students classified as learning disabled grew from 2.50 percent in 1976-77 to 5.06 percent in 1983-84. Growth in the LD rate accounts for 90 percent of the overall growth in special education incidence rates during this period.

Among other major disability categories, the amount of speech services did not change substantially during this time period, while

TABLE 11

PERCENTAGE OF CHILDREN RECEIVING SPECIAL EDUCATION SERVICES BY AGE*
December 1, 1982

Age	Public and Private Enrollment	LD	Speech	EMR	E/BD	TMR	Physically Handicapped	Hearing Impaired	Visually Impaired	Other Health Impaired	Total
5	60,453	0.6%	4.2%	.35%	.16%	.27%	.16%	.14%	.06%	.05%	6.0%
6	57,777	1.7	4.5	.59	.21	.30	.19	.16	.03	.09	7.8
7	56,363	3.3	4.5	.83	.35	.25	.19	.21	.05	.08	9.8
8	54,934	4.5	4.6	.98	.42	.32	.19	.21	.04	.13	11.4
9	55,266	5.1	3.8	1.06	.48	.28	.16	.21	.05	.10	11.3
10	58,888	5.2	2.6	1.05	.50	.26	.11	.16	.04	.11	10.0
11	64,039	5.2	1.6	1.21	.52	.31	.12	.17	.04	.10	9.3
12	67,317	4.9	1.0	1.22	.59	.28	.10	.15	.04	.10	8.4
13	65,828	5.1	0.6	1.25	.80	.35	.12	.14	.05	.07	8.5
14	63,688	5.0	0.4	1.55	1.12	.38	.12	.14	.04	.08	8.8
15	65,000	4.6	0.3	1.52	1.21	.34	.11	.10	.03	.10	8.3
16	65,332	4.5	0.2	1.43	1.21	.37	.09	.11	.04	.05	8.0
17	67,901	3.6	0.2	1.34	.92	.43	.07	.17	.04	.06	6.8

Source: Minnesota Department of Education. Public enrollment is the October 1, 1982 count by grade from the Minnesota Civil Rights Information System. Private enrollment is a duplicated count by grade for the 1982-83 school year collected by the Education Statistics Section. Grade enrollments were converted to age enrollments by assuming children in kindergarten were 5 years old, 1st graders were 6 years old, etc.

*Unduplicated count of children served under P.L. 94-142 in Minnesota as a percentage of public and private enrollment.

TABLE 12

UNDUPLICATED CHILD COUNT AS A PERCENTAGE OF K-12 PUBLIC ENROLLMENT*
School Years 1976-77 through 1983-84

Disability	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
(Public Enrollment)	857,000	832,000	803,000	774,996	751,008	730,860	714,657	703,973
Learning Disabled	2.50%	3.25%	4.10%	4.54%	4.85%	4.82%	4.86%	5.06%
Speech Impaired	3.11	2.75	2.83	3.00	2.81	2.63	2.66	2.71
Mentally Retarded (EMR and TMR)	1.65	1.80	1.79	1.84	1.81	1.90	1.88	1.85
Emotionally/Behaviorally Disturbed	.50	.44	.45	.50	.59	.68	.81	.95
Physically Handicapped	.11	.14	.13	.16	.16	.18	.18	.18
Hearing Impaired	.16	.15	.16	.19	.17	.17	.20	.21
Vision Impaired	.06	.06	.06	.06	.05	.05	.06	.05
Other Health Impaired	.16	.17	.18	.21	.19	.11	.10	.09
Autistic	--	--	--	--	--	.02	.02	.02
TOTAL	8.26%	8.76%	9.71%	10.51%	10.65%	10.57%	10.77%	11.12%

Source: Various Minnesota Department of Education reports (as indicated below).

*Includes children ages 3-21 served in Minnesota under P.L. 94-142. For the 1976-77 and 1977-78 school years, the unduplicated counts are an average of counts taken on October 1 and February 1. Since then, unduplicated counts have been taken annually on December 1. Public enrollment figures for 1976-77 through 1978-79 were estimated based on average daily membership data collected by the Minnesota Department of Education (see School District Profiles: 1980-81, Minnesota Department of Education, p. 7). Public enrollment figures for later years were collected by the department along with unduplicated counts of handicapped children.

services to the mentally retarded (including both EMR and TMR) increased only slightly. Services to the emotionally/behaviorally disturbed have increased from .50 percent in 1976-77 to .95 percent in 1983-84.

6. COMPARISON WITH OTHER STATES

Table 13 compares the percentage of children served by special education in Minnesota with that of selected other states as well as with the national average. All figures are unduplicated counts of children ages 3-21 served under P.L. 89-313 and P.L. 94-142 as a percentage of public school enrollment.

In December 1982, Minnesota's special education programs served 10.88 percent of school children, which is slightly higher than the national average of 10.64 percent. Minnesota's percentage of students served ranks 27th highest out of 50 states. For LD programs, Minnesota's rate of 4.87 percent is also higher than the national average of 4.32 percent and ranks 19th highest among the states. Minnesota's rates are slightly below the national average for E/BD and speech, and equals the national average for the mentally retarded.

The rapid growth of LD services occurred earlier in Minnesota than in the rest of the nation. While Minnesota's LD rate has stabilized in recent years, the nation has been catching up with Minnesota in LD services. In 1979-80, Minnesota's LD rate was 49 percent higher than the nation's LD rate, but by 1982-83 it was only 13 percent higher. Similarly, for all special education services combined, Minnesota's rate was 11 percent higher than the nation's rate in 1979-80 but only 2 percent higher in 1982-83. For E/BD services, the trend is reversed. In 1979-80, the national E/BD rate was 53 percent higher than Minnesota's E/BD rate but by 1982-83 it was only 7 percent higher.

7. PREVALENCE RATES

Prevalence estimates have often been compared to child count incidence figures to estimate gaps in service or overservice in special education. In this report, prevalence refers to the actual number of children who have a particular disability and child count incidence refer to the number of children served in a disability category. Table 14 shows the prevalence estimates made by the Stanford Research Institute and the United States Office of Education. According to the United States Department of Education, these estimates are generally more conservative than most estimates.

By using Tables 5 and 6 along with Table 14, one can compare current Minnesota incidence rates with these estimates of national prevalence rates. Minnesota incidence rates are within the range estimated by the Stanford Research Institute (SRI) except in three categories: LD, E/BD, and hearing impaired. Minnesota's LD rate of 5.0

TABLE 13

MINNESOTA COMPARED TO OTHER STATES: UNDUPLICATED CHILD COUNT AS A PERCENTAGE OF K-12 PUBLIC ENROLLMENT*
December 1, 1982 and December 1, 1979

	Disability					
	LD	Speech	MR	ED	Other	Total
December 1, 1982						
Minnesota	4.87%	2.66%	1.93%	0.82%	0.59%	10.88%
United States and Territories	4.32	2.81	1.93	0.88	0.71	10.64
Iowa	4.24	2.91	2.43	0.94	0.62	11.15
Wisconsin	3.48	2.30	1.69	1.23	0.53	9.24
Colorado	3.63	1.44	1.07	1.40	0.79	8.33
Minnesota's Rank Out of 50 States	19	29	23	23	35	27
December 1, 1979						
Minnesota	4.52%	2.99%	1.91%	0.51%	0.65%	10.58%
United States and Territories	3.03	2.81	2.09	0.78	0.85	9.54
Iowa	4.37	2.93	2.36	0.59	0.50	10.75
Wisconsin	2.71	1.84	1.75	0.87	0.49	7.65
Colorado	3.72	1.90	1.24	1.16	0.56	8.58
Minnesota's Rank Out of 50 States	6	20	24	28	24	16 (tie)

Source: Office of Special Education, United States Department of Education.

*Counts include children ages 3-21 served under P.L. 94-142 and P.L. 89-313.

TABLE 14

NATIONAL PREVALENCE ESTIMATES BY DISABILITY
AS A PERCENT OF SCHOOL AGE CHILDREN

Disability	Stanford Research Institute Low Estimate	Stanford Research Institute High Estimate	United States Department of Education*
Learning Disabled	1.0%	3.0%	3.0%
Speech Impaired	2.4	4.0	3.5
Mentally Retarded	1.3	2.3	2.3
Emotionally/Behaviorally Disturbed	1.2	2.0	2.0
Orthopedically Impaired	0.065	0.75	0.5
Hard-of-Hearing	0.3	0.5	0.5
Deaf	0.075	0.135	0.075
Visually Impaired	0.05	0.16	0.1
Other Health Impaired	0.065	0.75	0.5
TOTAL	6.5%	13.6%	12.0%

Sources: Kaskowitz, D. et al., Validation of State Counts of Handicapped Children, Menlo Park, CA: Stanford Research Institute, 1977; Progress Toward a Free Appropriate Public Education, A Report to Congress on the Implementation of Public Law 94-142: The Education for All Handicapped Children Act, Bureau of Education for the Handicapped, U.S. Office of Education, January 1979, pp. 16-17; and Moore, M. et al., Finetuning Special Education Finance: A Guide for State Policymakers, Educational Testing Service, July 1982, p. 110.

*This estimate was orginally made by the Bureau of Education for the Handicapped, U.S. Office of Education, U.S. Department of Health, Education, and Welfare. The bureau is now the Office of Special Education, U.S. Department of Education.

percent (duplicated count) is well above the SRI's high estimate of 3.0 percent. Minnesota's E/BD rate of 0.89 percent (duplicated count) is below SRI's low estimate of 1.2 percent. Minnesota's incidence rate for the hearing impaired is 0.22 percent (unduplicated count) and is below the SRI's low estimate 0.375 percent for deaf and hard of hearing students.

However, differences between prevalence estimates and child count data, by themselves, should not be interpreted as gaps in service or overservice for the following reasons:

- The prevalence estimates can vary greatly depending on how disabilities are defined and measured. There is little agreement on how to define several disabilities, particularly LD and E/BD. For example, other prevalence estimates for LD have ranged from less than 1 percent to more than 25 percent.

- Prevalence estimates are probably based on duplicated counts (i.e., students who have more than one disability are counted in each of their disabilities rather than being counted in their primary disability only), while the most reliable child count data are based on unduplicated counts.

- Prevalence estimates are often national estimates and, because of variation among states, are not as accurate when applied to individual states.

Because of these problems, differences between prevalence estimates and child count data should be interpreted only after examining the definition and measurement techniques used to estimate the prevalence of any disability.

8. STUDENT-TEACHER RATIOS

The data in Table 15 show Minnesota's average student-teacher ratios over the last four years. Average student-teacher ratios increased from 12.7 in 1981-82 to 13.4 in 1982-83 after the Legislature increased maximum allowable caseloads by 20 percent. However, very little change has taken place if we compare the 1979-80 average ratio to the 1982-83 ratio. Changes in student-teacher ratios from the 1979-80 school year to the 1982-83 school year are probably greater than the data in Table 15 suggest. Prior to the 1981-82 school year, child counts included students who were simply being monitored but not receiving services. Since that time, students only being monitored have not been included in child counts.

Table 16 compares Minnesota's student-teacher ratios with national averages by disability area. The data suggest that Minnesota's overall student-teacher ratio is lower than the national average. This is particularly true in the categories of learning disabled, mentally

TABLE 15

STUDENT-TEACHER RATIOS: TRENDS IN MINNESOTA[a]

Disability	Ratio of Students to Teacher FTE 1979-80	1980-81	1981-82	1982-83
Learning Disabled	13.6	13.2	13.3	14.1
Speech Impaired	26.9	23.6	21.5	22.2
Educable Mentally Retarded	9.5	8.8	9.4	9.9
Emotionally/Behaviorally Disturbed	13.7	13.3	12.3	12.9
Trainable Mentally Retarded	6.4	6.1	6.7	6.9
Hearing Impaired	11.3	8.8	8.5	10.0
Visually Handicapped	10.1	8.9	8.6	9.6
TOTAL[b]	13.3	12.5	12.7	13.4

Source: Various Minnesota Department of Education reports.

Note: Prior to 1981-82, unduplicated counts included students who were being monitored but not served. Since then, these students are not included in the counts.

[a]Student counts based on unduplicated counts under P.L. 94-142 and P.L. 89-313, excluding P.L. 89-313 students in state operated schools. Teacher counts based on teacher full-time equivalents, excluding teachers in state operated schools.

[b]Includes other disability categories not listed above.

TABLE 16

STUDENT-TEACHER RATIOS: MINNESOTA COMPARED TO THE NATIONAL AVERAGE DURING THE 1980-81 SCHOOL YEAR*

Disability	National Average	Minnesota (Based on national data)	Minnesota (Based on actual FTE)
Learning Disabled	17.3	13.5	13.1
Speech Impaired	47.9	24.6	23.5
Mentally Retarded[a]	12.4	7.5	7.7
Emotionally/Behaviorally Disturbed[b]	12.7	12.2	13.3
Hearing Impaired	9.7	7.6	9.6
Visually Impaired	9.5	8.1	8.9
TOTAL[c]	18.0	12.7	12.5

Sources: Office of Special Education, United States Department of Education and Minnesota Department of Education.

*Student-teacher ratios in the first two columns are based based on December 1, 1980 unduplicated child counts (P.L. 94-142 and P.L. 89-313) and estimated teacher FTE submitted by states to the federal government. Ratios in the far right column were adjusted by using the actual FTE tabulated by the Minnesota Department of Education. Ratios in the far right column differ slightly from the 1980-81 ratios in Table 15 because of some minor differences in the data base used.

[a]Includes EMR and TMR.

[b]Includes ED and SLPB delinquent.

[c]Includes other special education disability categories, such as physically handicapped, other health impaired, and early childhood.

retarded, and speech impaired students. However, firm conclusions cannot be made from these data for the following reasons:

- The comparison for speech services may be misleading because of reporting problems at the federal level. In some states, including Minnesota, nearly all speech clinicians providing direct service were counted as teachers. The ratios for other states may be overstated because some clinicians were labeled speech pathologists and not counted as teachers.

- The accuracy of the teacher counts is unknown.

- There are several methods for calculating full-time equivalents for teachers. It is not known how Minnesota's method compares to that of other states.

- Unduplicated child count data underestimate the number of children served by teachers because they count each child once regardless of the number of services provided. It is not known how this affects the comparison across states.

E. FEDERAL REGULATION

Public Law 94-142 established the right of each handicapped child to "a free and appropriate public education," to be enforced by state policy.[11] "Free and appropriate public education," as defined by federal rules, includes special education and related services. Special education is instruction designed to meet the unique needs of handicapped children. Related services include transportation, speech pathology, audiology, psychological services, physical and occupational therapy, recreation, early identification and assessment, counselling, diagnostic and evaluative medical services, school health and social work services, and parent counselling and training.

Prior to placing a student in a special education program, multidisciplinary teams must give the student a full and individual evaluation. The child must be assessed in all areas of suspected disability. Tests should be provided in the child's native language, when possible. No single procedure is to serve as the sole criterion for program placement. Child re-evaluations must occur every three years.

States must see that schools develop and implement individualized education programs (IEPs) for each handicapped child. IEPs should include descriptions of the child's current performance and the planned educational instruction and services, annual goals and objectives, and objective criteria for effectiveness evaluations. No placement can occur before IEP objectives are written. Schools must insure that IEP development meetings include the participation of the child's

teacher, a public school representative, a parent, the child (if appropriate), and student evaluation personnel (if appropriate). Public schools must initiate and conduct IEP meetings for handicapped students enrolled in private and parochial schools, insuring participation by private school representatives.

States and schools must insure that handicapped students are educated in the least restrictive environment. Handicapped and non-handicapped students are to receive instruction together to the maximum extent possible. To this end, schools must provide a continuum of alternative placements for handicapped children. Each child's placement should be reviewed at least once a year in accordance with the IEP.

Federal rules also establish procedural safeguards for parents and children. Parents must receive prior notice of school plans to identify, evaluate or place their child. Parental consent is required for preplacement evaluation and initial special education placement. If parents believe their due process rights have been violated, they may initiate a hearing with the state or their local education agency.

Each state education agency must monitor and evaluate schools to ensure compliance with federal rules. States must develop monitoring procedures for on-site visits, data collection, audits of federal fund utilization, and IEP review.

To receive federal funds, states must submit annual program plans to the U. S. Department of Education. A state plan must detail state policies that uphold federal requirements and goals. The plan must include data to describe existing special education services and future needs. In addition to state plans, states must submit annual reports of the number of children ages 3 through 21 receiving special education and related services.

F. STATE REGULATION

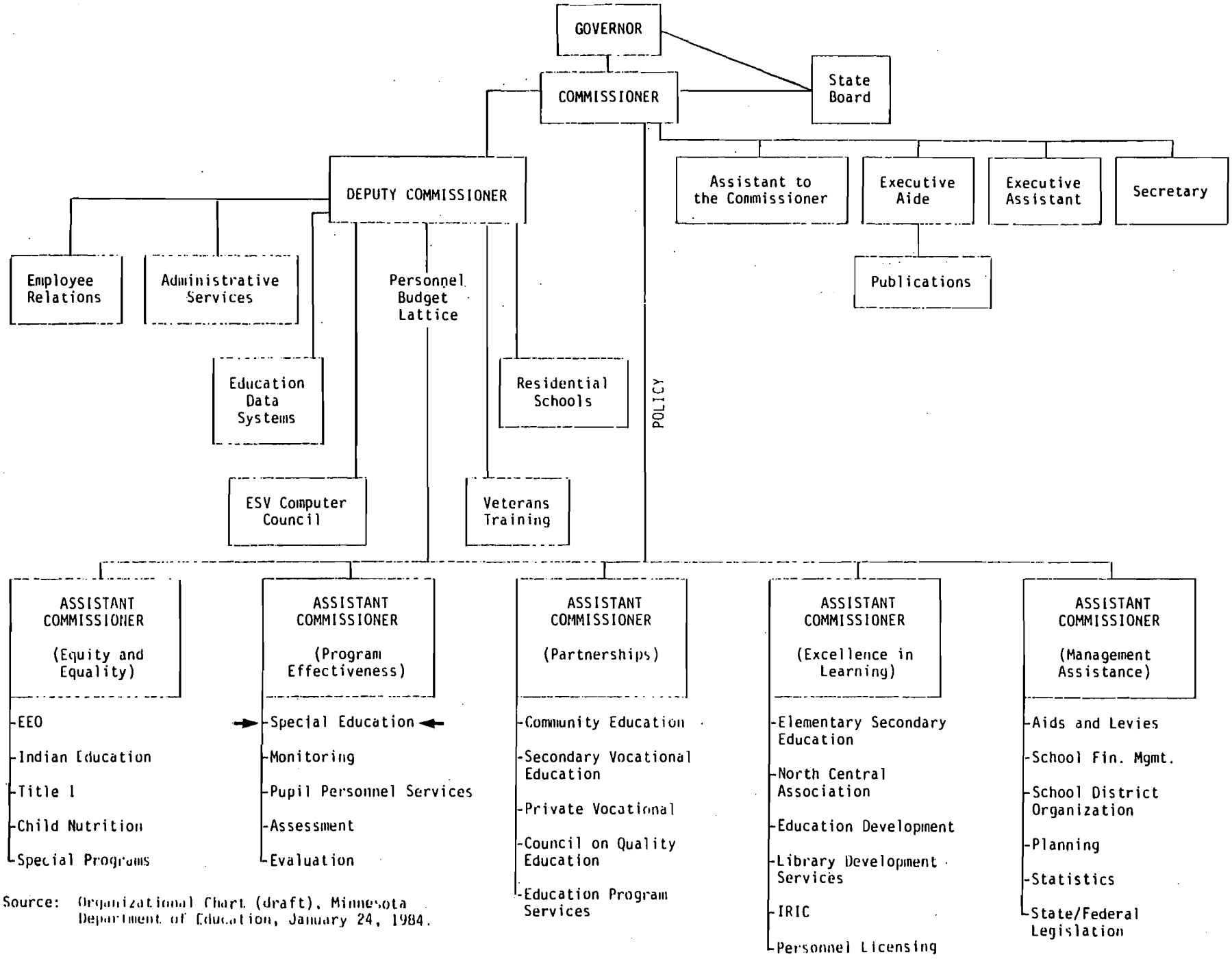
1. STATE DEPARTMENT ORGANIZATION

The primary state offices responsible for special education policy, regulation, and monitoring are the Department of Education's Special Education Section and Office of Monitoring. These units are shown on the Department of Education's organizational chart in Figure 2.

The three units of the Special Education Section are shown in Figure 3. The Program and Policy Unit includes specialists in the areas of learning disabilities and emotional/behavioral disorders, speech/language/hearing, homebound programs, early childhood, and personnel training and development. This unit recommends state rule and policy changes, conducts studies and evaluations, usually with the assistance of the department's Evaluation Section, and develops interagency agreements. Specialists in the Low Incidence Unit address disabilities such as

FIGURE 2

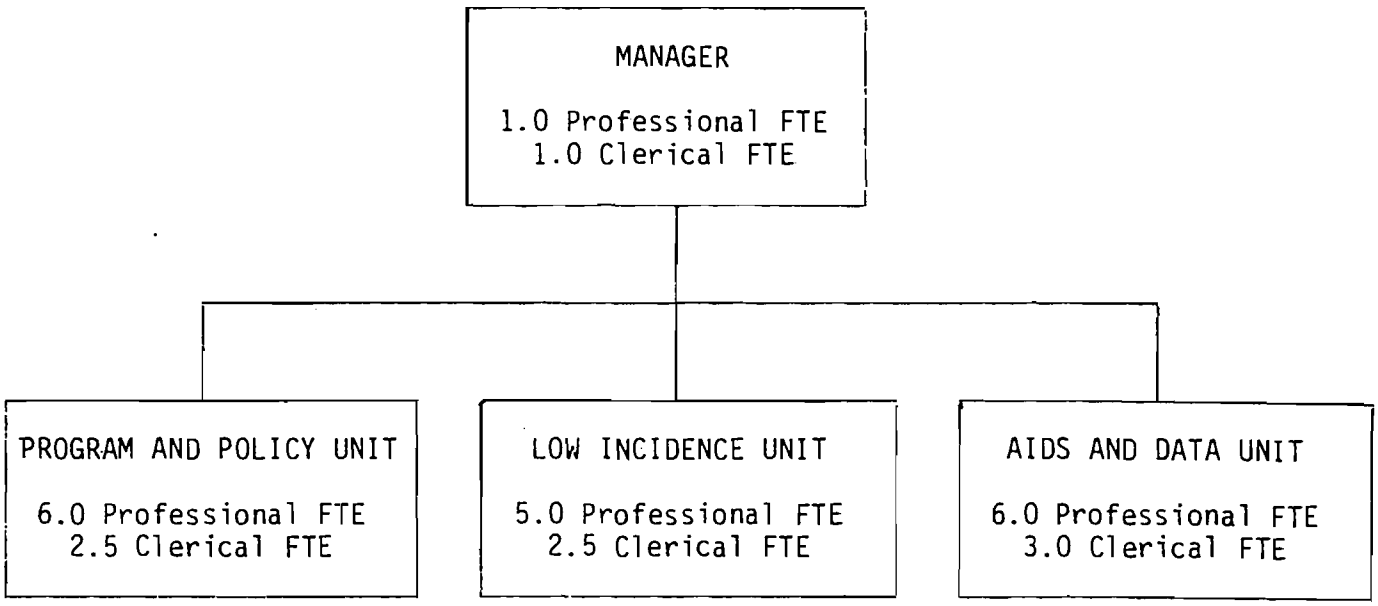
DEPARTMENT OF EDUCATION ORGANIZATIONAL CHART



Source: Organizational Chart (draft), Minnesota Department of Education, January 24, 1984.

FIGURE 3

ORGANIZATION OF THE SPECIAL EDUCATION SECTION



Source: Special Education Section, Department of Education, 1984.

severe and profound mental retardation, physical handicaps, and vision and hearing impairments. This unit also reviews and approves payments of state aid for discretionary projects. The Aids and Data Unit oversees state aid payments and the special education data base (including child counts). It also projects budgetary needs.

The Office of Monitoring (not shown in Figure 3) is also directly involved in special education activities. It has three major special education activities. First, it monitors special education programs in public and state-operated schools to determine compliance with state and federal statutes, rules, and regulations. The office is assisted in its monitoring activities by personnel from the Special Education Section. Second, it processes complaints received from parents and others regarding specific special education programs. Third, it reviews the local due process hearing decisions that have been appealed to the state.

Historically, the Special Education Section has been reluctant to assume a strong leadership or guidance role vis-a-vis school districts. The section does influence district practices via statewide workshops, state-funded consultants, staff training, and rule development. But key decisions related to identification, assessment, and service have remained with districts. The Special Education Section does not have mandatory statewide entrance/exit criteria or service models. As noted earlier in this chapter, the Special Education Section is re-evaluating its current role to a certain extent. Guideline criteria scheduled for release later this year are expected to include specific disability criteria that districts may adopt if they wish.

Rule compliance is the one area in which the state holds districts accountable. Districts can be cited and special education aids can be adjusted by the state as a result of on-site compliance monitoring. Districts have not been held accountable in this way for professional practices. They do not risk losing state funds for relying on poor tests or poor eligibility criteria.

2. RULES AND STATUTES

The rule-making authority of the State Board of Education is established in M.S. §120.17, Subd. 3:

> "The state board shall promulgate rules relative to qualifications of essential personnel, courses of study or training, methods of instruction and training, pupil eligibility, size of classes, rooms, equipment, supervision, parent consultation and any other rules and standards it deems necessary, for instruction of handicapped children. These rules shall provide standards and procedures appropriate for the implementation of and within the limitations of subdivisions 3a and 3b. These rules shall also provide standards for the discipline, control, management and protection of handicapped children."

Each Minnesota school district or special education cooperative is required to have a special education plan on file with the Department of Education. This plan must describe identification and assessment procedures, methods of instruction and service, administration and management, and procedures for complying with state rules.

Most Minnesota procedural rules bear close resemblance to federal rules, but some differences and recent changes are worth noting. For example, Minnesota districts must conduct periodic reviews of individual student program plans. These reviews are to determine if IEP objectives are being met and if program modifications are needed. Formerly, periodic reviews were required twice a year. Effective for the 1982-83 school year the Legislature reduced the requirement to one review annually. In addition, the Legislature changed the previous requirement that assessments of students be required every two years. Reassessments are now required once every three years. The new requirement is the same as the federal requirement for reassessments.

State rules also differ from federal rules in due process protections. Minnesota parents and guardians must be given an opportunity for at least one conciliation conference prior to initiation of the hearing process. The 1981 Legislature expressed support for conciliation in M.S. §120.172.

Unlike federal regulations, state rules impose restrictions on student-staff ratios in local school districts. Districts are not permitted to exceed the maximum caseloads per teacher that are contained in the state board's rules.

During the 1981 Legislative session, school personnel and state legislators expressed concern about existing special education rules on maximum student caseloads per teacher. State Department of Education rules were viewed by some as unclear and inflexible. It was noted that maximum caselods had not been changed for many years. As a result, the School Aids Division of the Minnesota House of Representatives' Education Committee requested the Department of Education to prepare a report on proposed rule changes by October 1981. After drafting proposed rules and receiving authorization from the State Board of Education to hold public hearings on them, the Department of Education withdrew its proposed rules in November 1981. The department wanted more input from school districts, who had been largely excluded from the rule development process.

In 1982, the Legislature required the Department of Education to recommend new rules by February 1, 1983. The Legislature increased the existing maximum caseloads by 20 percent for the 1982-83 school year to allow districts greater flexibility. These caseloads are shown in Table 17.

Subsequently, the department developed new rules. Public hearings were held in the spring of 1983. Notice of the adoption of new rules appeared in the State Register in October 1983. Most provisions of the new rules are currently in effect. Provisions relating to maxi-

TABLE 17

MAXIMUM CASELOADS BEFORE AND AFTER FALL 1982

	Under "Old" Rules	After 20 Percent Increase
Levels 1 and 2		
Speech impaired	60	72.0
All other	30	36.0
Level 3		
Speech and/or language impaired	40	48.0
All other	15	18.0
Level 4		
TMR or visually impaired	8	9.6
All other	15	18.0
Levels 5 and 6		
Autistic or deaf/blind	6	7.2
All other	8	9.6
All early childhood	8	9.6

Source: The "old" rules were in 5 MCAR § 1.0122 C. The legislated increase in these ratios is found in 1982 Laws of Minnesota, Ch. 548, Art. 3, Sec. 28.

mum caseloads, early childhood, and special education supervision will become effective in the 1984-85 school year.[12]

The new rules establish the maximum caseloads shown in Table 18. The new rules also allow districts that employ aides some flexibility in student-staff ratios. Aides are to "provide physical management and to implement pupil behavior management techniques as determined by the team staff." Aides may provide "incidental follow-up instruction and training . . . under the direct supervision of a teacher."[13] The rules apparently continue state policy prohibiting the use of aides in ongoing instructional capacities.

Generally, the new maximum caselods are equal to or less than those that existed prior to the action taken by the 1982 Legislature. One notable exception is instruction at Level 3 to all students other than speech/language impaired students. The new maximum caseload is 18, which is 20 percent greater than in the board's previous rules.

In some respects, the new rules permit a greater degree of flexibility than previous rules. For example, the state may grant three-year waivers of caseload maximums to districts with approved "experimental proposals". The rules also allow districts to employ higher staff-to-student ratios if "case managers" are employed. Case managers perform indirect instructional activities to allow other instructors to spend more time teaching.

TABLE 18

MAXIMUM CASELOADS EFFECTIVE FOR THE
1984-85 SCHOOL YEAR

	Students Per Teacher
Level 2	
Speech and language handicapped and developmental adaptive physical education	60
All other	30
Level 3	
Speech and language handicapped and developmental adaptive physical education	40
All other	18
Level 4	
Deaf/blind, autistic, or severely multiply handicapped	3
With one aide	6
Mildly mentally handicapped or specific learning disabled	12
With one aide	15
All other	8
With one aide	10
With two aides	12
Levels 5 and 6	
Deaf/blind, autistic, or severely handicapped	
With one aide	4
With two aides	6
All other	
With one aide	8

Source: State Register, Volume 7, Number 34, 1207, February 21, 1983. (5 MCAR § 1.01224 C.)

FOOTNOTES, CHAPTER I

[1]School districts are not required to provide services to handicapped children from birth through three years old. However, if services are provided, they must meet all state and federal requirements. While school districts must provide services to handicapped children up to 21 years of age, the students cannot go beyond secondary school or its equivalent.

[2]Minnesota State Department of Education letter to all special education directors, January 1984.

[3]These guidelines are discussed in greater detail in Chapters II and III of this report.

[4]As part of the department's development of low incidence service plans, some attention is also being given to eligibility for special education instruction and services to the visually impaired, hearing impaired, and physically handicapped.

[5]The Minnesota School for the Deaf and the Minnesota Braille and Sight-Saving School were subjects of a separate program evaluation by this office. For information, see Evaluation of the Minnesota School for the Deaf and the Minnesota Braille and Sight-Saving School, Program Evaluation Division, Office of the Legislative Auditor, January 4, 1984.

[6]The 1983 Legislature directed the Commissioner of Education to study the use of special levies in intermediate school districts. One conclusion of this study is that intermediate school district members have access to an additional source of funds to pay for the costs associated with providing programs for students with low incidence handicaps which results in little or no tuition costs to member districts. Member districts receive state and federal funds which may exceed net program costs. Districts who are not members of intermediate districts do not have access to this additional source of funds; tuition is paid for services because costs exceed state and federal aids received. See Intermediate School District Study, Minnesota Department of Education, December 1983.

[7]The metropolitan area ECSU provides assistance to local districts but does not directly provide instructional programs.

[8]The aid and expenditure figures cited in this chapter do not include transportation costs.

[9]Fiscal year 1984 figures include the aid entitlements for fiscal year 1984 for the first four types of categorical aid, the amounts to be paid during fiscal 1984 for calendar year 1983 summer school, and the amounts to be paid during fiscal 1984 for fiscal year 1983 residential facilities expenditures. Eighty-five (85) percent of fiscal year 1984 aid entitlements for the first four aids will be paid during

fiscal year 1984. Fifteen (15) percent will be paid during fiscal year 1985.

[10]See Revenue and Expenditure for Special Education Services in Selected Minnesota School Districts, Minnesota Association of School Administrators and Minnesota Administrators of Special Education with technical assistance from the Center for Educational Policy Studies, University of Minnesota, April 1982.

[11]Public Law 94-142, or the Education for All Handicapped Children Act of 1975, became effective in 1977.

[12]At present, no special education supervision ratios are in effect. Supervisory rules were suspended by the Legislature in 1982.

[13]5 MCAR §1.01201.

II. LEARNING DISABILITIES

The percentage of children identified as learning disabled (LD) by Minnesota schools has grown considerably over the last fifteen years. During this period, the percentage has increased from about one percent to about five percent of school enrollment.

In addition, compared to other states, Minnesota has historically identified a higher percentage of students as learning disabled. For example, in December of the 1979-80 school year, 4.52 percent of Minnesota public school students were labeled learning disabled while the national average was 3.03 percent. In December of the 1982-83 school year, the Minnesota percentage was 4.86 percent compared to 4.32 percent for the nation.

One can see that the growth in the percentage of students classified as learning disabled is not unique to Minnesota. In fact, the above figures show that the growth in recent years has been lower in Minnesota than the national average. In the last three years (1980-81, 1981-82, and 1982-83), LD incidence remained fairly constant in Minnesota while the national average continued to grow. Thus, during these three years, the gap between Minnesota incidence and the national average became smaller. This school year (1983-84), however, Minnesota's LD incidence grew from 4.86 percent of public enrollment to 5.06 percent, based on the December 1, 1983 child counts. Comparable national rates will not be known until later in the year.

Estimating the actual prevalence of learning disabilities among school-aged children is quite controversial. Estimates can vary considerably, ranging from 1 to 25 percent and up. It is worth noting that the most recent estimate commissioned by the federal government placed the prevalence between 1 and 3 percent.[1] Both Minnesota and national LD incidence now exceed the upper end of this estimate.

The growth in LD incidence and the surpassing of original prevalence estimates have caused concern among policymakers in Minnesota and other states. In some states, that concern has focused on the need for consistent eligibility criteria to be used by schools in assessing whether a child is learning disabled. At least two states, Colorado and Iowa, have promulgated statewide eligibility criteria. Although the Iowa and Colorado criteria are different, both states seem to have been successful in checking the growth in LD incidence. Between the 1979-80 and 1982-83 school years, LD incidence dropped in only four states, including Colorado and Iowa.

In Minnesota, the Special Education Section of the State Department of Education began in 1981 to develop proposed state guideline terminology and criteria in the area of learning disabilities as well as other disabilities served by special education programs. The 1982 Legislature broadened the purpose and scope of the product being developed by the department. In particular, the Legislature required the following:

"The state board of education shall develop and test guidelines for districts to use in defining and serving the following groups of students: (a) students with learning disabilities; (b) students who are emotionally disturbed; and (c) students with special learning behavior problems. The department shall consider the feasibility of establishing entrance and exit criteria when developing and testing these guidelines. During the 1982-83 school year the department shall test the guidelines in a representative sample of districts statewide and report to the education committees of the legislature by February 1, 1984. The department shall report on the operation and fiscal impact of the guidelines.

The guidelines are only for the purposes of testing and determining proper policy for the department and do not represent a determination by the legislature or the department that the guidelines are permanent or binding. The guidelines shall not represent competent evidence in any legal proceeding arising in a state or federal court of law."[2]

As a result, the department prepared a draft guideline handbook for defining and serving students with specific learning disabilities. The handbook and its appendices are approximately 200 pages in length, including 10 pages of draft guideline eligibility and exit criteria. In the fall of 1983, local directors of special education were sent multiple copies of forms to be used to comment on the draft eligibility and exit criteria. Directors were requested to distribute the forms to a variety of persons in their district or cooperative including: LD teachers and coordinators, psychologists, regular education administrators, parents, and representatives of advocate groups. Directors were also asked to complete a questionnaire on the fiscal and programmatic impact of the proposed guidelines. The results of these surveys have been presented by the department in a February 1984 report to the Legislature entitled: "The Feasibility, Program and Fiscal Impact of Draft Guidelines for Students with Specific Learning Disabilities and for Students with Emotional Behavioral Disorders."

The first part of this chapter addresses LD eligibility issues. We examine the problems with current practice and then evaluate the guideline criteria and handbook and the recent report to the Legislature on the feasibility and impact of the guidelines. Alternative approaches to those in the guidelines are recommended in light of the state of the art in the learning disabilities field and our review of existing practices in Minnesota school districts. The second part of the chapter addresses concerns about the quality and effectiveness of services delivered to learning disabled students. Although a great amount of attention has been paid by policymakers to eligibility criteria in Minnesota and elsewhere, very little attention has been paid to effectiveness questions. We recommend a number of steps that should be taken by the State Department of Education and local school districts to focus on the effectiveness of LD services.

It should be noted that in the process of conducting this

study we talked with a large number of people knowledgeable in the field of learning disabilities. This includes special education directors, LD teachers and coordinators, psychologists, university professors, representatives of advocate groups, and parents. We talked with nearly one-half of the special education directors in the state. We visited LD classrooms in a number of districts. We also reviewed eligibility decisions and the monitoring of effectiveness in a non-random sample of ten school districts. Finally, we read a wide range of professional journal articles and books written on the subject of learning disabilities. Our literature review also included a review of the research done at the five institutes for research on learning disabilities that were federally funded from 1977 to 1983.

A. ELIGIBILITY

1. INTRODUCTION

The historical foundation of learning disabilities was the scientific research on the brain and its disorders in the 19th and early 20th centuries.[3] Between 1930 and 1960, research focused on characteristics of children who could not learn because of a variety of disorders thought to be related to neurological dysfunctions. Test instruments to diagnose those disorders were devised and teaching strategies based on the disorder were developed. It was believed that special instruction based on those diagnoses would be more effective than regular education. Beginning around 1963, a variety of disorders with different names were consolidated under the term learning disabilities. Although learning disability programs rapidly grew in schools throughout the nation during the late 1960s and 1970s, controversy still continues over how to define learning disabilities and how to implement the definition in schools.

The historical focus on disorders in neurological or psychological processes is reflected in the definition of learning disabilities contained in the federal regulations promulgated under Public Law 94-142. Table 19 presents this definition along with the federal criteria for determining whether a student is learning disabled. This table also presents the definition recently proposed by the National Joint Committee for Learning Disabilities (NJCLD).

Although slightly different, these two definitions have much in common. First, both suggest that a learning disability results in significant learning problems for a child. These learning problems may occur in one or more of the following areas: reading, writing, mathematics, reasoning, listening, or speaking.

Second, both definitions emphasize that a learning disability is a disorder internal to an individual. The federal definition states that a learning disability is a disorder in one or more of the basic psychological processes involved in understanding or using language. The NJCLD definition states that a learning disability is a disorder presumed to be due to central nervous system dysfunction. Because a

TABLE 19

LEARNING DISABILITY DEFINITIONS AND CRITERIA

Federal Definition of Learning Disabilities[1]

"Specific learning disability" means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain disfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation of emotional disturbance or of environmental, cultural, or economic disadvantage.

Definition of the National Joint Committee on Learning Disabilities[2]

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 a 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 those conditions or influences.

Federal Criteria for Determining the Existence of a Specific Learning Disability[3]

A team may determine that a child has a specific learning disability if:

(1) The child does not achieve commensurate with his or her age and ability levels in one or more of the areas listed in paragraph (a)(2) of this section, when provided with learning experiences appropriate for the child's age and ability levels; and

(2) The team finds that a child has a severe discrepancy between achievement and intellectual ability in one or more of the following areas:

(i) Oral expression;
(ii) Listening comprehension;

(iii) Written expression;
(iv) Basic reading skill;
(v) Reading comprehension;
(vi) Mathematics calculation; or
(vii) Mathematics reasoning.

The team may not identify a child as having a specific learning disability if the severe discrepancy between ability and achievement is primarily the result of:

(1) A visual, hearing, or motor handicap;
(2) Mental retardation;
(3) Emotional disturbance; or
(4) Environmental, cultural or economic disadvantage.

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[1]34 CFR §300.5.

[2]The National Joint Committee on Learning Disabilities, "Learning Disabilities: Issues on Definition", A position paper of the National Joint Committee on Learning Disabilities, January 30, 1981.

[3]34 CFR §300.541.

learning disability is assumed to result from internal neurological or psychological processing disorders, both definitions also state that a learning disability is not the direct result of environmental influences. Cultural differences, economic disadvantages, insufficient or inappropriate instruction can all result in learning problems for children. However, it is assumed that a learning disability is not the direct result of such environmental influences. A child who has learning problems primarily resulting from environmental influences or other handicapping conditions (visual, hearing or motor impairments, mental retardation, or emotional disturbance) is not considered learning disabled. However, it is said to be possible for a child to be learning disabled while also being affected by environmental influences or other handicapping conditions.

Neither definition provides practitioners with an operational definition of a learning disability. Federal criteria go a little beyond the definitions. The criteria state that a learning disabled child has a "severe discrepancy" between achievement and intellectual ability in one or more of the following areas: oral expression, listening comprehension, written expression, basic reading skill, reading comprehension, mathematics calculation, or mathematics reasoning. In addition, federal regulations require that multidisciplinary teams assess children in all areas related to the suspected disability. The assessment should be based on a variety of sources including, where appropriate, "aptitude and achievement tests, teacher recommendations, physical condition, social or cultural background, and adaptive behavior." Federal regulations also require that a "team member other than the child's regular teacher shall observe the child's academic performance in the regular classroom setting."[4]

However, neither federal criteria nor other regulations suggest how a severe discrepancy is to be measured and documented. In addition, they do not state how schools are to determine the cause of a student's learning difficulties. The criteria do not even mention processing or neurological disorders. The criteria do not state how schools are to determine whether such disorders or environmental influences or other handicapping conditions are the cause of a child's learning problems.

Common ways in which these definitions are operationalized by schools are briefly examined below. We also review some of the problems with the ways that these definitions are operationalized.

a. Ability and Achievement Considerations

Both the federal and NJCLD definitions describe learning disabilities in terms of reading, math, writing, speaking, listening, and thinking (reasoning) skills. Reading, mathematical, and writing skills are commonly assessed on the basis of achievement tests and classroom performance. While many tests are available, they differ considerably in their technical adequacy. Three important technical characteristics of a test are reliability, validity, and norms. A test should be reliable to minimize the impact of random fluctuations on a student's score. A test is valid to the extent it measures what it

intends to measure. Adequate norms are important if one wants to accurately compare a score with a specified group of other students.

Speaking, listening, and thinking skills usually receive less attention in the learning disabilities field. Tests in these areas are generally less reliable and valid than reading and mathematics tests.[5]

Federal criteria require a severe discrepancy between ability and achievement to be eligible for learning disability services. A common approach is to use a general intelligence test to determine a student's expected achievement level and then compare that level to the student's achievement level as measured by a standardized achievement test. There are several methods of determining whether the difference between expected and actual achievement is severe.

One method is based on age or grade equivalent test scores. For example, an IQ score and the student's grade level can be used to estimate the student's expected grade level performance on an achievement test. The student's actual grade level performance on an achievement test is then compared to the expected grade level to determine whether there is a severe discrepancy. A severe discrepancy is sometimes defined as a difference of two or more years. A more common definition is that a severe discrepancy exists when the actual achievement grade level is less than 60 percent of the expected grade level performance. Under the latter definition, a beginning tenth grader with average intelligence achieving at the beginning sixth grade level or less would be said to have a severe discrepancy. The latter definition is somewhat better than the first because it recognizes that a difference of one grade level is a considerable difference in achievement at the lower grades but is a much smaller difference for the secondary grades (7-12). However, grade and age equivalent scores of either type have been widely criticized by professionals for several reasons.[6] A difference of one grade level does not mean the same thing at different grade levels nor for different subject matter. Grade level scores can be especially misleading for subjects not taught at the secondary level because performance rapidly improves during the early grades and levels off during the later grades. Since grade level scores have unequal intervals, it is not valid to make the type of mathematical calculations that are typically used to determine ability-achievement discrepancies.

An alternative which avoids these problems is the use of standard scores. Standard score comparisons permit mathematical comparisons across tests, subject matter, and grade levels.[7] Under this method, scores of both the ability and achievement tests are expressed in comparable standard scores (having the same mean and standard deviation). A severe discrepancy exists if the achievement score is less than the ability score by more than a certain amount (for example, one or two standard deviations). Some more complicated versions of the standard score method also take into account the reliability of the ability and achievement tests administered. It is important to correct for reliability particularly if the tests one uses do not have significantly high reliability. It is inappropriate to use tests that are subject to high measurement errors and then fail to take that factor into account in one's definition of a severe discrepancy.

Another factor that an ability-achievement discrepancy may incorporate is regression toward the mean. Regression analysis is a method that takes into account both regression toward the mean and some measurement errors. Regression toward the mean refers to the fact that students with above average IQs tend not to score as much above the average on achievement tests as they do on IQ tests. Similarly, students with below average IQs tend not to score as much below the average on achievement tests as they do on IQ tests. Criteria which do not incorporate regression toward the mean assume that a student's expected achievement is just as much above or below average as the IQ score. As a result, too many students with high IQs would qualify for LD services because their achievement scores tend to be lower than their IQ scores. Similarly, too few students with low IQs would qualify because their achievement scores tend to be higher than their IQ scores.

Regression analysis appears to be superior to other methods of calculating an ability-achievement discrepancy.[8] One drawback is that this method requires one to have empirical information about the relationship between achievement and IQ scores on the tests to be used. If this information is not available or too costly to collect, the next best alternative is to use standard scores that are adjusted for measurement errors. The Iowa Department of Public Instruction recommends that Iowa school districts use regression analysis if possible. When regression analysis is used in Iowa, a one standard deviation difference between a student's achievement score and the student's expected achievement score based on an IQ test is considered a severe discrepancy. If regression analysis is not used, standard scores adjusted for measurement errors must be used. In that case, the discrepancy must be at least two standard errors of measurement to be considered severe.[9]

The use of an ability-achievement discrepancy to determine eligibility for learning disabled programs can be challenged on the grounds that intelligence tests are not a valid measure of educational potential. Since potential cannot be measured directly, intelligence tests measure previous learning.[10] As a result, it is difficult to determine to what extent an intelligence test score measures ability and to what extent it is influenced by the student's previous learning and environmental influences. For these reasons, intelligence tests have been criticized for being culturally or racially biased. Another criticism of intelligence tests is that they measure only a limited range of abilities and thus do not necessarily reflect a student's full potential.[11] Also, it has been noted that existing IQ tests have not incorporated important advances in psychology and neuropsychology.[12] Finally, just as learning disabilities may affect achievement, they may also affect the skills measured by an IQ test. If this occurs, there may not be a difference between IQ and achievement scores even though the student has a learning disability.

Furthermore, it should also be noted that the reliability of the difference between an ability test score and an achievement test score may be significantly less than the reliability of either test by itself. Thus, even though an ability-achievement discrepancy is measured with two reliable tests, the discrepancy score may not meet minimum reliability standards for making decisions about individual students.[13]

An alternative to comparing achievement scores with IQ scores is to compare individual student achievement with average or median achievement scores of students of the same age or grade. This approach could change the type of students eligible for LD services. On the one hand, more low achieving students whose IQ test scores are below average would probably qualify for LD services under this alternative approach than under the ability-achievement discrepancy approach. On the other hand, fewer average achieving students whose IQ test scores are above average would likely qualify for LD services.

b. Processing Deficits and Exclusionary Factors

Restricting eligibility to students with processing deficits and excluding students whose learning problems are caused by environmental influences or other handicaps are related in that both involve determining the cause of a learning problem. The rationale for examining processing deficits is that by examining the underlying abilities within a child, one can determine whether a child needs a unique type of education not provided in the regular classroom and that by individualizing instruction based on the pattern of abilities and disabilities, teaching will be more effective.[14] A variety of tests have been designed to measure different processing abilities such as visual processing, auditory processing, memory, kinesthetic processing, and tactile processing. Analysis of subtests of general intelligence tests and teacher observation are also used to detect variations in underlying abilities.

For example, analyzing the subtest scores of the Wechsler Intelligence Scale for Children-Revised (WISC-R) is one method used for diagnosing learning disabilities. The WISC-R intelligence test consists of six verbal subtests and six performance (non-verbal) subtests. There are many ways to analyze the variation in scores, including the following:

1. The difference between the verbal IQ score and the performance IQ score.

2. The range between the highest and the lowest subtest scores for:

   (a) all subtests,
   (b) the six verbal subtests, or
   (c) the six performance subtests.

3. The number of subtest scores which differ by a certain number of points from the average subtest score for:

   (a) all subtests,
   (b) the six verbal subtests, or
   (c) the six performance subtests.

For each of these seven types of comparisons, the amount of difference necessary to be statistically significant from zero difference can be calculated. Differences which exceed these amounts are

considered by some practitioners to be evidence of a processing deficit and thus evidence of a learning disability.

Another approach is to determine whether there is evidence that a non-processing factor causes the learning problem. If there is no other apparent cause, some suggest that processing deficits may be suspected as the primary cause and the student would be eligible for learning disability services.

These processing approaches have been challenged for several reasons. First, critics argue that it is often not possible to reliably determine whether a learning problem is caused by an intrinsic processing deficit or environmental influences. After reviewing commonly used processing tests, both Arter & Jenkins and Salvia & Ysseldyke concluded that most processing tests are unreliable and none have adequately demonstrated that they are valid measures.[15] Even proponents of the processing concept recognize the practical difficulties in implementing the concept. Torgessen concluded that: "... attempts to apply process-oriented approaches to the diagnosis and treatment of learning disabilities face some very difficult tasks in measurement that have not been adequately resolved at present."[16]

Second, the analysis of subtest scores is questionable because practitioners often overlook the extent to which subtest scatter, verbal-performance IQ differences, and range in subtest scores exist in the normal population. Kaufmann analyzed the extent to which uneven WISC-R profiles occur in a normal population sample and found that the average person had relatively large differences for each of the seven possible comparisons.[17] Many practitioners in the field were surprised at the differences he found. This problem illustrates the importance of developing and using adequate norms for tests so that one can determine how a student being tested compares with normal students. Another problem is that when many comparisons are made, the chance of finding at least one unusually large difference increases. For any particular comparison, Kaufmann's data show how often normal students exceed a given standard. For example, 34 percent of normal students have a difference between verbal IQ and performance IQ scores of at least 12 points on the WISC-R. But Kaufmann's data do not indicate how often normal students would exceed at least one out of seven standards he analyzed. To interpret many test scores wisely, this information should be obtained. In addition, even if differences between subtest scores are unusually large, it does not prove what is the cause of this uneven profile. It does not necessarily distinguish between underlying process deficits or some environmental cause. Further, it does not necessarily mean that these differences are related to a student's academic problems.

Third, even if it were possible to reliably determine the cause of a child's learning problems, it could be argued that eligibility for special education services should not be denied just because the child's learning problems were caused by environmental or social factors instead of processing deficits.[18] Children who do not learn because of poor instruction in school or because of economic disadvantage may need special education services just as much as those with

process deficits and often the types of services required may be similar.[19]

Those who believe that processing deficits cause learning disabilities often believe that LD students need individualized instruction based on the pattern of their abilities and disabilities. Some suggest that weak abilities need to be trained. Others suggest that weak abilities should be compensated for by working through stronger abilities.

An alternative viewpoint is provided by the task analytic view of learning disabilities.[20] According to this theory, it is more important to analyze the specific academic tasks that the child needs to learn than the underlying processing abilities of the child. Instruction is then based on the specific tasks which the child has or has not mastered. Such instruction is often called "direct" or "systematic" instruction. Direct instruction is highly structured and involves the direct teaching of skills that other instructional methods assume are learned incidentally.

According to the task analytic viewpoint, there are several reasons why it is not practical to attempt to determine which students have a processing deficit. First, there is evidence that direct or systematic instruction generally works for most students currently served under learning disability programs as well as other low achieving students whose learning problems may be due to environmental influences. Second, it is costly to assess a student to determine the cause of the student's learning difficulties. In addition, as pointed out earlier, the existing ways of diagnosing a processing deficit are not satisfactory. Consequently, from the task analytic viewpoint, it does not seem practical to try to determine which students have a processing deficit. It would seem more practical to serve the lowest achieving students and use direct or systematic methods of instruction. Other instructional techniques, such as those favored by some advocates of the processing deficit viewpoint, could be used if direct or systematic methods do not work.

2. PROBLEMS WITH CURRENT PRACTICES

Before analyzing the State Department of Education's proposed criteria, it is necessary to examine why more attention needs to be paid to LD eligibility criteria. First, there are large differences among Minnesota school districts in the percentage of students labeled learning disabled. In recent years, the percentage of public and non-public students labeled learning disabled ranged from less than one percent in the lowest school district to about 14 percent in the highest. Table 20 presents data on the percentage of LD students in Minnesota's special education cooperatives and individual districts on December 1, 1981. The range in LD percentages in Table 20 is somewhat smaller than stated above because the data for districts in special education cooperatives other than intermediate districts are summarized by cooperative instead of individual school districts.[21] Also, the data in Table 20 exclude children below the age of five.

TABLE 20

LD AND E/BD INCIDENCE: DECEMBER 1, 1981

District/Cooperative	Region	Percent LD	Percent E/BD
Park Rapids Cooperative	1 & 2	8.20%	--%
Northwest Regional Cooperative	1 & 2	6.44	--
Roseau Cooperative	1 & 2	6.27	--
Bemidji Regional Cooperative	1 & 2	6.14	0.01
Goodridge Cooperative	1 & 2	5.34	--
Bemidji	1 & 2	5.24	0.24
Warroad	1 & 2	4.65	0.14
Thief River Falls	1 & 2	4.40	0.07
Red Lake Falls	1 & 2	4.14	0.23
Crookston	1 & 2	2.00	0.15
Tower-Soudan	3	7.92	--
Mountain Iron	3	7.02	--
Boundary Waters Cooperative	3	6.36	--
Littlefork/Big Falls	3	5.54	--
Aurora/Hoyt Lakes	3	5.37	0.17
Cloquet Cooperative	3	5.06	0.19
Mid-Range Cooperative	3	4.71	0.03
Biwabik	3	4.71	0.31
Tri-County Cooperative	3	4.59	--
Cook County	3	4.50	2.65
Duluth	3	4.46	1.77
St. Louis County	3	4.37	0.10
Grand Rapids	3	3.68	0.19
Eveleth	3	3.60	0.21
Lake Superior	3	3.47	0.03
International Falls Cooperative	3	3.45	0.03
Virginia Cooperative	3	2.88	0.25
Frazee-Vergas	4	6.57	--
Midwest Cooperative	4	5.75	1.12
Runestone Cooperative	4	5.58	0.57
Fergus Falls Cooperative	4	5.52	0.01
Moorhead Cooperative	4	5.03	0.31
Lake Agassiz Cooperative	4	4.92	0.06
Detroit Lakes	4	4.82	--
Mid State Cooperative	5	6.07	0.01
Freshwaters-Woodland Cooperative	5	6.03	0.65
T-O-W Cooperative	5	4.58	--
Paul Bunyon Cooperative	5	2.73	0.19
Crow River Cooperative	6 & 8	5.64	0.08
Little Crow Cooperative	6 & 8	4.46	0.54
Red Rock Ridge Cooperative	6 & 8	4.04	0.21
Montevideo Cooperative	6 & 8	3.58	0.43
Pipestone Cooperative	6 & 8	3.45	0.06
Minnesota Valley Cooperative	6 & 8	3.28	0.72
Marshall	6 & 8	2.98	0.11

District/Cooperative	Region	Percent LD	Percent E/BD
St. Cloud	7	5.01	0.31
Sherburne/N. Wright Cooperative	7	4.55	0.32
Benton-Stearns Cooperative	7	4.35	0.05
Chisago County Cooperative	7	4.25	0.21
Meeker/Wright Cooperative	7	3.68	0.09
Buffalo	7	3.67	0.05
Rum River Cooperative	7	3.47	0.05
Pine County Cooperative	7	3.03	0.39
Sauk Centre	7	1.84	0.01
Garden City	9	7.22	--
Martin County Cooperative	9	5.64	0.16
St. Peter Cooperative	9	5.33	0.11
South Central Cooperative	9	5.30	0.56
Waseca Cooperative	9	5.27	0.06
Le Sueur	9	5.26	0.89
Madelia	9	5.07	0.42
Southern Minnesota Cooperative	9	4.24	0.06
St. Clair Cooperative	9	3.70	0.54
Lake Crystal	9	3.58	--
Mankato	9	3.55	0.83
River Bend Cooperative	9	2.83	0.53
Truman	9	2.58	0.34
St. James	9	2.29	--
Owatonna	9	2.18	0.19
Mower County Cooperative	10	7.47	0.13
Albert Lea	10	6.87	0.25
Southeastern Minnesota Cooperative	10	6.69	0.34
Wasioja Cooperative	10	5.61	0.08
Red Wing	10	5.38	1.06
Austin	10	5.31	0.50
Rochester	10	4.84	0.78
Hiawatha Valley Cooperative	10	4.47	0.16
Cannon Valley Cooperative	10	3.54	1.12
Inver Grove Hts - Pine Bend	11E	6.31	0.64
St. Anthony Village	11E	6.20	0.29
Mahtomedi	11E	6.18	0.32
Centennial	11E	5.65	0.86
Farmington	11E	5.22	1.20
Lakeville	11E	5.22	0.66
Mounds View	11E	5.01	0.20
South St. Paul	11E	4.74	0.70
Rosemount	11E	4.55	0.21
Roseville	11E	4.54	1.68
Forest Lake	11E	4.38	0.62
South Washington County	11E	4.18	0.43
White Bear Lake	11E	4.05	0.98
St. Paul	11E	3.76	1.39
Spring Lake Park	11E	3.76	0.41
West St. Paul	11E	3.71	0.25

District/Cooperative	Region	Percent LD	Percent E/BD
Stillwater	11E	3.68	1.16
Hastings	11E	3.58	0.76
Columbia Heights	11E	3.33	1.03
North St. Paul	11E	2.67	0.81
St. Louis Park	11W	6.28	0.56
Richfield	11W	5.76	1.96
Bloomington	11W	5.67	0.33
Westonka	11W	5.05	0.48
St. Francis	11W	4.71	1.40
Robbinsdale	11W	4.52	0.95
Orono	11W	4.48	0.71
Minnesota Valley Interdistrict Cooperative	11W	4.42	0.29
Minnesota River Valley Cooperative	11W	4.18	0.84
Minnetonka	11W	4.09	0.96
Osseo	11W	4.03	0.77
Hopkins	11W	3.85	1.36
Wayzata	11W	3.76	0.80
Fridley	11W	3.73	0.76
Eden Prairie	11W	3.58	1.01
Burnsville	11W	3.57	0.65
Anoka	11W	3.46	0.27
Brooklyn Center	11W	2.78	1.35
Minneapolis	11W	2.55	1.58
Edina	11W	1.69	0.77
STATE		4.25	0.60

Source: State Department of Education.

Note: Incidence is calculated by dividing the unduplicated number of LD (or E/BD) students, ages 5 and up, being served on December 1, 1981 by a district's total public and non-public enrollment.

Second, the percentage of LD students varies for reasons probably more related to differences in school district policy or practice than to differences in the characteristics of the student population. Eligibility criteria vary by district. Some districts have rather lenient criteria while others have more restrictive criteria. Some LD programs may serve some students with below average achievement who just need remedial help. Other programs may restrict LD services to students who have more severe learning problems, have achievement significantly below their ability, or evidence a processing deficit. These kinds of differences do not just occur at the district level. They may also occur within a district. Elementary schools with remedial programs, particularly the federally funded Title I programs, sometimes have a lower percentage of LD students than elementary schools without Title I resources. One suburban Twin Cities district recently studied its Title I and LD programs. The percentage of LD students in non-Title I elementary schools is nearly double that in Title I schools (6.5 percent compared to 3.3 percent). It is likely that the lack of Title I programs (or other remedial options) in some elementary schools puts pressure on teachers and administrators to use LD programs to serve students with remedial needs.

Third, these differences in school district policy and practice result in inequities in state funding of education. State categorical aids for special education pay for 70 percent of the cost of each special education teacher's salary. Those districts serving some students who may need remedial but not necessarily special education instruction benefit from these state aids, as well as federal aids. They do not need to spend as much money from local or other sources to provide remedial alternatives. They are providing that alternative, perhaps unintentionally, through LD programs. Districts that are more restrictive in making placements in LD programs will likely receive less state categorical aids for special education. Those districts will probably need to spend more local money on remedial alternatives if they choose to serve as many students as do districts with less restrictive LD placement policies.

Another problem is the potential harm to non-handicapped students who are labeled handicapped. The academic performance of students needing just remedial help may not be helped and may be hurt by placement in an LD program. The students may be told they have a disability that cannot be overcome. Students and teachers may then have lower expectations for student performance. As a result, academic performance may suffer. Researchers at the Chicago Institute for the Study of Learning Disabilities have found that students labeled LD were more likely than others to believe their academic failures were due to a lack of ability. Students not labeled LD were more likely than those labeled LD to attribute their failures to a lack of effort. These findings were even true for a group of LD students who were relatively successful in that they had completed high school and had been admitted to college. The research also indicates that students not labeled LD were more likely to increase their efforts on a task that was initially difficult. Students labeled LD were more likely to attribute their failure to the difficulty of the task or bad luck. Researchers stated: "It may be that this general pessimism leads the LD child to avoid new

challenges and to engage in maladaptive behavior rather than to risk failure or public disclosure."[22] Such findings tend to support the notion that labeling a student handicapped has a stigma that is counterproductive.

However, it could be argued that a student with remedial needs is better off in an LD program despite the stigma if no regular education remedial options are available. It is not known whether low-achieving students without remedial help have the same attitude problems that Chicago researchers found were typical of students labeled LD.

The remainder of this section examines the differences among Minnesota school districts in policies and practices concerning eligibility for LD programs. We also review recent research conducted nationwide on eligibility issues. Differences in policy and practices occur in two key areas: (1) eligibility criteria and (2) use and interpretation of tests.

a. Eligibility Criteria

One reason that criteria vary among school districts is that philosophical differences exist regarding who should be served by LD programs. Some districts require evidence of a learning process deficit and a discrepancy between ability and achievement. Other districts require an ability-achievement discrepancy but do not require any evidence of a learning process deficit. Still other districts require a discrepancy between achievement and the average achievement of one's same age or same grade peers but do not require an ability-achievement discrepancy or evidence of a processing deficit. Also, a few districts require students to have average intelligence or above to be eligible for LD services. Usually these districts believe IQ scores that exceed 85 or 90 indicate average intelligence or above.

Districts also vary in how they define and measure concepts such as process deficits and ability-achievement discrepancies. Variation occurs both in terms of the leniency of specific criteria and the quality of the specific criteria used. The number and type of students served by LD programs are greatly affected by how lenient or restrictive the criteria are, as well as by how concepts such as ability-achievement discrepancies or learning process deficits are measured.

Districts often do not have specific criteria for identifying process deficits because it is difficult to define and measure such deficits. The wide variation in LD incidence among districts whose criteria require evidence of a process deficit suggests that these districts use significantly different interpretations of this concept. Among these districts, LD incidence ranges from about one percent to rates well in excess of the statewide average.

Minnesota school districts use several different methods for measuring ability-achievement discrepancies. Most districts use age or grade equivalent scores--a practice that the professional literature says is unsound and the department's guideline handbook discourages.[23] Other commonly used methods include: (1) standard score comparisons and (2) a

method specifically developed for the Woodcock-Johnson Psycho-Educational Battery (resulting in operational definitions of "moderate deficits" and "severe deficits"). The standard score method is generally better than using age or grade equivalent scores. However, fewer districts use standard scores. Those that use the standard score method generally do not adjust for test reliability or for regression toward the mean as recommended in the professional literature.[24]

We found considerable variations among school districts in the size of the ability-achievement discrepancy required for a student to qualify for LD services. Among districts that measure ability-achievement discrepancies in terms of grade equivalent scores, some districts require that achievement be less than 50 percent of expected achievement while other districts use standards of 70 to 80 percent of expected achievement. Among districts that use the Woodcock-Johnson Psycho-Educational Battery's definitions of a discrepancy, some districts require one or more "moderate deficits", while others require a "severe deficit". There is also wide variation in criteria among districts that measure ability-achievement discrepancies in standard deviations. The criteria used by Minnesota districts ranges from two-thirds of a standard deviation to two standard deviations.

Some of the criteria used to determine whether an ability-achievement discrepancy is significant are too lenient. For example, it is generally considered appropriate to require at least a one standard deviation discrepancy between ability and achievement. Some states require even more than a one standard deviation difference. For example, the California State Department of Education requires a 1.5 standard deviation difference.

One major problem with using grade equivalent scores is that they vary in their leniency or restrictiveness by grade level and also by the tests used.[25] Also, criteria using a cutoff point of 70 to 80 percent of expected achievement are excessively lenient. In any event, grade equivalent scores should not be used.

There are also problems with using the moderate and severe deficit criteria often used by districts administering the Woodcock-Johnson Psycho-Educational Battery. For example, a moderate reading deficit for students with average aptitude is equivalent to a discrepancy of 1.07 standard deviations for a student at the end of the sixth grade but is equivalent to a discrepancy of only 0.53 standard deviations for a student at the beginning of the fourth grade. The Woodcock-Johnson deficit measures tend to be more lenient at the beginning of the school year than at the end of the school year. They are particularly lenient for beginning first and second graders in reading. The problem with the Woodcock-Johnson deficit measures is that they only partially recognize the effect of time in school on achievement. The deficits are measured by comparing expected achievement and actual achievement. Expected achievement is calculated on the basis of aptitude scores and grade level. However, the grade levels used in these calculations are imprecise. For example, expected reading achievement calculations treat all fourth, fifth, and sixth grade students alike, even though considerable progress in reading normally takes place between the fourth

and sixth grades. For any given reading aptitude score, the Woodcock-Johnson measures assume expected achievement is higher for fourth grade students than for third grade students but is the same for all fourth, fifth, and sixth grade students. As a result, expected achievement tends to be too high for fourth grade students and too low for sixth grade students. In terms of a discrepancy measured in standard deviations, the Woodcock-Johnson deficit measures are more lenient for beginning fourth graders than for sixth graders.

In some cases, the leniency of a district's criteria is reflected in the number of LD criteria used by the district. In one school we visited, students could be placed in LD if they: (1) had a discrepancy between ability and achievement, or (2) had achievement that lagged three years behind grade level, or (3) had a discrepancy between verbal IQ and performance IQ. Use of three separate criteria, rather than one or two, makes special education placement more likely.

It is important to note that districts do not always use the criteria they submitted to the Minnesota Department of Education. For example, one district we visited has criteria which require a learning process deficit for LD placement. In practice, the district usually does not document the existence of a process deficit. Another example is a cooperative that we visited. Although the cooperative submitted one set of criteria to the department, we found that the member districts of the cooperative had criteria or assessment practices that varied considerably. In addition, a number of districts and cooperatives submitted criteria to the department although they were not using the criteria and had not adopted any criteria. A few districts did not submit criteria to the department.

b. Use and Interpretation of Tests

Another area in which district practices vary is the use and interpretation of tests. Even with reasonable criteria, questionable placement decisions can be made if the decisions are based on tests that lack adequate reliability, validity, or norms.[26] While some districts use technically sound tests, others use inappropriate tests. For example, some school districts in Minnesota use the Wide Range Achievement Test (WRAT) to help determine whether a student is eligible for LD services in reading, arithmetic, or spelling. In two of the ten districts whose practices we examined in detail, it is the primary achievement test used to make placement decisions. While this test may have value as a screening device, the professional literature says the WRAT should not be used to make placement decisions because its norms are inadequate and it lacks evidence of reliability and validity.[27] Instead, placement decisions should be based on achievement tests which have demonstrated that they have substantial reliability and validity and have adequate norms. There are several such tests available for both reading and mathematics.

We also found that some school districts make LD eligibility decisions on the basis of inappropriate intelligence tests. For example, one of the ten districts we visited routinely uses the Slosson

Intelligence Test for making eligibility decisions. This test is not appropriate for making placement decisions because it does not adequately describe its norms and has only limited evidence of reliability and validity.[28] Another district frequently uses the Slosson Intelligence Test and the Peabody Picture Vocabulary Test to measure the ability of elementary school students referred to special education. The Peabody Picture Vocabulary Test is inappropriate for this purpose because it was not intended to be a measure of general intelligence.[29]

Another potential problem with assessment practices is the number of tests given to children. If a large number of ability and achievement tests are administered, one is more likely to find a large enough discrepancy between ability and achievement on any two of the tests to justify a placement. Some districts may choose to ignore contradictory evidence provided by the other tests. A study of assessment practices in Colorado found that an average of 6 to 7 tests per student were given during LD assessment.[30] The districts we examined in Minnesota did not generally give this many tests. However, one district we visited gave an average of seven or eight tests per student. In addition, many of the tests administered were of questionable quality. The results of any two of the tests were generally used to justify placement in an LD program even if contradictory evidence was provided by other tests. The district's indiscriminate use and interpretation of tests appeared to contribute to its higher than average LD incidence rate.

In addition, districts may also increase the likelihood of LD placements by systematically failing to consider certain test evidence. For example, one district that gives referred students two IQ tests has criteria requiring that the higher IQ be used when computing a discrepancy. Such criteria result in higher discrepancies and more LD placements. Professional literature discourages such a practice.[31] Instead, districts should use the score from the more appropriate test.

c. Discussion

It should be noted that the extent of problems with criteria and test use varies considerably from district to district. Some districts have used reasonably good eligibility criteria for some time. Others have not had criteria until recently. Some districts seem to make most placement decisions based on their stated criteria. Others will occasionally place students in an LD program even though criteria were not met. Some districts generally administer only those tests that meet professional standards, while others use tests that lack sufficient reliability or validity. Most districts administer a reasonable number of ability and achievement tests. Others administer too many tests and may place a student based on the results of two of the tests while ignoring contradictory evidence provided by the other test scores. Districts vary somewhat in how they compare ability and achievement. However, most use grade equivalent scores -- a practice that professional literature says is unsound and that the guideline handbook discourages.

Given such problems, one might ask why good placement decisions are not always made and who LD programs serve besides the learning disabled. In part, questionable eligibility decisions are made because school personnel are not always aware of appropriate ways to use and interpret tests. Consequently, there is a need for the Department of Education to work with school districts to improve eligibility criteria and assessment practices. However, a number of studies suggest that there are other reasons why eligibility decisions are not always based on professionally accepted methods. For example, in the guideline handbook, the State Department of Education suggests that the placement of students in LD programs may be influenced by a number of "political, financial, and practical considerations." The handbook lists a large number of factors that might influence placement decisions. Those factors can be grouped into four categories:

1. Regular education: The inability of regular education to meet the needs of students experiencing learning difficulties may result in LD programs serving low achieving students who are not learning disabled.

2. Remedial education programs: The lack of adequate remedial or compensatory education programs may mean LD programs are the only available alternative for low achieving students.

3. Service to other disabilities: The lack of special education programs for students with emotional/behavioral disorders (E/BD), the educable mentally retarded (EMR), or students with other handicaps may result in LD programs serving those students in some districts.

4. Influence from interested parties: Placement decisions may be influenced by pressure from parents or regular classroom teachers. Some LD teachers may be willing to accept any students experiencing some learning problems into LD programs.

In more general terms, it could be said that some regular and special educators see LD programs as: "(1) a service for any student not doing well in school, and (2) a way to solve broad programmatic, resource, and alternative needs within and across local districts and cooperatives."[32]

There is a variety of evidence that suggests LD placement decisions are influenced by these factors. The department's guideline handbook cites studies conducted in Colorado and Kansas. The Colorado study was based on both qualitative and quantitative in-depth reviews of a large sample of LD placements made in Colorado. The study found that at least 59 percent of students identified as learning disabled did not meet the legal or professional definitions of a learning disability. Based on the quantitative analysis of test data and clinical judgments, the study found that: (1) 32 percent had learning problems that were not due to a learning disability, (2) 17 percent were either normal or could not be classified because of insufficient testing of the students' ability or achievement, and (3) 10 percent would have been more appropriately identified as having other handicaps (emotionally disturbed, educable mentally retarded, or hearing impaired). Only 41 percent of

the LD students met LD definitions requiring either evidence of a significant discrepancy between ability and achievement or some clinical or test evidence of a processing deficit.[33] Based on a qualitative analysis of placement decisions, the study concluded that: (1) 60 percent of LD students need help from special education programs (including E/BD and EMR as well as LD programs), (2) 22 percent need help from other programs (such as remedial or compensatory education programs), and (3) 18 percent need no help other than that provided by regular education.

The Kansas study surveyed LD teachers' perceptions of the LD students they served. The teachers classified nearly 30 percent of their students as being non-learning disabled. They labeled approximately 20 percent as severely learning disabled and 50 percent as mild to moderately learning disabled. The authors of the Kansas study suggest that the high perceived prevalence of non-learning disabled students in LD classrooms may result because low achievers who are not LD are being identified as learning disabled. The lack of assessment tests and procedures that adequately distinguish between the truly learning disabled and other non-disabled low achievers may be the reason why this occurs.[34]

Perhaps the most extensive body of research conducted on LD eligibility decisions and assessment practices has come from the Institute for Research on Learning Disabilities (IRLD) at the University of Minnesota. The Minnesota institute is one of five such institutes that were funded by the federal government between 1977 and 1983 and the only institute that conducted extensive research on eligibility decisions and assessment practices.[35] The following conclusions were reached by researchers at the Minnesota IRLD:

> "The special education team decision-making process, as currently employed in public school settings, is at best inconsistent. Our efforts to document specifically what is happening in that process revealed some instances of what would be considered 'good practice.' However, in most instances, the process operated to verify problems first cited by teachers, and team efforts usually were directed toward . . . a 'search for pathology.'
>
> "Placement decisions made by teams of individuals have very little to do with the data collected on students. We were able to demonstrate that the decisions that are made are more a function of naturally occurring pupil characteristics than they are data based . . . We were able to demonstrate that sex, socioeconomic status, physical appearance, and reason for referral influence the decisions made by school personnel . . . Our other investigations indicate that availability of services and the power that a student's parents hold in the school system also influence school decisions.
>
> "Very many nonhandicapped students are being declared eligible for special education services. When we provided decision makers with test information about students and when all data indicated normal test performance, more than half of the de-

cision makers declared the normal student eligible for special education services.

"There currently is no defensible system for declaring students eligible for LD services. Given this, what we see happening is a series of efforts to increasingly sophisticate the assessment process (development of 'new' formulas, neuropsychological assessment, etc.).

"The identification of a student as learning disabled depends on what criteria are used. When we applied several commonly used definitions of LD to low-achieving students in regular classes, over three-fourths could be classified as LD by at least one definition. On the other hand, many school-identified LD students were not classified as LD by at least one criterion.

"At present, large numbers of students are failing to acquire academic and social skills. Some have been sorted out as eligible for learning disability services. Yet, there are no reliable psychometric differences between students labeled learning disabled and those simply considered low achievers.

"It is clear that the most important decision made in the entire assessment process is the decision by a regular classroom teacher to refer a student for assessment. Once a student is referred, there is a high probability that the student will be assessed and placed in special education.

"There are technically adequate norm-referenced tests that can be used to make decisions about students. For the most part, these are now restricted to the domains of intelligence and academic achievement. There are no technically adequate measures of specific processes and abilities. There are no technically adequate measures of personality. Most tests currently used in the psychoeducational decision-making process are technically inadequate.

"Those who advocate 'clinical judgment' in making eligibility decisions about students are going to have to rethink their position. Given profiles of scores on psychometric measures, we found that psychologists and special education teachers are able to differentiate between low-achieving students and students labeled learning disabled with only 50% accuracy. Naive judges, who had never had more than an introductory course in education or psychology, evidenced 75% accuracy."[36]

In summary, the Minnesota IRLD found that there are many problems in the way that LD eligibility decisions are actually made in our schools.[37] IRLD researchers found that it is not possible to distinguish on an individual basis between students now served by LD programs and low-achieving students not served on the basis of commonly used standardized tests. Both groups have one characteristic in common: low achievement. However, results from standardized tests measuring intellectual ability, academic achievement, processing abilities, self-

concept, and behavior problems do not permit one to distinguish between individuals from the two groups.[38]

The results of the IRLD research seem to be consistent with the Colorado and Kansas studies in one crucial aspect. All of the studies seem to indicate that LD programs are serving a substantial number of students who are probably not learning disabled. That is, they do not meet various legal and professional criteria for eligibility or, in the case of the Kansas study, are not perceived by their LD teachers to be learning disabled. Our review of actual placement decisions in Minnesota schools also confirms that incorrect labeling of students as LD is a problem. The problem exists to varying degrees in Minnesota school districts. Some schools and districts mislabel students as LD more than others.

The IRLD research adds a point that was not studied in either Colorado or Kansas. In particular, the IRLD found that there are low achieving students not receiving LD services who would qualify for service based on certain legal or professional criteria and the results of standardized tests. In fact, for a number of criteria and tests, the percentage of the low achieving group that would qualify for LD services was nearly equal to the percentage of students labeled LD that would qualify.

The IRLD findings certainly support the viewpoint that LD placement decisions have been made in an inconsistent and sometimes biased manner. However, these findings do not resolve whether schools have been: (1) labeling too many students as LD, (2) labeling too few students as LD, or (3) labeling some students as LD correctly and some incorrectly, as well as failing to identify some low achievers who are LD. Furthermore, it may not be clear what direction should be taken by our schools to correct present problems in identifying LD students. Should schools look for a significant discrepancy between ability and achievement but use the results of existing standardized tests in a more consistent, professional, and efficient manner? Should schools look for tests or procedures that might distinguish a handicapped low achiever from a non-handicapped low achiever?

More recent research from the Minnesota IRLD suggests that certain curriculum-based measures or tests may be more useful for making eligibility decisions than the standardized tests that are now so widely used.[39] Initially, IRLD researchers did not set out to develop new tests that might enable practitioners to make better eligibility decisions. Instead, they developed some curriculum-based tests of reading, spelling, written expression, and mathematics for use in monitoring student progress and evaluating the effectiveness of various instructional techniques. These curriculum-based tests offer several important advantages over existing ways of monitoring student progress. Because they are much quicker to administer, student progress can be measured several times per week rather than once or twice per year. Also, these curriculum-based tests are more sensitive to student progress than existing standardized tests. Finally, curriculum-based tests are more relevant for instructional planning than other tests.

After numerous studies, IRLD researchers also found considerable evidence that curriculum-based tests of reading, spelling, and written expression have substantial reliability and validity. Mathematics tests are also reliable but evidence on their validity is still pending. Curriculum-based reading tests have been criticized because they do not directly measure reading comprehension. However, IRLD research shows that curriculum-based reading tests are highly correlated with standardized tests of reading comprehension. This means that students with low reading comprehension scores tend to have low curriculum-based reading scores and that students with high comprehension scores tend to have high curriculum-based reading scores. An advantage of curriculum-based reading tests is that they reflect the content of a student's curriculum whereas standardized reading comprehension tests use material that may not be part of a student's curriculum. Thus, curriculum-based reading tests may represent a reasonably good indicator of reading comprehension. If a teacher believes that a student reads fluently but does not comprehend what is read, standardized reading comprehension tests can supplement the curriculum-based reading tests.

IRLD researchers subsequently found that curriculum-based tests also may be useful for referral and eligibility decisions. They found that students who have been labeled LD can be better distinguished from other low achieving students who have not been labeled LD by the use of curriculum-based tests.[40] In contrast, IRLD researchers found that standardized tests do a much poorer job of making this distinction. As a result, they concluded that curriculum-based tests may be useful for screening and assessment of potential LD students as well as for monitoring student progress and evaluating effectiveness.

IRLD researchers have suggested a number of reasons why students labeled LD and low achievers not labeled LD perform differently on these measures but not on more traditional standardized tests. First, curriculum-based measures include more test items than traditional achievement tests:

> "For example, the Woodcock-Johnson Achievement Battery Letter-Word Identification subtest allows the student to read 47 words at most. Not only is the number of items limited, but the items span a great difficulty range, starting at 'is' and reaching such words as 'puisne,' 'tricot,' 'kopje,' and 'pinochle.' By contrast, the words on the reading measure used in this study allow a student to read up to 140 words, all from approximately the same level of difficulty. This allows for more complete and representative sampling of the students' skills and more opportunities for correct responses. The measurement system is more sensitive to inter-individual differences and can more adequately differentiate between students of various proficiencies in a manner than has practical utility."[41]

Second, curriculum-based tests do a much better job of testing fluency or the rate of behavior than traditional tests. IRLD researchers point out that a variety of professionals of varying theoretical viewpoints believe that fluency or rate of responding plays a very

important role in academic performance. For example, non-fluent readers have poor reading comprehension. Very slow spellers and writers will have academic difficulties in school. Curriculum-based tests measure fluency better because a premium is placed on how many words are read, spelled, or written correctly in a very short period of time. In the reading test, the student reads aloud for only one minute. In spelling, the student is allowed up to three minutes to spell words dictated orally. The written expression test measures the number of correct words or letter sequences in a story written by the student during a three minute period.

Third, IRLD researchers suggest that these curriculum-based tests are direct measures of academic performance while standardized tests are indirect measures. Direct measures are perhaps more relevant to assessing academic performance and more likely to influence placement decisions.

IRLD researchers believe that curriculum-based tests offer other important advantages over traditional achievement tests.[42] Unlike traditional tests, curriculum-based tests are not very time consuming to administer. As a result, less time and money might be spent in determining eligibility and more time and money might be spent in determining appropriate instruction, providing instruction, and evaluating the effectiveness of instruction. Initial development of curriculum-based tests and training of teachers to administer them would require some additional start-up costs.

Also, because the tests are quick to administer, districts could administer the tests to more students than are now tested. Traditional achievement tests administered to students referred for special education assessment are not systematically administered to other students. Referral decisions could be improved because we would have a more systematic basis for referring students.

Most professionals agree that curriculum-based tests have much to offer as a means of monitoring student progress and evaluating instructional effectiveness. However, there is considerable controversy over their use in making eligibility decisions. Many practitioners and researchers believe that only students with a learning process deficit should be labeled learning disabled. They reason that a learning disability is not simply underachievement. They believe there should be evidence of a handicapping condition before a student is labeled learning disabled and served by special education programs. Some advocates of the process deficit viewpoint say that the Minnesota IRLD's findings are based on a small sample of school districts. They suggest that the finding that standardized tests do not distinguish between students labeled LD and low achievers who are not labeled LD is not valid for those districts that attempt to systematically document process deficits. According to process deficit advocates, the IRLD findings may be true for the small sample of districts examined by the IRLD because those districts do not pay any attention to documenting process deficits. They suggest that the IRLD findings would not have been the same in districts having a process deficit criterion. It is difficult to resolve this dispute, particularly since there are currently no reliable

and valid ways of measuring learning process deficits.

Another issue facing districts that use curriculum-based tests to make eligibility decisions is what type of norms to use--building norms, district norms, or multi-district norms. It would be difficult for curriculum-based tests to have statewide or national norms because there is so much variation in the curriculums used across the state and nation. If two schools do not teach students particular curriculum items at similar times, differences in performance may result from use of a curriculum-based test. These performance differences may reflect the differences in the two curriculums and not differences in achievement given the educational concepts presented. A student cannot be expected to spell a list of words that have not been taught yet. Consequently, it is necessary to develop norms for curriculum-based tests in schools with similar curriculums. An advantage of standardized intelligence and achievement tests is that their national norms allow one to compare a student with a representative sample of students across the nation. However, standardized tests may also favor certain curriculums. As a result, making eligibility decisions based on the national norms of standardized tests may also be problematic, although probably to a lesser degree than for curriculum-based tests.

Another factor that needs to be considered if curriculum-based tests are used is the size of the comparison group used to norm the tests. Since tests need to be normed by grade level, there may not be enough students in the comparison group if building norms are used. Similarly, use of district norms in a small school district may be undesirable because of the small number of students at each grade level. However, in order to develop and norm curriculum-based measures on a cooperative or multi-district basis, the districts involved may have to standardize their curriculums.

Finally, there is some question about what specific cutoff point should be used in deciding eligibility on the basis of a curriculum-based test. Some IRLD researchers have suggested that students who are two or more times discrepant from their peers be eligible for special education services. This means students whose scores are one-half or less than the average or median score of their peers would be eligible. Others have noted that this cutoff may identify too many students in the first and second grades. It should be noted, however, that this issue is not unique to curriculum-based measures. The more traditional method is to calculate the discrepancy between the grade level at which a student is achieving and the student's actual grade level or expected grade level based on ability. Alternatively, one can calculate the number of standard score points difference between a student's IQ score and achievement test score. There is no one right cutoff point for either of these more widely used methods, although research has shown some cutoffs to be rather questionable. Where a district actually sets the cutoff may depend on a philosophical viewpoint or on practical considerations such as the amount of funds available for LD programs and the number of students that would be eligible at various cutoff points.

3. SUMMARY OF PROPOSED STATE CRITERIA

Before we comment on the State Department of Education's draft entrance and exit criteria, it is necessary to summarize their key components. A complete copy of the department's criteria is provided in Appendix A.

a. Entrance Criteria

The guidelines require that the child study team assessing a student verify that each of the following four criteria are met:

1. There must be evidence of a significant academic deficiency relative to expectancy. (For example, there is a significant discrepancy between the student's actual achievement in reading, writing, spelling, or mathematics and expected achievement for that student.) In addition, the student is achieving at or above age/grade level in some academic areas.

2. There must be evidence that the student has average or better intellectual functioning.

3. There must be evidence that the student has a deficit in one or more of the essential verbal learning processes to an extent that specially designed educational techniques not reasonably provided by regular education are necessary for instruction.

4. Students with any of the following primary handicaps or conditions are not eligible for specific learning disabilities services: visually impaired, hearing impaired, physically impaired, emotional/behavioral disorders, environmental/cultural influences, or limited English proficiency. However, such students may be eligible if, after receiving appropriate programming to meet the special needs specific to their primary handicap or condition, there is reason to suspect a specific learning disability may also exist and the three above criteria are met.

The guidelines require that evidence relevant to these criteria be collected through each of the following means:

1. One or more tests of ability functioning (more commonly referred to as I.Q. tests);

2. A global achievement test that measures achievement in a wide range of areas (such as reading, writing, spelling, and mathematics);

3. An additional achievement test in each area of deficit indicated by the global achievement test;

4. Two confirming assessment procedures or tests in each area of suspected learning process deficit in order to confirm the existence of a learning process deficit;

5. Observation(s), interviews, and rating scales to confirm academic, learning process, and other problem areas; and

6. Diagnostic teaching (the guideline handbook recommends that diagnostic teaching be conducted on a 1:1 basis for a minimum of 30 minutes per day for a total of 10 days during the 30 day assessment period).

The assessment should also include a review of (1) all previous ability and achievement test results, (2) all previous health records as well as a new vision and hearing screening if none was conducted within 90 days prior to the referral for assessment, and (3) language proficiency, if the student has limited English proficiency.

The guidelines also require there to be a systematic pre-referral procedure. The most significant requirement is that a minimum of two specially designed and documented interventions must be applied in the regular education setting prior to referral. Only if these interventions do not "accommodate, modify, or resolve" the academic problems of concern can a referral for assessment be made. A knowledgeable team or person must determine that (1) the interventions have been documented, (2) the referral is complete (includes relevant educational and health records and relevant information on the student's current academic, social, physical, and emotional functioning levels), and (3) the reason(s) for referral concisely describe the areas in need of assessment.

A number of recommendations are contained in the 200-page handbook but not repeated in the ten pages of guideline criteria. Two of these recommendations are particularly worth noting because actual practice in schools differs greatly from what the department recommends. The first recommendation deals with how a significant discrepancy between ability and achievement should be computed. The department recommends that comparisons of ability level and achievement be based on equal measurement units (such as standard scores) and not on scores that lack equal intervals, such as age and grade equivalents, ratio IQs, and percentile ranks. The second recommendation deals with the type of service provided to a student immediately following a team decision that the student is learning disabled. The department recommends that an entering student initially receive LD services at Level IV for a minimum of four weeks. That means a student would receive LD services for more than half the school day. Both these recommendations are at odds with current practices in Minnesota. However, the first recommendation is based on sound professional research in the area of psychometric testing, while no professional support for the second recommendation is presented by the department. More will be said about these recommendations later in this chapter.

b. Criteria for Exit and Program Changes

The department guideline criteria also include a brief section on criteria to use when proposing to discontinue or change the LD instruction or services being provided to a student. Instruction and services may be discontinued when (1) it has been documented that a

student has achieved all individualized education program (IEP) goals and objectives and (2) it has been demonstrated during a trial period that the student can function in regular education programs without special education instruction or services. Also, LD instruction and services may be discontinued when a student has completed a secondary program and is eligible to graduate or when the student exceeds the age of 21. Instruction or services may be reduced if (1) data document a student's progress in the achievement of IEP goals and objectives, and (2) the student demonstrates the ability to function and progress adequately with reduced LD instruction and services. An increase or modification in instruction or services may be made if data demonstrate a student's lack of progress in achieving IEP goals and objectives.

c. Feasibility and Program/Fiscal Impact Report

As mandated by the 1982 Legislature, the department issued a report in February 1984 on the feasibility and the programmatic and fiscal impact of the draft guidelines. The department reported that the guidelines appear to be generally acceptable to those surveyed and feasible to implement. The department's report stated that every item in the guidelines was acceptable to a majority of those responding.[43] However, the report notes that two items were controversial: (1) the elimination of students of below average ability and (2) the requirement that a student must have a deficit in one or more of the essential verbal learning processes. Many persons also commented that the required diagnostic teaching and testing and the required interventions prior to referral might be too time consuming. If implemented, both would require extensive in-service training for both special and regular education staff.

Fiscal impact was addressed by asking special education directors how they thought the guideline criteria would affect the number of LD students and LD teachers in the future. Sixty-one (61) of the 103 directors responded. Forty-nine (49) percent of those responding thought the number of LD students would not change. Forty (40) percent projected a decrease and nine (9) percent an increase. Most directors, however, had difficulty in estimating the percentage of increase or decrease. According to the department, the range of increase was from 1 to 25 percent, while the range of decrease was from 1 to 50 percent. The most frequently mentioned decrease was 10 percent.

Seventy (70) percent of those responding projected no change in the number of LD teachers. Eighteen (18) percent thought the number of teachers needed would decrease, while six (6) percent projected an increase.

Based on the judgments of the responding directors, the department believes that the guideline criteria would result in some reductions in the number of LD students served. A reduction in staff might also occur but would be significantly smaller than any decrease in LD students.[44] While some reduction in staffing costs might occur, the department states that some increase in expenditures for in-service training for special and regular teachers and staff would probably be necessary. Additional in-service would be required to implement the

recommendations of pre-referral interventions and diagnostic teaching during assessment.

The department's report states that the LD guideline criteria "need more clarification of operational procedures as well as reconciliation of more controversial items than the Emotional/Behavioral Disorders Guidelines."[45] As a result, the report concludes that the ultimate fiscal impact of the LD guidelines cannot be accurately determined until procedures are clarified and controversial items are resolved.

d. Comparison with Federal Criteria

The proposed state criteria are different from those in federal regulations in two key respects. First, the state criteria require that there must be evidence that a student has a deficit in one or more of the essential verbal learning processes to an extent that special education is necessary. Federal criteria do not require evidence of a processing deficit. The State Department of Education included the processing deficit requirement because the department believes it is necessary to distinguish between those students who are truly handicapped and those who are underachievers but not handicapped. To emphasize this approach, the department has chosen to use the term "specific learning disabilities" or SLD, rather than learning disabilities (LD). The major controversy about such an approach is whether it is possible to make such a distinction.

Second, the proposed state criteria would exclude students of below average ability. Students with higher than average ability but average or better achievement could potentially be served. Students achieving well below average whose ability is slightly below average could not be served in a learning disabilities program. In contrast, federal criteria permit students of below average ability to be served provided there is a severe discrepancy between the student's ability and achievement. Neither federal nor state criteria describe how much lower achievement has to be compared with ability to constitute a severe or significant discrepancy. The department's rationale for excluding students of below average ability is not clear and will be discussed further in the next section.

4.. ANALYSIS OF PROPOSED STATE CRITERIA

The purpose of the guidelines is to assist districts in both "defining and serving" learning disabled students. This section analyzes how well the guideline criteria and handbook define learning disabilities. Part B of this chapter will examine the effectiveness of LD programs and the contribution of the guidelines toward better serving LD students.

In order to analyze the guideline criteria, it is necessary to ask what one should expect the guideline criteria and handbook to accomplish in terms of better defining LD students. We assume that the general goals of the guidelines should be: (1) to improve assessment

practices, thereby reducing over-identification of students as learning disabled; (2) to improve referral practices so that unnecessary costly assessments are not made and so that any learning disabled students not currently served are referred for assessment; and (3) in light of the cost of assessment, to make improvements in a cost-effective manner.[46] In making eligibility decisions, there are two types of errors that can be made. One is to label a student LD who is not learning disabled. That error would result in over-identification of students as LD. The second is to fail to refer and thus to not serve a student who is learning disabled and needs special education instruction. That type of error would result in under-identification. The goals outlined above suggest that it is important to minimize both types of errors and to accomplish this in a cost-effective manner.

More specifically, we assume the guideline criteria and handbook should achieve the following objectives:

- To provide a definition of learning disabilities and LD eligibility criteria that are both appropriate and capable of being implemented by a school district.

- To advise districts on the state of the art in assessment practices including the quality of tests that are used and appropriate ways to quantify and interpret relevant concepts such as processing deficits and discrepancies between ability and achievement.

- To assist districts by proposing cost-effective assessment methods and referral procedures.

In general, we believe that the guideline criteria and handbook represent a sincere effort by the Special Education Section of the Department of Education to better define learning disabilities and to advise districts on assessment practices. However, the guidelines fall short of meeting these goals and objectives. The shortcomings of the guidelines are as follows:

- The processing deficit approach used in the guideline criteria is very controversial and, given the state of the art, is of questionable practical use.

- The outright exclusion of students with below average ability is arbitrary and seems to be contradicted by advice given in the handbook.

- The criteria are not specific enough to be implemented by school districts.

- The department has not provided sufficient advice on how to use the processing deficit criterion properly. Advice on how to use the significant discrepancy criterion is better but needs some refinement.

- The department has not incorporated the work of the Minnesota Institute for Research on Learning Disabilities (IRLD). The

handbook does not mention the curriculum-based tests developed at the Minnesota IRLD and now used by several Minnesota school districts.

- The required diagnostic teaching during assessment is not explained sufficiently. Although diagnostic teaching would increase the costs of assessment, its benefits are not clear.

- The requirement of two documented pre-referral interventions is a good concept. However, little advice is given about the types of interventions that might be successful with different types of students.

- It is not clear how many tests and diagnostic procedures are required by the criteria. Overall, the criteria seem to require an increase in the resources expended during the assessment process. This could be undesirable because it would mean less resources available for instruction and services to learning disabled students. It would be desirable only if it significantly increased the accuracy of eligibility decisions.

- The exit criteria seem reasonable. However, the requirement that a student meet all IEP goals and objectives before leaving special education is vague since nothing is said in the handbook about how IEP goals and objectives should be set.

- Developing state criteria is useful but not sufficient for addressing the problem of poor assessment practices. Some state oversight of local district eligibility decisions is needed.

A number of these criticisms need further explanation and are examined below.

a. Lack of Specificity

The guidelines are not specific in two respects. First, the criteria themselves are very general and cannot be implemented by districts without further refinement. For example, the criteria do not specify how large a difference between ability and achievement must be in order for it to be a significant discrepancy. This leaves a great deal of room for interpretation. The criteria fail to establish a minimum discrepancy that must be documented. The criteria also do not define in operational terms what a processing deficit is and how it can be documented.

Second, the department has not provided sufficient advice on how to use the processing deficit criterion properly. The handbook provides little specific advice on how to operationalize the processing deficit concept. Several general approaches are discussed. However, these approaches are not critiqued and specific ways of using them properly are not explained. As we explained earlier in this chapter, there are problems with the way the processing criterion has been operationalized in the field. In particular, some criteria fail to distin-

guish LD students from normal students. The handbook notes that it is important to recognize this problem but provides insufficient specific advice on how to address the problem.

The handbook provides some sound advice on how to measure a discrepancy between ability and achievement. For example, the handbook recommends that standard scores be used instead of age or grade equivalent scores. It is also recommended that regression toward the mean be considered, although the department does not state how the concept of regression toward the mean should be considered. The handbook also provides some information on the adequacy of various IQ and achievement tests commonly used to assess students. However, the handbook does not state which tests should not be used when documenting a significant discrepancy. The handbook also does not state whether scores should be adjusted for measurement errors when calculating a discrepancy.

b. Processing Deficits and Alternative Approaches

The department has drafted criteria and a handbook that are strongly biased in favor of the use of a processing deficit approach to defining and serving LD students. The department has adopted the viewpoint that we must distinguish truly learning disabled students from low achieving students by determining which students have psychological processing deficits.

Unfortunately, the handbook does not discuss alternative viewpoints and does not seriously critique the processing viewpoint. The handbook has completely ignored the Minnesota IRLD's work on the use of curriculum-based tests in eligibility decisions. As discussed earlier in this chapter, the Minnesota IRLD's research suggests that curriculum-based tests may do a better job of distinguishing students currently labeled LD from low achieving students not labeled LD than standardized tests that are commonly used.

The processing viewpoint is very controversial. Some researchers and practitioners do not agree with the processing viewpoints. Others have shown that instructional methods based on the processing approach have failed to demonstrate that they are superior to normal instructional methods or direct, systematic methods that have been successful with low achievers who were not labeled LD. The most important criticism directed at the processing viewpoint is that there are no reliable and valid methods for determining whether a child has a processing deficit. Standardized tests are not valid enough to use.

The department's complete reliance on the processing approach has been criticized by a number of groups. The following is a sampling of comments submitted to the department:

(1) Minnesota School Psychologists Association

> "We view psychological process deficit definition of LD as quite problematic. While there can be no doubt that psychological processes are involved in learning, the current "state of the art" in theory, research, and associated measure-

ment technology are not ready for application in the field. Research is currently addressing the acquisition, modification, and training of learning strategies (McKinney, 1983), but no validated measures are available to the school practitioner. Several instruments assumed to measure psychological processes have proved unreliable and not valid for making predictions about underlying abilities (Salvia and Ysseldyke, 1978). Thus, a learning process deficit of LD, while philosophically appealing, is not the most useful for school practice.

We are also concerned that the concept of learning disabilities as intrinsic, "within" child deficits of a relatively permanent nature, as suggested in the Guidelines, is inconsistent with current psychological theory. It also continues a labeling system that has negative consequence for students, in terms of expectations of self and others (Hobbs, 1975). Using ecological concepts of learning and development, i.e., the locus of a learning problem is in the interaction between child characteristics and the attributes of the educational environment (including home, classroom and instruction), would be less stigmatizing and more functional in planning interventions (Senf, 1981; Ysseldyke, et al, 1983)."

. . .

"We are disappointed (and, as taxpayers, rather upset) that much of the research and development work of the University of Minnesota Institute for Research on Learning Disabilities was not reviewed. The curriculum-based assessment technology, field tested in several Minnesota school districts, has been validated for use in making screening, identification, and program evaluation decisions (Ysseldyke, et al, 1983). Most importantly, it offers special education teachers efficient procedures to monitor student progress on IEP goals and objectives and the effectiveness of individualized instruction.

We recommend that districts be allowed, if not encouraged, to adopt a discrepancy model based on deviation between a student's basic skills performance and those of the educational peer group. The rejection of such a model on the basis of its potential (but not necessary) application as a non-categorical model of special education is, in our view, short-sighted. Given the lack of differentiation between effective instructional and behavioral intervention strategies on the basis of LD vs. mild EMR categorical distinctions, we must ask why there is not more leadership and support from the State Department of Education for non-categorical and cross-categorical models of service delivery to mildly handicapped learners?"[47]

(2) Department of Educational Psychology, University of Minnesota

> "The parts of the guidelines most troublesome to this group are those dealing with 'learning process functioning.' While we recognize that there are many people who believe in the importance to learning disabilities of various perceptual and psychological processing functions, at present, there is no substantial evidence to show that a) those functions can be reliably measured for individual children or b) that any educational treatment based on the belief they exist has been demonstrated to be as effective as normal instructional procedures. For these reasons we believe it unwise to encourage educators and psychologists to pursue that avenue of assessment, as is done in sections 5.2e and 6.2c."[48]

(3) Special Education Advisory Council (SEAC)

> "The guidelines were developed on the premise that Learning Disabilities is a processing deficit. SEAC generally supported that this may be one way to address the LD category. However, SEAC generally supported that the guidelines should be expanded to include other options. SEAC did not reach consensus that the LD category should be based on process dysfunction as the only option."[49]

The department's support for the processing approach is particularly troubling since little specific advice is provided on how to apply this approach. The department suggests the use of a recently developed screening instrument, the "Minnesota Review of Observations for Learning Disabilities (Experimental Edition)". However, even the department acknowledges that this instrument has not been adequately field tested. The department advises districts to use "extreme caution" in interpreting scores for individual students. Caution is needed because the instrument has not been shown to adequately differentiate individual students by category (LD, EMR, E/BD, low achievers who are not LD, and normal). In light of the difficulties in operationalizing the process concept, we believe it is premature for the state department to endorse this approach to the exclusion of all other approaches.

c. Students with Below Average Ability

The department's criteria exclude students with below average ability from service by LD programs. The criteria do not define below average ability. Some people believe this excludes students with IQ scores of less than 100, where 100 is the average. Others believe that the department intends to exclude students with IQs less than 90. The latter interpretation would exclude approximately one-fourth of all students from consideration.

In any event, the outright exclusion of students with below average ability can be criticized from a number of perspectives. First, it does not make sense to exclude someone with below average ability if they meet the other criteria. Second, the department recommends the use

of regression toward the mean analysis. Regression analysis acknowledges the fact that students who score low on IQ tests tend not to score as much below average on achievement tests as they do on IQ tests. Criteria that do not incorporate regression toward the mean assume that a student's expected achievement is just as much below average as the student's IQ score. As a result, too few students with low IQs qualify for LD programs because their achievement scores tend to be higher than their IQ scores. Similarly, too many students with high IQs qualify. Regression analysis corrects for this tendency. Consequently, with regression analysis, more students with low IQs have a significant discrepancy and qualify for services. It seems contradictory for the department to recommend use of regression analysis and, at the same time, exclude students with below average ability.

Third, IQ tests can be criticized because they measure previous learning and not a person's true ability. Thus, a learning disabled student may score low on ability (or IQ) tests as well as on achievement tests. Such a student would not qualify for services because the IQ test indicates the student has below average ability and because the test data do not indicate a significant discrepancy between ability and achievement. It can be argued, however, that the student may be learning disabled. The IQ test may be a poor measure of the student's true ability. A similar point was made by the Minnesota School Psychologists Association in response to the department's criteria:

> "Since intelligence tests measure previous learning as well as predicting academic performance, and ability estimates are lowered both by the effects of learning disabilities and poverty, it is wrong to exclude students with low average ability from consideration. In fact, the reliability with which LD students can be differentiated from low achievers has been seriously questioned (Ysseldyke, Algozzine, Shinn & McGue, 1982). Given the problems in assessment of adaptive behavior and variability in achievement patterns, the distinction between LD and mild retardation is difficult enough. Children's development of cognitive, behavioral, social and motivational competence for learning in school must be viewed on a continuum, rather than as a set of somehow discontinuous subgroups defined by IQ range. To expect school psychologists to differentiate those students whose instructional experience has maximized their rate of learning from those whose rate and efficiency could improve, given more intensive instruction, is asking the impossible. The technical and practical problems of differentiating the 'true slow learners' are every bit as complex and difficult as identifying LD students."[50]

The latter argument is also a reason for using an achievement criterion that compares a student's achievement level to that of the student's educational peers rather than to the student's measured IQ. Since IQ tests measure previous learning, it can be argued that the measurement of a discrepancy between ability and achievement will not enable one to distinguish learning disabled students from non-learning

disabled students. Consequently, it may be appropriate to use curriculum-based tests or other achievement tests to determine eligibility for LD services. The lowest achievers would qualify for service.

d. Recommendations

There is quite frankly no one best set of criteria to use in determining who should be eligible for LD programs. Some, like the department, feel that documenting a processing deficit must be one of the criteria. Yet, currently there are no reliable and valid methods for implementing the processing approach. Others believe that the use of an ability-achievement discrepancy concept without the processing criterion is desirable. However, we know that IQ tests may not be perfect measures of a student's true ability. Consequently, still others advocate the use of an achievement discrepancy model based on the deviation between a student's achievement and that of the student's peers. The use of curriculum-based tests is one of the ways to implement an achievement discrepancy approach. However, curriculum-based tests lack national norms. As a result, one should be careful when deciding how large an achievement discrepancy must be to constitute evidence of a learning disability. Unless one considers how a district ranks nationally on standardized achievement tests, the use of curriculum-based tests and local norms could result in districts with above average achievement nationally placing a similar percentage of students in LD programs as districts that have average or below average achievement nationally. For example, a student achieving significantly below local peers in a high achieving district may be an average achiever in other Minnesota districts with average achievement nationally. Curriculum-based tests do not uniquely have this problem. Current assessment practices have probably also resulted in this type of inequity in some districts.

In light of these difficulties, we recommend that:

- The Department of Education should include other options besides the processing approach in its guideline criteria. One of these options should be the use of curriculum-based tests.

Even though the department has not endorsed the curriculum-based testing approach, we believe it is necessary for the department to review the ways in which it is being implemented. We believe curriculum-based tests have a number of advantages for use in referral and eligibility decisions, as well as in monitoring student progress and evaluating program effectiveness. However, there are a number of potential problems with their use in referral and eligibility decisions. Several districts have implemented curriculum-based tests and others are considering their use or planning to use them. Because the department does not plan to prohibit their use in eligibility decisions by state rule, it is important for the department to provide constructive leadership and guidance on how best to use curriculum-based tests as assessment instruments.

We also recommend the following:

- For each option, the department should provide criteria that are specific and operational.

- The department should also provide specific advice on how best to measure and interpret relevant concepts such as processing deficits, significant discrepancies, and cutoff points used in curriculum-based options.

- The department should re-examine the requirement of diagnostic teaching. The concept needs to be clarified and its benefits need to be examined in light of its costs.

- The department should clarify how many tests and procedures are required by its criteria. Examples of the kinds of testing required would be helpful.

- The department should assist districts by providing advice on the type of pre-referral interventions that might be successful.

- The department should clarify the intent of the exit criteria regarding the relationship between program exit and how IEP goals and objectives are set.

Finally, we recommend that:

- The department should more actively review (1) local district criteria and (2) local district practices.

Most districts have submitted LD eligibility criteria to the state for review and comment. The department has asked districts for criteria that "RUMBA." This means that criteria should be: (1) relevant to the disorder, (2) understandable, (3) measurable, (4) behavioral, and (5) achievable. This year the department will review the quality of district LD criteria for those districts who desire a quality review. Because the review is optional, those districts who disagree with the department's proposed criteria may not ask for a review. Also, other districts whose criteria need review may not request a review.

Ultimately, we believe the department should review the quality of the criteria submitted by all districts. However, since we recommend that the department provide districts with options other than the one in its proposed guidelines, it would be desirable to review the criteria before a full quality review is undertaken.

Review of local district practices should be a priority of the department. We found that some Minnesota districts employ criteria far different from those they submitted to the Department of Education. We also found that some districts do not have criteria but submitted criteria to the department because the submission was required. Thus, a state review of submitted district criteria does not guarantee appropriate assessment practices.

Most important, we found that some districts fail to use good tests in the assessment process, interpret tests improperly, or administer too many tests. Regardless of the approach one favors in determining LD eligibility, these practices should be avoided. Consequently, we recommend that monitoring of local district assessment practices begin as soon as possible. This could be done as part of the department's annual monitoring and compliance reviews.

B. EFFECTIVENESS

This section deals with the effectiveness of programs for the learning disabled and the adequacy of the guideline handbook for use in serving LD students. In the handbook, the department makes some general recommendations and suggestions regarding LD service delivery. The handbook recommends that all LD students initially receive Level 4 services for a minimum of four weeks. This means students initially placed in an LD program would be in special education classes more than 50 percent of the school day. The department recommends the use of diagnostic teaching during the assessment period, because current assessment methods provide little information that is useful in planning instructional services for students once they are placed in LD programs. The handbook recommends that special education time not be used for tutoring content area subjects, particularly at the secondary level. The handbook also comments on the need for some flexibility in service delivery.

The handbook suggests that it is important to measure the progress of students and evaluate the effectiveness of LD programs. The handbook recommends that each local school district form an in-service team because the LD field is changing at a fast pace. The in-service teams should address issues such as identification procedures, skills needed to conduct assessments, instructional and teaching strategies, service delivery models, and program evaluation. The handbook also raises the possibility that districts may want a peer assistance team to help them develop or redesign eligibility criteria or to provide suggestions on service delivery.

Unfortunately, very little specific advice is provided on how to serve LD students better. Little is said about particular teaching methods and strategies. The work of the five federally funded institutes for research on learning disabilities is not presented, even though each of the five institutes did considerable development of and research on teaching methods or other means of improving the performance of LD students.

It is unclear what teaching methods the department endorses. Some have assumed that, because the department has endorsed the processing approach to determining LD eligibility, the department also favors use of the teaching methods often advocated by supporters of the processing viewpoint. These methods include, but are not limited to, training weak abilities or, alternatively, compensating for weak abili-

ties by working through stronger abilities. The effectiveness of these approaches has been criticized in the profession.[51] An alternative viewpoint is that direct or systematic instructional techniques work as well or better with LD students as these processing methods. Direct methods also work well with low achieving students in need of remedial instruction. Indeed, successful instruction methods developed at the five national institutes appear to be systematic instructional methods and not the more traditional processing methods.

The department never directly endorses the processing methods for use in instructing all LD students. In fact, there are some comments in the handbook that indicate a different position. For example, the handbook suggests using normal instructional methods before trying other techniques. It is never quite clear what the department recommends because so little attention is devoted to the subject of instructional methods and techniques.

The department's brief discussion of services at the secondary level would have benefited from a complete discussion of the research done at the University of Kansas Institute for Research in Learning Disabilities. Then, the department would have been able to suggest some specific instructional methods and curriculum components for secondary LD students. The methods developed at the Kansas institute are directed at improving the secondary LD student's general learning skills. The methods thus free the special education teacher from the need to tutor LD students in content area subjects.

We disagree with one of the department's more specific service recommendations. The recommendation that all LD students be initially placed at Level 4 is not supported by any strong evidence, would be extremely costly, and is in conflict with the principle of maintaining the least restrictive environment for handicapped students. In addition, we have found little support for this recommendation among special education directors and teachers. We agree with the department's observation that LD services in some districts may not be flexible enough. Sometimes only Level 3 services are provided. However, we do not believe it is wise to move entirely in this one direction just because more flexibility is desirable.

We also believe the department needs to re-examine the role that diagnostic teaching should play. The department recommends that diagnostic teaching take place during the assessment process and that it contribute to the eligibility decision. A total of 10 days of one-to-one diagnostic teaching for a minimum of 30 minutes per day is recommended. It is not clear, however, how diagnostic teaching should affect the eligibility decision and whether the technique is reliable and valid--qualities that the profession expects from other tests and procedures used during assessment. It is also suggested by the department that the results of diagnostic teaching would be helpful if the child study team later determines that a student is eligible for LD services. This is because the assessment process currently provides little information for the special education teacher regarding the instructional needs of the student. We think that this latter reason is not a good

reason for conducting extensive diagnostic teaching during the assessment process. It may be a reason for conducting diagnostic teaching after the assessment process has determined the student is eligible. However, the department should consider whether other options such as curriculum-based tests would be as helpful in determining instructional needs while also reducing the costs involved.

The department's comments and suggestions on evaluation, in-service teams, and peer assistance teams are useful. However, we recommend that the department assume a much larger role in ensuring that districts monitor student progress, evaluate LD programs, and implement teaching strategies that have proven to be successful.

Currently, very few districts evaluate LD programs in a systematic fashion. Even measuring the progress of individual students needs improvement. We found that attention to monitoring progress varies by teacher, by school, and by district. Some staff pay more attention to developing IEP goals and objectives than to documenting whether goals are met. A few districts employ curriculum-based tests for monitoring progress and measuring effectiveness. Since each of these tests can be administered in just one to three minutes, progress can be monitored weekly or even more frequently if desired. Most districts use standardized achievement tests or informal observation to monitor progress. However, since standardized tests take longer to administer, they are administered infrequently, ranging from twice per year to once every three years. Also, standardized achievement tests are less sensitive in measuring student progress than are curriculum-based tests. The results of these standardized tests are consequently less useful for monitoring progress and evaluation and do not give teachers adequate feedback for evaluating instructional techniques. Informal observations can be made more frequently than standardized tests can be administered but are less accurate and objective than curriculum-based tests in measuring student progress.[52]

Monitoring student progress on an ongoing basis using curriculum-based tests requires some initial costs for developing the tests and training staff. There are also some recurring costs for measuring and evaluating student progress. However, evidence suggests that the investment in curriculum-based tests produces significant benefits. IRLD researchers found that students make better progress when frequent data-based progress measurement is used than when only teacher observation is used.[53] Studies of curriculum-based reading and spelling tests show that pupils tested on a daily basis progress more rapidly than pupils tested on a weekly basis.[54] Teachers require little training to measure performance. The classroom time required to carry out measurement procedures can be negligible, although somewhat more training time is required for teachers to make instructional decisions based on student data.[55]. Overall, curriculum-based tests show considerable promise for monitoring student progress and evaluating effectiveness.

In general, it is fair to state that there is insufficient measurement of student progress and outcomes in our schools. We strongly believe that the department should play a larger role in promoting

greater monitoring and evaluation and in advising districts on ways to accomplish these objectives. It concerns us that the department did not discuss curriculum-based tests in the handbook, since these tests offer great potential for improving monitoring and evaluation. We recommend that the Department of Education assist districts by providing guidance in the following areas:

- Suggestion of possible outcome measures. It is not necessary for all districts to use the same measures for learning disabled students. However, the department could suggest various outcome measure options and thus facilitate district use of outcome measures.

- Assistance in the interpretation of results. Once districts develop outcome measures, standards for "effective" service may not be readily apparent. The department should facilitate inter-district sharing of results and help districts explore the implications of these measures for program modification.

- Dissemination of what is known about "best practice". Special education researchers produce an ongoing stream of articles and studies, more than most districts can keep up with. The department should point districts to worthwhile findings in the field. For example, the department could familiarize districts with findings of the various institutes for research on learning disabilities, findings that may be too extensive and inaccessible for a single district to obtain.

The State Department of Education cannot fully respond to these recommendations without the assistance of others. The department's Special Education Section is limited by the number of staff it has and the staff's capabilities. Special education practitioners, who would implement measurement of student outcomes, should have considerable input into the choice of evaluation models and measures for monitoring student progress. The department should also solicit the contributions of university researchers, advocacy groups, and other interested parties. By including a variety of perspectives in the development process, the department would encourage creative and practical approaches to emerge. The department has used a committee process to develop guideline eligibility criteria. The department could use a similar process to address the issue of effective service delivery.

It should be noted that the Department of Education has taken some steps to address the issue of effectiveness. Last year the department prepared a document entitled "The Effectiveness of Special Education". That document reviews some literature on effectiveness for several disabilities and concludes that more work on effectiveness is needed. It does not address the concerns mentioned above. More important, the department will use $200,000 in federal discretionary funds in the coming fiscal year to fund proposals from school districts and universities. Those proposals now under final consideration are interesting and varied. Some of them address issues concerning services to LD students.

The department's solicitation of effectiveness studies is encouraging and commendable. However, the intensive study of effec-

tiveness in a small number of districts on a limited number of topics is no substitute for ongoing district effectiveness monitoring. Concern for effectiveness should be routine and should contribute to day-to-day program operations. While we believe there is a need for further study and evaluation of LD service issues, there is a critical need to act now on the basis of what already has been studied and shown to be successful by other researchers.

A final issue is the need for a broader continuum of services for low achieving students, including those served by learning disabilities programs, Title I remedial programs, and regular education. Earlier it was observed that LD programs in some districts serve as a resource to address broad programmatic needs within schools. LD programs sometimes serve students with remedial education needs whose placement in LD programs is questionable. The likely impact of the department's guideline criteria and our own recommendations is that fewer students would be served by LD programs. Already there are students not being served by special education programs whose remedial needs are not being addressed by regular education or remedial program options.[56] Tightening LD eligibility criteria will likely increase the number of students whose needs are not met by regular education. Federal cuts in funding for Title I programs also reduce the capacity of schools to address the needs of all its students.

There is a need for the Department of Education, local school districts, and the Legislature to consider how schools can best meet the needs of low achieving students. We do not believe a new categorical program is needed. Schools already have a difficult enough time classifying students. We need to examine ways in which existing resources can be better utilized.

One such option is the Adaptive Learning Environments Model (ALEM). The ALEM approach utilizes existing special education teachers (LD and/or EMR teachers) and Title I staff (teachers and aides) within the regular classroom. Service is still delivered in special education resource rooms to those students who need additional help. The advantages of this approach include: (1) special education teachers work directly with regular classroom teachers to plan appropriate instruction for learning disabled and mildly mentally retarded students; (2) the morale of handicapped students may be improved by mainstreaming and this may improve their performance; (3) more efficient use of categorical staff results; and (4) categorical staff can help the classroom teacher address the learning problems of students who are not yet classified as LD--such action may prevent the need to later classify a low achieving student as learning disabled.

Currently, some variations of the ALEM approach are used in the Montevideo, Chisago Lakes, and North Branch school districts. The ALEM approach seems better suited to use in elementary schools. The Evaluation Section of the Department of Education has evaluated these three programs and found them to be very successful overall. Some problems were noted and some data were inconclusive. However, in general, the programs have been successfully implemented and well received.

One concern that could be raised about the ALEM approach is a potential inequity in state funding. If some districts use state special education aids to, in part, provide some service for non-learning disabled students, is this fair to other districts that use local funds to support remedial or compensatory education programs? Of course, there are already inequities in special education funding because of differences in the way districts determine who is eligible for special education service. We do not believe this is sufficient reason to constrain the use of the ALEM approach. The ALEM approach has many advantages that should not be overlooked. However, we note that there is the potential for fiscal abuse in this approach just as there already is in more traditional approaches.

We recommend that the Legislature, Department of Education, and local school districts, in addressing the issue of LD eligibility, also address the need for a broader continuum of services to low achieving students in Minnesota schools. The Legislature may also wish to consider ways of reducing fiscal inequities among districts. One way would be to cap the funds a district could receive for services to LD students. Such a policy may not work because schools might find ways to classify students as speech/language impaired, educable mentally re--tarded, or emotionally/behaviorally disturbed instead of learning disabled. In any event, we suggest that districts be permitted to use the ALEM approach because of its demonstrated benefits.

FOOTNOTES, CHAPTER II

[1]Kaskowitz, David H. Validation of State Counts of Handicapped Children, Volume II -- Estimation of the Number of Handicapped Children in Each State. Menlo Park, Calif.: Stanford Research Institute, July 1977.

[2]Laws of Minnesota (1982), Ch. 548, Art. 3, Sec. 29.

[3]The history of learning disabilities is summarized in Lerner, J., Learning Disabilities: Theories, Diagnosis, and Teaching Strategies, 3rd Edition, Boston: Houghton Mifflin Co., 1981.

[4]34 CFR §300.533, and 34 CFR §300.542.

[5]Lerner, J., Learning Disabilities: Theories, Diagnosis, and Teaching Strategies; Salvia, J., and Ysseldyke, J., Assessment in Special and Remedial Education, 2nd Edition, Boston: Houghton Mifflin Co., 1981; and Siegel, G., "The Use of Language Tests," Language, Speech and Hearing Services in Schools, October 1975, pp. 211-217.

[6]Cone, T., and Wilson, L., "Quantifying a Severe Discrepancy: A Critical Analysis," Learning Disability Quarterly, Vol. 4, Fall 1981, pp. 359-371.

[7]Ibid.

[8]Ibid.

[9]Iowa Department of Public Instruction, Special Education Division, The Identification of Pupils with Learning Disabilities, August 1981.

[10]Kaufmann, A. J., Intelligent Testing with the WISC-R, New York: John Wiley and Sons, 1979, pp. 11-12.

[11]Ibid.

[12]Ibid., pp. 4-5.

[13]Algozzine, B., Ysseldyke, J., "An Analysis of Difference Score Reliabilities on Three Measures with a Sample of Low-Achieving Youngsters," Psychology in the Schools, 18, 1981, pp. 133-138.

[14]Lerner, J., pp. 170-171.

[15]Arter, J., & Jenkins, J., "Differential Diagnosis-Prescriptive Teaching: A Critical Appraisal," Review of Educational Research, 1979, 49, pp. 517-555, and Salvia, J., and Ysseldyke, J., Assessment in Special and Remedial Education.

[16]Torgessen, J., "What Shall We Do with Psychological Processes?", Journal of Learning Disabilities, Volume 12, Number 8, October 1979, p. 18.

[17]Kaufmann, A. S., Intelligent Testing with the WISC-R.

[18]Senf, G., "Issues Surrounding the Diagnosis of Learning Disabilities: Child Handicap versus Failure of the Child-School Interaction," in Kratochwill, T., Advances in School Psychology, Hillsdale, N.J.: Erlbaum, Lawrence Associates, Inc., 1981.

[19]Evidence that direct instruction is effective for socially and economically disadvantaged children is contained in Haring, N., and Bateman, B., Teaching the Learning Disabled Child, New Jersey, Prentice-Hall, Inc., 1977, pp. 165-202. Evidence that direct instruction is effective for children identified as learning disabled is contained in a summary of research conducted by the Columbia Institute for Research on Learning Disabilities: Connor, F., "Improving School Instruction for Learning Disabled Children: The Teachers College Institute", Exceptional Children Quarterly, 4:1, 1983, pp. 23-43.

[20]Haring, N., and Bateman, B., pp. 138-200.

[21]All these figures include only students whose primary disability is a learning disability. Students who receive LD instruction or services but whose primary disability is other than a learning disability are not included.

[22]Bryan, T., Pearl, R., Donahue, M., Bryan, J., and Pflaum, S., "The Chicago Institute for the Study of Learning Disabilities," Exceptional Education Quarterly, 4:1, 1983, pp. 1-22.

[23]Cone and Wilson, pp. 164-169.

[24]Ibid., pp. 170-173.

[25]Ibid., pp. 164-169.

[26]See the following sources for ratings of the more commonly used tests in LD assessment:

Salvia, J., and Ysseldyke, J., Assessment in Special and Remedial Education, Boston: Houghton Mifflin, 1981; Thurlow, M., and Ysseldyke, J., "Current Assessment and Decision-making Practices in Model LD Programs," Learning Disability Quarterly, 1979, 2, pp. 15-241; and Shepard, L., and Smith, M., Evaluation of the Identification of Perceptual-Communicative Disorders in Colorado, Laboratory of Educational Research, University of Colorado, 1981, pp. 65-80.

[27]Salvia and Ysseldyke, pp. 174-176.

[28]Ibid., pp. 266-267.

[29]Ibid., pp. 276-279.

[30]Shepard and Smith, p. 61.

[31]Hanna, G., Dyck, N., Holen, M., "Objective Analysis of

Achievement-Aptitude Discrepancies in LD Classification," Learning Disability Quarterly, p. 35, Volume 2, Fall 1979.

[32]See Minnesota Department of Education, Guideline Handbook: For Defining and Serving Students with Specific Learning Disabilities, Fall 1983, pp. 46-47.

[33]Shepard and Smith, p. 129. In their quantitative analysis, the authors of the Colorado study were very careful in defining a significant discrepancy between ability and achievement. However, they did not attempt to judge the adequacy of the evidence of processing deficits that child study teams used in making placement decisions. They acknowledge that for some of the 41 percent of LD students that they called LD, there may not have been adequate evidence of a processing deficit. In fact, in the qualitative analysis of decisions, they conclude that only 26 percent of LD students are truly learning disabled (p. 134).

[34]DeLoach, T., Earl, J., Brown, B., Poplin, M., & Warner, M., "LD Teachers' Perceptions of Severely Learning Disabled Students," Learning Disabilities Quarterly, 4, 1981, pp. 343-358.

[35]Researchers from the other four IRLDs (University of Illinois at Chicago, Columbia University, University of Kansas, and University of Virginia) did not address eligibility questions or devise new tests for use in determining eligibility. Their research focused on developing methods and strategies for improving the academic performance of those currently labeled LD.

[36]Ysseldyke, J., Thurlow, M., Graden, J., Wesson, C., Algozzine, B., and Deno, S., "Generalizations from Five Years of Research on Assessment and Decision Making: The University of Minnesota Institute," Exceptional Education Quarterly, 4:1, 1983, pp. 75-89.

[37]Minnesota IRLD research was conducted in Minnesota as well as a number of other states.

[38]Ysseldyke, J. E., Algozzine, B., Shinn, M., and McGue, M., "Similarities and Differences Between Underachievers and Students Classified Learning Disabled," Journal of Special Education, 1982, 16:1, pp. 73-85.

[39]Ysseldyke, Thurlow, Graden, Wesson, Algozzine, and Deno, pp. 82-89.

[40]See Shinn, M., Ysseldyke, J., Deno, S., and Tindal, G., "A Comparison of Psychometric and Functional Differences Between Students Labeled Learning Disabled and Low Achieving," Minnesota IRLD Research Report No. 71, March 1982, and Deno, S., Marston, D., Shinn, M., and Tindal, G., "Oral Fluency: A Simple Datum for Scaling Reading Disability," Minnesota IRLD.

[41]Shinn, Ysseldyke, Deno, and Tindal, p. 17.

[42]Ibid, pp. 20-21.

[43]This is somewhat misleading. Respondents to the survey were not asked to state which of the four entrance criteria were acceptable and which were not. They were only asked if the four criteria as a group were acceptable. As a result, it is not known whether a majority favored each of the criteria.

[44]The Feasibility, Program and Fiscal Impact of Draft Guidelines for Students with Specific Learning Disabilities and for Students with Emotional/Behavioral Disorders, Minnesota Department of Education, February 1984, pp. 52-53.

[45]Ibid., Executive Summary, p. 3.

[46]In their report on Colorado assessment practices, Shepard and Smith found that the average cost of an LD assessment was approximately the same as the cost of serving one student for one year.

[47]Letter to Carolyn Elliot, Minnesota Department of Education, from Lionel Blatchley, Ph.D., President, Minnesota School Psychologists Association (MSPA) on behalf of subcommittee of the Executive Board of the MSPA, November 29, 1983.

[48]Letter to Wayne Erickson, Minnesota Department of Education, from Bruce Balow, Ph.D., on behalf of professors Stanley Deno, Maynard Reynolds, Virginia Walter, Frank Wood, and James Ysseldyke, Department of Educational Psychology, University of Minnesota, November 10, 1983.

[49]Presentation to State Board of Education by Ken Runbery, Chairperson, Special Education Advisory Council, on behalf of SEAC Executive Committee, January 16, 1984.

[50]Letter from MSPA, November 29, 1983.

[51]For example, see Arter and Jenkins.

[52]Fuchs, L., Mirkin, P., Deno, S., Marston, D., and Tindal, G., Considerations for Designing a Continuous Evaluation System: An Integrative Review (Monograph No. 20), Minneapolis: University of Minnesota, Institute for Research on Learning Disabilities, 1982.

[53]Ysseldyke, Thurlow, Graden, Wesson, Algozzine, and Deno, p. 84.

[54]Ysseldyke, J., Thurlow, M., and Christenson, S., "Evaluation Research: An Integrative Summary of Findings," Research Report No. 144, University of Minnesota, Institute for Research on Learning Disabilities, September 1983, pp. 25, 32.

[55]Ysseldyke, Thurlow, Graden, Wesson, Algozzine, and Deno, pp. 84-86.

[56]Students with Unmet Needs: An Answer, Minnesota Department of Education, 1983.

III. EMOTIONAL AND BEHAVIORAL DISORDERS

The history of special education services to emotionally and behaviorally disordered children is a relatively short one. Experimental programs for emotionally disturbed students were funded by the National Institute of Mental Health in 1961. At that time, school instruction for this population was a rather radical notion. Ten years later, only one-fifth of all states had special education programs for the emotionally disturbed.[1] P.L. 94-142 introduced a legal mandate for service provision in 1975, establishing the category "seriously emotionally disturbed". This chapter addresses the current state of services for emotional/behavioral disorders (E/BD) in Minnesota, seven years after the national mandate took effect.

A. DEFINITION PROBLEMS

The "seriously emotionally disturbed" category was the only one to which Congress attached the adjective "seriously" in 1975. Federal regulations define "seriously emotionally disturbed" as:

> ". . . a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree, which adversely affects educational performance: (a) an inability to learn which cannot be explained by intellectual, sensory, or health factors; (b) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers; (c) inappropriate types of behavior or feelings under normal circumstances; (d) a general pervasive mood of unhappiness or depression; or (e) a tendency to develop physical symptoms or fears associated with personal or school problems."

An additional clause says that this definition "does not include children who are socially maladjusted, unless it is determined that they are seriously emotionally disturbed". This clause is a source of confusion and ambiguity because it appears to contradict (b) of the definition.

Minnesota Statutes §120.03, Subd. 3 uses different terminology to describe this handicap:

> "Every child who by reason of an emotional disturbance, or a learning disability, or a special behavior problem needs special instruction and services, but who is educable, as determined by the standards of the state board is a handicapped child."

Unlike the federal definition, the word "seriously" is absent from Minnesota's definition. Furthermore, Minnesota's term "special behavior

problem" is a term not used in the federal language. While item (c) of the federal definition describes students with inappropriate behavior, no distinction is drawn in P.L. 94-142 between children who are "emotionally disturbed" and those with "behavior problems". Thus, Minnesota statutes appear to define a category of handicapped children not defined by P.L. 94-142: children with behavior problems who are not emotionally disturbed. Neither state statute nor the Department of Education's newly proposed E/BD guidelines further differentiate between students who are emotionally disturbed and those with behavior problems. In Minnesota, these two populations are served under the rubric of a single categorical heading, emotional/behavioral disorders (E/BD). Although school district services to these populations may vary, no formal distinction between them is drawn at the state level. Ironically, the department's E/BD guidelines define an emotional/behavioral disorder in the same way as the federal government defines a serious emotional disturbance.

The problem of definition is one that pervades the E/BD field. No professional consensus on a definition of the handicap exists. The academic literature in the E/BD field not only reflects this professional ambiguity, it contributes to it. The terms "emotionally disturbed" and "behaviorally disordered" are often used interchangeably. E/BD studies in education and psychology literature frequently fail to adequately describe the children studied or the criteria by which the sample children were labeled E/BD. As a result, studies cannot be replicated, and generalizations cannot be made to other populations.[2]

Overall, the E/BD definitions used by governments, professionals, and researchers have historically offered little guidance to those charged with serving the E/BD population. Most other handicaps can be defined, in part, by quantitative criteria or developmental benchmarks. Emotion is difficult to measure, and emotional disturbances are difficult to describe in words. Moreover, beliefs about what constitutes "deviant" behavior vary from one school district to the next. Lacking better operational E/BD definitions, school districts will undoubtedly identify students inconsistently and considerable variation by district in the percentage of students served will likely occur.

B. PREVALENCE ESTIMATES

Prevalence rates are estimates of the expected number of persons with a given handicap in a population. Clearly, the prevalence of emotional and behavioral disorders is directly related to the definition one accepts of the handicapping condition. As noted, E/BD definitions are ambiguous, raising doubts about the prevalence estimates many studies have produced. In general, E/BD prevalence estimates vary in accordance with these variables:

1) Who estimated the prevalence. Service providers tend to give high estimates, administrators tend to give low estimates. Teachers, who see children over a long period of time, report

prevalence in the 15 to 30 percent range.[3] On the other hand, the U.S. Office of Education's original prevalence estimate of 2 percent was based on a survey of principals.

2) Type of disorder analyzed. Estimates for behavior problems tend to be higher than those for emotional disturbances. One review of the literature suggests that 20 to 30 percent of children have transient behavior problems, while 2 to 3 percent have more serious, persistent disorders.[4]

3) Time span of the prevalence estimate. Estimates of E/BD prevalence over the course of students' school careers are obviously higher than estimates of prevalence at a single point in time. One study of students in over 200 Minnesota school districts showed that 60 percent of the children were rated by teachers as "behavior problems" in at least one of the six years they were studied. In any one year, 23 to 31 percent were deemed "behavior problems."[5]

While the Department of Education's E/BD Guideline Handbook does not endorse specific prevalence rates, the handbook does seem to favor studies that place prevalence in the 6 to 10 percent range. Our survey of the literature found no consensus on prevalence in this range, and evidence contradicting such rates for severe disorders certainly exists. By drawing attention to the variety of estimates, we hope to prevent undue faith from being placed in any given prevalence estimate. Our interviews with school district personnel show that many are seeking guidance for their newly-founded E/BD programs, including guidance on "appropriate" prevalence rates. Given the E/BD definition problems, the stigmatizing effect of the E/BD label, and past experience in other disability areas, caution and professionalism should guide districts, not artificial prevalence rates.

C. EXISTING E/BD SERVICES

Even the most conservative prevalence estimates are higher than the unduplicated number of E/BD students served in the majority of Minnesota's school districts. Statewide, 0.86 percent of Minnesota's public and private student enrollment receive primary E/BD services (December 1, 1983 unduplicated count). However, this represents a significant increase over the December 1, 1982 rate of 0.73 percent, the 1981 rate of 0.61 percent, and the 1980 rate of 0.53 percent. If students who have other primary disabilities but also receive E/BD services are counted, then the percentage of students receiving E/BD services is probably close to one percent.

The one percent incidence rate is still less than the 1.2 to 2.0 percent prevalence estimate made by the Stanford Research Institute for the United States Department of Education. However, the current incidence rate in Minnesota is very close to the average national incidence rate. To compare Minnesota to the national average, it is neces-

sary to calculate the rate as a percentage of public enrollment only. Minnesota's December 1, 1982 rate was 0.82 percent of public enrollment, only slightly below the national average of 0.88 percent. Minnesota's rate was the 23rd highest of the 50 states. Minnesota's December 1, 1983 rate is 0.95 percent of public enrollment. The 1983 rate is above the previous year's national average. The 1983 national average will not be available until later this year.

Males comprise three-fourths of Minnesota's E/BD population. Fifteen percent of Minnesota's E/BD students are minority children. The E/BD incidence rate for minorities is approximately two-and-one-half times that for white students.

The December 1982 unduplicated child count shows that 197 school districts have no students identified as E/BD. These districts represent school populations of 127,634, or an average enrollment of 648 per district. While many of these districts are small districts, several are quite large. Table 21 lists the ten largest school districts with no more than one E/BD student.

The fact that many districts list no E/BD students in their unduplicated count does not necessarily mean that students with emotional and behavior problems receive no special education in these districts. It is not unusual for E/BD students to be served in other disability areas. A study of Minnesota, North Dakota and South Dakota school districts reveals that some districts serve E/BD children with learning disabilities teachers more than with E/BD staff. The study found this to be especially true in rural areas. Rural districts tend to employ teachers licensed in the learning disabilities (LD) or educable mentally retarded (EMR) areas more often than E/BD licensed teachers to serve emotionally disturbed children.[6]

The placement of E/BD students in LD programs results, in part, from the service delivery model endorsed by the state in years past. Classes for "specific learning and behavior problems" (SLBP) formerly addressed the needs of LD and E/BD students in a single setting. While these student labels are now separate, state rules still classify E/BD teacher licenses as one type of special learning disabilities license (5 MCAR §3.090G). A second reason for LD placements of E/BD children is the statewide shortage of E/BD teachers. Table 22 shows the distribution of E/BD licensed staff in Minnesota by region. Our interviews also suggested that some teachers may be reluctant to seek licensure in a field where the student population is disruptive and difficult to manage.

There is no clear evidence to suggest that E/BD children must necessarily be served separately from LD students. Even in districts with average or higher E/BD incidence, some E/BD programming is indistinguishable from LD programming. Particularly for "behavior problem" students, the focus of E/BD classes is often academic. Instruction is one form of behavior management, and the services many behavior problem students receive in LD resource rooms may be appropriate. There are some problems with an LD-based service delivery model, however. First, as LD entrance criteria around the state become more refined, E/BD

TABLE 21

LARGE SCHOOL DISTRICTS WITH VERY FEW E/BD STUDENTS
December 1, 1981 and December 1, 1983*

District	Enrollment	Unduplicated E/BD Count
December 1, 1981:		
Hibbing	4,309	0
Little Falls	3,946	0
Fergus Falls	3,226	0
Detroit Lakes	3,114	0
Hutchinson	3,014	1
Lake Superior	2,966	1
International Falls	2,825	1
Princeton	2,778	0
Sauk Rapids	2,603	1
Cold Spring	2,540	0
December 1, 1983:		
Little Falls	4,590	0
Fergus Falls	3,190	1
Princeton	2,731	0
Cold Spring	2,391	0
Chisago Lakes	2,106	1
Park Rapids	2,006	1
Crookston	1,973	0
Melrose	1,937	0
Foley	1,804	1
Milaca	1,763	0

Source: Minnesota Department of Education.

*This list includes the ten largest school districts in the state that had no more than one E/BD student (ages 3 to 21) as of December 1, 1981 and December 1, 1983.

TABLE 22

LICENSED E/BD TEACHERS BY REGION
Fiscal Year 1982

Region	Enrollment	E/BD FTE	Enrollment Per FTE
1	20,513	2.4	8,692
2	14,220	2.0	7,146
3	66,777	36.9	1,808
4	35,831	5.2	6,851
5	28,895	0.0	--
6	34,687	19.8	1,755
7	75,224	8.0	9,403
8	28,021	1.3	20,756
9	46,958	7.7	6,098
10	76,450	30.5	2,505
11	391,706	212.6	1,842
STATE	819,282	326.4	2,510

Source: Department of Education.

students could be excluded from LD service. E/BD children may not meet more specific, academically-oriented LD criteria. Second, students referred for disruptive behavior in the mainstream may prove no less disruptive in an LD room. Unless the low student-teacher ratio of the LD setting allows for more effective behavior management, E/BD students may interfere with the instruction of LD children. Most importantly, many LD teachers are not trained to meet the needs of children with more severe emotional/behavioral disorders. Teachers unable to diagnose subtle emotional problems and unfamiliar with proper intervention strategies cannot provide appropriate education to severely disturbed children.

In contrast to those districts with few E/BD services, some districts are noteworthy for their high incidence. Table 23 lists the ten districts with the highest percentage of E/BD students among school districts with enrollments of 700 or more students.

It is not necessarily true that districts with high incidence rates serve significantly more severely disturbed children than districts with average incidence. The difference between high and average incidence districts often appears to be one of philosophy. High incidence districts appear to serve more "behavior problems" (i.e., aggressive, disruptive children) in special education than other districts. Many districts with average incidence resist placing the E/BD label on students with behavior problems whenever possible.

Districts of varying incidence levels share common problems in addressing the needs of "emotionally disturbed" children (withdrawn children with intra-personal problems). There is general agreement that too few of these students are identified. Classroom teachers typically refer children to special education who "act out," not children who are quiet and inwardly-troubled. Furthermore, special education teachers have greater difficulty designing appropriate instruction for emotionally disturbed children than for children with behavior problems.

D. REGIONAL E/BD FACILITATORS

In 1980, auditors from the United States Department of Education identified the lack of E/BD programs and E/BD students in certain districts outside the Twin Cities metropolitan area as a problem needing the Minnesota Department of Education's attention. The lack of programs in northern Minnesota, outside of Duluth, was particularly noted. In response, the Minnesota Department of Education is presently using federal discretionary money to fund regional E/BD facilitators based in the nine ECSUs. Over a two year period, facilitators are supposed to: (1) increase school district awareness of E/BD needs, (2) assist districts and cooperatives in planning and program development, (3) improve interagency coordination in E/BD service delivery, (4) expand E/BD staff development opportunities, and (5) provide ongoing assistance to the state in data collection, state plan development and other activities.

To help districts and special education cooperatives plan

TABLE 23

DISTRICTS WITH HIGH E/BD INCIDENCE RATES
December 1, 1981 and December 1, 1983[a]

District	Enrollment	Unduplicated E/BD Incidence Rate
December 1, 1981:		
Cook County	756	2.65%[b]
Richfield	5,725	1.97
Duluth	16,470	1.82
Minneapolis	48,843	1.72
Roseville	9,368	1.70
Montevideo	1,674	1.55
St. Francis	4,143	1.45
Hopkins	10,316	1.44
St. Paul	45,723	1.39
Morris	1,291	1.39[b]
December 1, 1983:		
Cook County	702	2.85%
Hopkins	7,514	2.84
Onamia	794	2.65
Duluth	15,570	2.52
Westonka	2,952	2.13
Minneapolis	47,554	2.07
Wayzata	6,963	1.97
Richfield	6,111	1.88
Carlton	856	1.87
Belle Plaine	1,022	1.86

Source: Minnesota Department of Education.

[a]This table includes only school districts with enrollment greater than 700. Some of the districts shown are part of special education cooperatives. Incidence is calculated by dividing the number of students identified as E/BD in a district by total public and private enrollment in the district.

[b]These districts had no licensed E/BD teachers as of December 1, 1981. Data are not yet available for the 1983-84 school year.

programs, facilitators are employing the "Johnson-Gadberry model," developed by two St. Cloud State University professors. The model is designed to be a "roadmap" for building service delivery systems for the severely handicapped. The Johnson-Gadberry model forces special educators to explicitly consider program philosophy, trends, professional standards, and other issues before designing specific service structures.

The facilitators were hired during the fall of 1983 and have begun to help several cooperatives through the early program planning stages for E/BD services. Facilitators are emphasizing preventative measures in mainstream classrooms as a means of avoiding special class placement, where possible. In addition, service delivery alternatives such as the following are being considered by facilitators: in-service training for regular classroom teachers, greater use of management aides in the mainstream, service to E/BD children in LD/EMR settings with E/BD staff support, and greater roles for existing staff such as psychologists, counselors and social workers.

The facilitator approach adopted by the department has promise but its success is hardly guaranteed. The lack of licensed E/BD teachers is a major impediment to improved services. Qualified staff are especially critical to the needs of severely disturbed children, the students who now are often overlooked in E/BD identification. Also, the lack of support for creating E/BD programs and the reluctance to use the E/BD label may, in some districts, be difficult to change. The facilitators and the ECSUs can make suggestions to member school districts but cannot force them to make changes. Moreover, E/BD needs may be too great for facilitators to handle in the next two years. Some facilitators are focusing their efforts on certain cooperatives, while other cooperatives wait their turn.

Already, some of the facilitators acknowledge the limited agenda that can be accomplished in two years. They see themselves providing broad frameworks, not planning for intervention strategies. Because the burden of specific service designs remains with individual districts, districts without an existing E/BD program will need to educate themselves. Both districts and facilitators expressed a desire for more information from the Minnesota Department of Education on E/BD program alternatives and intervention strategies in our interviews with them.

E. E/BD GUIDELINES

The 1982 Minnesota Legislature required the Minnesota Department of Education to develop and field test guidelines for defining and serving learning disabled students, emotionally disturbed students, and students with special learning behavior problems. The latter two categories are addressed in the "Guideline Handbook for Defining and Serving Students with Emotional/Behavioral Disorders," published by the Department of Education in 1983. The stated purpose of the handbook is to provide guidelines for defining and serving students with emotional/behavioral disorders.

1. ENTRANCE CRITERIA

Appendix B includes the two pilot definitions and criteria offered in the E/BD guidelines. "Option Two" differs from "Option One" in that it lists examples of characteristic behaviors for each of five behavior criteria. The five behavior criteria are identical to those in the federal definition of "seriously emotionally disturbed." In order for a student to qualify for E/BD services, a child study team must verify a problem in one of these five behavior areas. Also, the team must document that at least two previous interventions were attempted in the school setting. The child's condition must occur in more than one school setting and must greatly interfere with the student's academic/social/emotional growth or that of the child's peers. Finally, the child study team must show that the student's condition is chronic (continuing over a long period of time) and intense (characterized by high frequency, long duration, and/or high strength). Neither "chronic" nor "intense" is further defined by the guidelines. The handbook's appendices include several "behavior checklists" and a "Degree of Severity Worksheet," but there are no specific instructions for interpretation of these tools.

In addition to the pilot definitions and criteria, the handbook offers other entrance guidelines. At least two professionals are to conduct the assessment, one of which must be a teacher or specialist in the area of suspected disability. The handbook recommends not employing strict application of the definition/criteria to children under five. For other students, all five elements of the definition/criteria must be met for the student to be placed in E/BD services. This will require the child study team to document:

1. the numbers and types of interventions/modifications tried;

2. the chronic nature, rate (frequency), duration, and intensity of behavior clearly inappropriate with normal development and/or the student's peer group;

3. the behavior's negative impact (interference) on the student's educational functioning in light of the student's past or estimated potential for learning and expected behavior performance;

4. the behavior's negative impact (interference) on other student's academic/social/emotional growth; and

5. information from a variety of sources including aptitude and achievement tests, teacher observations/recommendations, physical condition, social or cultural background, and adaptive behavior.

According to the handbook, not all "troublesome" students require E/BD services. Behaviors exhibited only in school may be evidence of a discipline problem, not a handicap. Problems related to normal growth and development, transient problems and situational problems are not handicaps, according to the handbook.

2. EXIT OR PROGRAM CHANGE CRITERIA

These guideline criteria are the same for E/BD as they are for LD. Students may exit an E/BD program when (1) data document that all individualized education program (IEP) goals and objectives are met and (2) it is demonstrated during a trial period that the student can function in regular education without special education instruction or services. Also, E/BD instruction and services may be discontinued when a student completes a secondary program and is eligible to graduate or when the student exceeds the age of 21. Instruction or services may be reduced if (1) data document a student's progress in the achievement of IEP goals and objectives, and (2) the student demonstrates the ability to function and progress adequately with reduced E/BD instruction and services. An increase or modification in instruction or services may be made if data demonstrate a student's lack of progress in achieving IEP goals and objectives.

3. PROGRAM SERVICES

Most of the guideline handbook deals with E/BD student identification and placement. The portion of the handbook that examines program options for E/BD students is brief.

The handbook recognizes the need for districts to develop a range of services for students with either "troublesome" or disordered behavior. Ideas for these services may come from models already in use. According to the guidelines:

> "Across the state and nation a variety of E/BD program models have been developed for utilization in public school settings. Districts and cooperatives are encouraged to review these and other models to determine their potential for full or modified theoretical and/or implementation adoption."[7]

However, while several specific program models are mentioned in the handbook, only two are discussed at length.[8] The other models, from Minnesota or elsewhere, are not explained, critiqued or referenced. The handbook refers readers to a single publication that reviews 30 current model demonstration programs for E/BD pupils. Districts are expected to develop their programs based on the philosophy and goals they establish.

4. FEASIBILITY AND PROGRAM/FISCAL IMPACT REPORT

In accordance with 1982 legislation, the department issued a report in February 1984 on the feasibility and programmatic and fiscal impact of the draft guidelines. The department's report stated that most of those surveyed found the guidelines useful and feasible to implement. The survey revealed no major feasibility issues raised by districts.

Regarding program impact, several concerns were raised by those responding to the survey. Problem areas included: (1) the lack of certified E/BD professionals, (2) district unwillingness to classify students as E/BD, (3) lack of administrative commitment to initiate E/BD

services for a few students, and (4) the need for in-service training of regular education teachers and administrators. While these problems appear to affect E/BD program impact, the department report concludes that "the Draft Guidelines do not appear to cause any major problem in themselves."

An overall increase of 2,100 E/BD students is projected, with most of the increase accounted for by students not now served in special education. While this large increase would probably require more E/BD staff, not many new E/BD teachers are available. An alternative would be to upgrade the skills of existing LD or EMR staff. The report also does not estimate the increase in staff and transportation costs, although the report says increases will occur.

5. CONCLUSIONS AND RECOMMENDATIONS

Overall, we believe the department's eligibility criteria are a slight improvement over the existing federal definition. In part, the department is simply using the federal definition. The department has added the requirement that at least two planned and documented interventions be attempted before a student is labeled E/BD and placed in an E/BD program. If these interventions do not improve the student's condition or behavior, then an E/BD placement may be made if all other criteria are met. The department has also added the requirement that the condition or behavior must occur in more than one setting under school jurisdiction. This means, for example, that more than one teacher and staff member would have to have observed the student and verified that the behavior occurred. In addition, Option Two is somewhat helpful because it lists various types of behavior that may be indicative of a problem.

However, the guideline criteria and handbook have two shortcomings. First, the state's guideline criteria leave much room for district interpretation. For example, the frequency and duration of behaviors that justify special education placement are not specified. Also, little advice is provided on the type of pre-referral interventions that may be successful for different types of students and may help to avoid the need to make E/BD placements. Finally, as we observed in the previous chapter, the exit criteria are ambiguous because the handbook says nothing about how IEP goals should be written. Overall, we view the eligibility criteria as a step forward from previous definitions that existed. However, the criteria will need to be operationalized in order for districts to use them.

Second, the handbook is less helpful in providing service guidelines for districts than it is in providing eligibility guidelines. Certainly, the state cannot select specific intervention models for districts to use with specific students. Districts need to creatively select intervention strategies to help the wide variety of E/BD children that exist. However, we are concerned about the lack of program guidance in the handbook. Since the districts most in need of E/BD assistance do not have E/BD teachers, we cannot assume that such districts will be able to draw on the training and experience of existing staff.

While the regional E/BD facilitators may be helpful in this regard, both districts and facilitators are looking to the department to provide more guidance and assistance. Districts want to make their own final decisions about who to serve and how to serve them. But, we believe districts are both looking for and need greater assistance and information to help them make these decisions.

Consequently, we make the following recommendations:

- The State Department of Education should draft more specific eligibility criteria for districts' consideration.

- The State Department of Education should provide more specific guidance on instruments to use during the assessment process.

- The State Department of Education should provide more information and assistance to local school districts and E/BD facilitators on program options and successful intervention strategies. In part, this means a greater dissemination of information to districts on an ongoing basis.

We recognize that there will be some difficulties in accomplishing these objectives. The Special Education Section has limited resources. Also, the literature in the E/BD field has some shortcomings.[9] However, we believe it is important to address these concerns.

FOOTNOTES, CHAPTER III

[1]Rhodes, W., and Paul, J., Emotionally Disturbed and Deviant Children: New Views and Approaches, 1978, p. 9.

[2]Balow, B., "Definitional and Prevalence Problems in Behavior Disorders of Children," School Psychology Digest, 1979, 8, pp. 349-50.

[3]Ibid., p. 351.

[4]Wood, F., and Zabel, R., "Making Sense of Reports on the Incidence of Behavior Disorders/Emotional Disturbance in School-Aged Populations," Psychology in the Schools, January 1978, p. 49.

[5]Rubin, R., and Balow, B., "Prevalence of Teacher Identified Behavior Problems: A Longitudinal Study," Exceptional Children, October 1978, pp. 102-11.

[6]Beare, P., and Lynch, E., "Rural Area Emotional Disturbance Service Delivery: Problems and Future Directions," Behavioral Disorders, August 1983, pp. 251-57.

[7]Guideline Handbook for Defining and Serving Students with Emotional/Behavioral Disorders, Minnesota Department of Education, 1983, p. 31.

[8]The handbook's appendices contain articles on the Teacher Assistance Team (TAT) model and a technique called "timeout." TAT teams within school buildings seek creative interventions for problem students in the regular classroom. "Timeout" is an isolation technique for management of disruptive behavior.

[9]Grosenick, J., and Huntze, S., National Needs Analysis in Behavior Disorders, July 1983, pp. 20-21.

IV. OTHER ISSUES

This chapter addresses a number of special education issues. First, we examine services to those with speech/language disorders. Second, issues relating to low incidence disabilities and the severely handicapped are reviewed. Third, early childhood special education programs are examined. Finally, we address some problems that have occurred with out-of-home placements in licensed residential facilities.

A. SPEECH/LANGUAGE SERVICES

The speech/language category includes a wide variety of handicaps. They are: articulation problems, language disorders, stuttering (or fluency) problems, and voice problems. Articulation and language disorders are generally the most common speech/language problems and are discussed later in this section. Stutterers represent small portions of speech/language clinician caseloads. Clinicians also address children's voice problems, although voice disorders also represent a small percentage of speech cases. Voice therapy is given to pupils with nasality, hoarseness or loud voices, breathiness, or inappropriate pitch. Altogether, disorders of articulation, language, stuttering (or fluency), and voice have one thing in common: they inhibit effective communication. One often-cited definition suggests that handicapped speech is so deviant from others' speech that it calls attention to itself, interferes with communication or causes the speaker to be maladjusted.[1]

The Special Education Section will be issuing speech/language guidelines in the spring of 1984. Because of this, it is difficult for us, at this time, to assess the value of the state's guidance to local districts. We must therefore reserve judgment on specific issues related to student identification for speech/language services, choosing instead to express some broad concerns.

1. INCIDENCE

Fiscal year 1983 data show that 2.37 percent of Minnesota's public and private school enrollment are primarily speech/language impaired. The fiscal year 1983 duplicated count shows that 4.07 percent of those enrolled in Minnesota schools receive some speech/language services. The duplicated speech/language count is important since many speech impaired students have primary disabilities in areas other than speech. For example, mentally retarded and cerebral palsied children tend to have a higher than average prevalence of speech problems.

In the past, the United States Department of Education has suggested that students may be underserved in certain disabilities, including speech/language. The department drew this conclusion by comparing national unduplicated child counts with a range of prevalence

rates. Such comparisons showed speech services at the lower end of the speech prevalence range. This is deceiving, however, since prevalence estimates probably are based on duplicated counts of handicapping conditions.[2] Table 14 in Chapter I shows that the Stanford Research Institute's prevalence estimates range from 2.4 percent to 4.0 percent. Minnesota's duplicated incidence rate is slightly higher than the upper end of this range. Since Minnesota's unduplicated incidence is less than the national average, the duplicated incidence rate nationwide may also be higher than the upper end of the prevalence range. This appears to indicate that there may be some over-identification of students in this category both in Minnesota and elsewhere.

In Minnesota, unduplicated incidence rates in the speech/language category vary by district from zero percent to about 10 percent. Duplicated incidence rates vary from zero percent to about 14 percent. Table 24 lists the Minnesota school districts and special education cooperatives with the highest unduplicated incidence rates in the speech/language category. Table 25 lists districts and cooperatives with the lowest incidence rates. The range of incidence rates in these two tables is less than that stated above for three reasons. First, only districts and cooperatives with enrollment of 750 or more students were included in the tables. Second, data for December 1, 1981 were tabulated by cooperative. As a result, the high incidence rates of some districts that belong to cooperatives are not reflected in the tables. Third, data for December 1, 1981 exclude pre-schoolers below age 5 who are served.

Incidence figures such as those cited above are of limited usefulness for gaining insight into the type of speech/language services provided. These percentages do not reveal the mix of services delivered by speech clinicians. For example, there are no data on the percentage of students receiving articulation therapy in Minnesota. There are no statewide data on the percentage of students with articulation, language, voice and stuttering problems. Districts are not required to submit such breakdowns to either the state or federal government. Interviews with special education directors and speech clinicians provided only limited insight into the composition of speech/language services in various districts. The Department of Education faces these same problems when trying to make sense of district and statewide incidence figures.

2. ARTICULATION DISORDERS

Articulation errors are of three types: omissions, substitution errors, and distortions. Omissions occur when certain sounds or syllables are left out of words. Substitution errors include those of children who say "wabbit" for "rabbit" or "fumb" for "thumb." Distortions are more likely to persist into adulthood. Commonly distorted sounds include "s," "z" and "ch."

More is probably known about articulation problems than about any other speech/language disorder. Much of this knowledge stems from research done during the years when articulation problems were the

TABLE 24

DISTRICTS AND COOPERATIVES WITH HIGH SPEECH/LANGUAGE INCIDENCE RATES
December 1, 1981 and December 1, 1983

District/Cooperative	Public and Private Enrollment	Unduplicated Incidence Rate	Duplicated Incidence Rate
December 1, 1981:[a]			
Montevideo Cooperative	10,352	4.05%	4.67%
LeSueur	1,350	3.85	2.89
St. Louis County	2,998	3.64	3.97
Tri-County Cooperative	5,055	3.46	4.09
Cook County	756	3.44	7.41
Little Crow Cooperative	13,420	3.41	4.82
Bemidji Regional Cooperative	7,799	3.40	3.23
St. Clair Cooperative	920	3.37	4.35
Detroit Lakes	3,114	3.34	5.17
Roseau	1,643	3.34	2.95
Northwest Regional Cooperative	2,871	2.89[b]	5.92
December 1,1983:[c]			
Redlake	921	8.36%	
Bagley	1,350	6.67	
Cass Lake	776	6.57	
Waubun	804	5.85	
Montgomery-Lonsdale	1,369	5.48	
Springfield	760	5.26	
Eden Valley-Watkins	1,013	5.04	

Source: Minnesota Department of Education.

[a]Includes only individual districts and special education cooperatives with enrollments over 750. Districts shown here are ranked on the basis of their unduplicated incidence rates. Handicapped children below age 5 were not included in these rates.

[b]Unduplicated count increased to 4.71 percent on December 1, 1982 and 5.17 percent on December 1, 1983.

[c]The individual school districts listed have Minnesota's highest unduplicated speech/language incidence rates among districts with enrollments over 750. All of these districts are part of cooperatives, and cooperative incidence rates are somewhat lower than the figures shown for these individual districts. However, data on cooperatives for December 1, 1983 are not yet available. Also duplicated counts for these districts are not yet available.

TABLE 25

DISTRICTS AND COOPERATIVES WITH LOW SPEECH/LANGUAGE INCIDENCE RATES
December 1, 1981 and December 1, 1983

District/Cooperative	Public and Private Enrollment	Unduplicated Incidence Rate	Duplicated Incidence Rate
December 1, 1981:[a]			
Westonka	3,126	0.48%	2.21%
West St. Paul	7,514	1.00	2.17
White Bear Lake	8,299	1.07	3.52
Bloomington	15,571	1.12	2.16
Osseo	16,364	1.17	4.00
Pine County Cooperative	4,120	1.17	4.25
Edina	7,571	1.24	1.98
Hiawatha Valley Cooperative	16,890	1.24	2.73
December 1, 1983:[b]			
LaCrescent	1,580	0.51%	
Winona	6,135	1.16	
Edina	7,267	1.21	
Rockford	1,454	1.24	
Brooklyn Center	1,326	1.28	
Chatfield	928	1.29	
White Bear Lake	7,965	1.31	
Waconia	1,640	1.34	

Source: Minnesota Department of Education.

[a]This list includes individual districts and special education cooperatives with enrollments over 750. Districts shown here are ranked on the basis of their unduplicated speech/language incidence rates. Handicapped children below age 5 were not included in these rates.

[b]This list includes individual districts with enrollments over 750. Some of the districts listed are part of cooperatives, and cooperative incidence rates are somewhat higher than the figures shown. However, data on cooperatives for December 1, 1983 are not yet available. Also, duplicated counts for these districts are not yet available.

largest category of speech/language disorders. "Speech correction" programs began in major U. S. universities in the 1930s, addressing primarily articulation. Twenty years ago, perhaps 80 percent of all students receiving speech/language help were served for articulation problems. Speech textbooks from ten and fifteen years ago devote near total attention to articulation. During this long history, many studies have documented the ages at which children can be expected to master various sounds. In general, articulation maturity occurs in children by age eight. Boys take slightly longer than girls to reach maturity.

Our interviews with school district personnel suggest that the number of Minnesota children served for articulation problems has declined in the past decade, a decline we judge to be warranted. Misarticulations are a normal part of growing up for young children. All children misarticulate at some point in their development, and the vast majority of children grow out of their problems. Thus, there is a danger in being too anxious to place the "handicapped" label on children in early grades, a problem that is recognized by the Special Education Section in the Minnesota Department of Education. In general, the department discourages placement of children whose problems are not abnormal for their age. Some districts continue to serve large numbers of children with articulation problems, including problems that may be mild or age-appropriate and may not require therapy. This may be more of a problem outside the Twin Cities metropolitan area. Unduplicated incidence rates for speech were 2.03 percent in the metropolitan area in December 1983, while the average rate for other regions was 2.76 percent.

3. LANGUAGE

Language problems are generally grouped into the following areas:

- Phonology -- systems of rules by which sounds are combined to form syllables (language form),
- Morphology -- words and parts of words (such as prefixes) that have individual meaning (language form),
- Syntax -- relationships between words, clauses and sentences (language form), and
- Semantics -- conveyance of meaning (language context).

Given little attention in speech therapy 20 years ago, language disorders probably account for about half the speech/language caseloads in Minnesota today. This growth has occurred despite great ambiguity in the language field -- ambiguity regarding definitions of language, criteria for determining the need for services, and appropriate interventions. Relatively little is known about the cause and duration of language disorders. In the language area (unlike articulation), there is little evidence about which language problems children "grow out of" and at what age. Thus, knowing when to intervene is a difficult problem. Knowing how to intervene is also a problem, espe-

cially considering that " . . . we are hard-pressed to describe how parents teach language even to normal children."[3] Evidence seems to suggest that most language-disordered children are "delayed-yet-normal" rather than "deviant"; that is, their language resembles that of younger normal children.[4]

The newness of the language field produces difficulties for school clinicians. First, standardized language tests leave much to be desired:

> "The search for the test of language is fruitless as long as there is controversy and disagreement about how language is to be defined, as long as research and theory in language continue to shape our views, and as long as individual clinicians reserve the right to disagree with the experts."[5]

Second, the current academic interest in language disorders is producing a flood of literature, overwhelming to many in the field. Third, many speech/language clinicians received their professional training prior to the emergence of the language emphasis. Thus, clinicians who have been away from university study in recent years may find themselves ill-equipped to address the language needs of children. More than any other speech/language service category, school district personnel express a need for more guidance in language service delivery.

Interviews and literature surveys revealed that some overlap apparently exists between students identified as language disordered and those labeled learning disabled (LD). Some special educators say that language problems are the foundations of most learning disabilities. We found that some students who might receive primary service in one school district's LD program would receive primary language services in another district. The similarities between LD and language disordered pupils prompt two conclusions on our part:

- The incidence of language disorders needs to be monitored more closely in the future. Some special educators draw parallels between the language field today and the learning disabilities field a few years ago. They worry that ambiguity in the language field today will lead to high incidence or misidentifications--problems that some say have plagued LD programs.

- Legislated funding caps on learning disabilities or other single disabilities may not work because disability categories overlap. Placing a funding cap on a high incidence area like LD could be circumvented by labeling some LD students language disordered.

4. RECOMMENDATIONS

- The Department of Education should provide some oversight of districts with high incidence of speech impairments. The department should make sure that districts are using appropriate caution regarding the identification of children with age-appropriate misarticulations as handicapped.

The relatively advanced state of the articulation literature allows clinicians to predict with reasonable accuracy which children will (a) benefit from therapy, and (b) not "grow out of" their problems. For example, evidence suggests that pupils unable to repeat sounds made by clinicians (children with "low stimulability") benefit more from intervention than those who can repeat the sounds. Also, children who consistently make the same errors are less likely to correct their problem without assistance than those who inconsistently make errors. Factors such as these have been incorporated into Iowa's state-developed severity rating scale for school clinicians. Iowa's scales are designed to differentiate between kids with serious disorders and those with mild articulation problems.[6] Such distinctions are important. Not all student characteristics that deviate from the norm are "handicaps." We hope the speech/language guidelines that the department is drafting will recognize these facts and will encourage districts to track the progress of students whose articulation problems do not require therapy. Tracking is less costly and may be as effective as Level 3 services for some children.

By limited monitoring or review of districts' placement practices, the department may also learn of other problems. For example, we discovered one school district that serves primarily students with voice problems. This practice is in stark contrast with other school districts where voice problems are a very small percentage of those served.

- The Department of Education should focus attention on the problematic language area.

Given the presently inadequate state of language assessment devices, informed professional judgment is critical to the language field. The department should play a stronger role in seeing that issues such as test quality, intervention techniques and district identification practices are made topics for professional discussion, reflection and direction. Dissemination of information on these issues to local school district personnel is important. Districts can benefit from the experiences of other districts and the findings of researchers.

- Creative means of speech/language service delivery should be encouraged by the Department of Education, allowing clinicians to focus on the more severe cases.

Like many other special education disability areas, speech/language services remain quite "traditional". Services tend to be provided at Level 3 or higher. They are usually provided directly to the child by a speech clinician. While this "traditional" mode may be the most appropriate form of service delivery for many children with more serious disorders, other types of service may be more appropriate for mild or developmental problems.

Tracking is the most viable option and one that is now used by many districts. Mild cases or pupils with age-appropriate problems should be monitored rather than provided Level 3 service. This monitoring, or some form of intermittent service, might be provided by classroom teachers, paraprofessionals or speech clinicians.

Other less appealing options that have been suggested or are used include parent training and peer training. Parent training is an alternative for younger children. Skills taught in language classes are often not skills the child uses in everyday conversation. The atmosphere of the language class is sometimes artificial and contrived. This sometimes prevents learned language skills from generalizing to other environments. For certain types of language problems, clinicians may want to consider services to parents rather than children. This might encourage "environmental modification" in addition to "child modification," and this practice might be less stigmatizing for the young child. Occasionally, clinicians may find that peer training is more viable than direct service to a child. Some children are ostracized by peers for "deviant" speech (e.g., kids with nasal or hoarse voices). Clinicians may have a role in seeing that the intolerances of peers are addressed before changing the child to conform to others' notion of "normality."

B. LOW INCIDENCE POPULATIONS

Low incidence populations refer to disability groups with incidence rates of less than one percent. This includes the following disability groups: the trainable mentally retarded, the physically handicapped, the hearing impaired, the visually impaired, the deaf/blind, autistic children, and those with other health impairments.[8] The data in Table 5 of Chapter I (page 20) show the December 1, 1983 incidence rates for each of these groups.

For the most part, school districts find it difficult to provide comprehensive in-district services to students with these disabilities. Districts often report problems of financing, staffing, and transportation in providing these services. These problems are magnified in the rural areas of the state. Because these disabilities occur in such low numbers, only large school districts provide comprehensive in-district services for students with these handicaps. Generally, most districts obtain low incidence services through special education cooperatives, Educational Cooperative Service Units, or intermediate school districts.

It has been suggested that services to these populations are fragmented and often inadequate, especially in outstate areas. This section of our report briefly summarizes three activities of the Minnesota Department of Education aimed at examining and improving services to low incidence populations so that a comprehensive and comparable system is ensured throughout the state. These activities are:

1. funding regional low incidence projects,

2. developing statewide low incidence plans, and

3. supporting the Minnesota Severely Handicapped Delivery Systems Project.

Each of these activities are discussed below.

1. REGIONAL LOW INCIDENCE PROJECTS

The Department of Education uses federal discretionary money to fund nine regional low incidence projects throughout the state. These projects provide planning, consultation, and technical assistance to regular and special education teachers in their regions. Some instructional services to students may also be provided on a limited basis. Each project bases its service on self-identified regional needs. Projects do not have to address all low incidence disabilities to be funded.

The decision to fund low incidence projects on a regional basis was largely the result of a 1980 study conducted by the Department of Education. This study concluded there was a serious inequity between low incidence students served in the metropolitan area and those served in outstate Minnesota. The study concluded that there had been limited growth in services to outstate low incidence students during the first four years of P.L. 94-142. The authors of the study attributed the limited growth to two factors: (1) the general unavailability of diagnostic staff necessary to identify the extent of a handicap and the type of programming needed and (2) the availability of few local placement options for a child once identified due to high cost, lack of staff, and the overall lack of a supportive administrative structure. Consequently, services to low incidence populations became a state department priority. Beginning in fiscal year 1982, every region of the state was entitled to funds to plan for or provide some type of service for low incidence populations.

Prior to low incidence disabilities becoming a state department priority, a number of individual districts and cooperatives had received federal funds for low incidence services.[9] In 1981, the Office of Evaluation in the Minnesota Department of Education examined these low incidence projects by surveying project participants. Data from these surveys showed that program participants believed favorable results had been achieved. Special education staff reported that project services--primarily program planning and assessment, student identification and assessment, help in IEP development and in-service training--had a positive impact on services to students with low incidence disabilities in their regions: "These services have enabled expanded programming and made schools and cooperatives <u>better</u> able to serve students than they were prior to project implementation or than they would be without the projects."[10]

Since 1981, the department has built an evaluation mechanism into the funding process in that projects are required to submit end-of-year reports describing program activities relative to their goals and objectives. The department is now compiling these data for fiscal year 1983 regional low incidence projects.

It is worth noting that there does not appear to be a significant disparity between the Twin Cities metropolitan area and other regions of the state in terms of the percentages of students identified and served in the various low incidence disabilities. Table 26 presents data on the unduplicated count of low incidence students as of December

TABLE 26

GEOGRAPHIC DISTRIBUTION OF LOW INCIDENCE DISABILITIES[a]
December 1, 1983

REGION	PUBLIC AND PRIVATE ENROLLMENT	TMR	PH	HI	VI	D/B	OTHER HEALTH	AUTISM	TOTAL
TWIN CITIES METRO AREA (Region 11)	377,543	.473%	.191%	.192%	.057%	.002%	.072%	.021%	1.008%
OTHER REGIONS	415,616	.409	.152	.195	.047	.003	.101	.010	.917
Regions 1 & 2	33,788	.394	.095	.110	.059	.012	.003	.012	.685
Region 3	63,319	.321	.194	.126	.047	.005	.076	.025	.794
Region 4	36,015	.353	.189	.122	.061	.000	.017	.011	.753
Region 5	29,618	.307	.169	.149	.020	.000	.017	.007	.669
Regions 6 & 8	60,310	.511	.201	.497	.068	.003	.444	.010	1.734
Region 7	73,622	.412	.129	.175	.031	.001	.034	.003	.785
Region 9	41,044	.287	.146	.141	.034	.000	.029	.010	.647
Region 10	77,900	.535	.104	.150	.049	.001	.071	.006	.916
STATE TOTAL	793,159	.440%	.170%	.193%	.051%	.002%	.087%	.016%	.959%
State Total[b]	793,159	.468%	.170%	.218%	.056%	.004%	.087%	.016%	1.02%

Source: Minnesota Department of Education.

[a]These data are the unduplicated child counts for all ages served under P.L. 94-142 as a percentage of public and private K-12 enrollment. December 1, 1983 child count figures are preliminary and may change slightly.

[b]The second state totals include children all ages served under both P.L. 94-142 and P.L. 89-313. Data on the number of children served by region under P.L. 89-313 are not available. P.L. 89-313 data reflect October 1983 child count.

1, 1983. The major differences in incidence rates between the Twin Cities metropolitan area and other regions are in the high incidence disabilities of learning disabilities, emotional/behavioral disorders, and speech impairments (see Table 9 on page 26). Furthermore, the average incidence rates in regions outside the Twin Cities for low incidence disabilities are, with the exception of hearing impairments, within the Stanford Research Institute's range of prevalence estimates.

There are some differences, however, in incidence rates in the low incidence categories by region of the state. More importantly, there is still some disparity between the metropolitan Twin Cities region and other regions in the percentage of licensed teachers serving certain low incidence disabilities. As Table 27 indicates, there is little difference in the trainable mentally retarded category. However, regions outside the Twin Cities area hire a smaller percentage of licensed teachers of the physically handicapped, hearing impaired, and visually impaired than either the percentage of such students or percentage of total enrollment in these regions.

2. STATEWIDE LOW INCIDENCE PLANS

The Department of Education is currently working on three statewide low incidence plans for the following disabilities: (a) the visually handicapped; (b) the hearing impaired; and (c) those with physical and other health impairments. As a first step toward developing these plans, the department is writing full service program descriptions for each disability. These descriptions will identify and discuss the programmatic elements necessary to provide full service to these populations. After completing these documents, the department hopes to turn its attention toward designing and implementing a statewide low incidence plan for each of these populations.

Initially conceived as a two year effort, the process is taking much longer than originally planned. The department has been developing full service program descriptions for almost two years and has yet to focus on model development.

Because the full service program descriptions have not been issued, we cannot comment on their quality. The department has spent a considerable amount of time describing the activities essential to full service. Early drafts suggest that they may provide good background information and thus could be a useful resource for both regular and special education personnel in local school districts. However, we do have some general concerns about services to low incidence populations that we believe need to also be addressed by the department.

While much effort has gone into describing the "ideal" service situation, the state department has very little systematic data on the current service delivery system for these populations. Systematic efforts should be undertaken to collect data and other information that describe the present delivery system throughout the state. It is not sufficient to simply contrast district incidence rates with estimated prevalence rates or statewide incidence rates as evidence of underservice or service gaps. If the department is ultimately to assess the

TABLE 27

PERCENTAGES OF LICENSED TEACHERS AND LOW INCIDENCE STUDENTS IN THE METROPOLITAN TWIN CITIES AND OTHER AREAS[a]

	Percentage of Licensed Teachers		Percentage of Low Incidence Students	
	Metro	Non-Metro	Metro	Non-Metro
Trainable Mentally Retarded	47.5%	52.4%	46.5%	53.5%
Physically Handicapped	72.6	27.4	54.0	46.0
Hearing Impaired[b]	64.7	32.3	53.8	46.2
Vision Impaired	59.2	40.8	45.9	54.1

	Metro	Non-Metro
Percentage of Total Enrollment	47.8%	52.2%

Sources: Licensed teacher data are taken from fiscal year 1982 budget documents submitted to the Department of Education by local school districts. Child counts include children ages 5-21 served in Minnesota under P.L. 94-142 as of December 1, 1981.

[a]Metropolitan refers to ECSU 11 (Twin Cities metropolitan area).

[b]Hearing impaired data include deaf/blind teachers and students.

needs of local districts in serving low incidence populations, the department will need to know more about how services are currently being delivered.

To develop an effective plan of action for low incidence populations, specific problems must be addressed. There are a number of factors that affect how well districts are able to provide services to low incidence populations--availability of funds and staff are but a few. More must be known about how these and other factors have specifically created barriers. The department should ultimately be providing some guidance to districts regarding innovative ways to face such problems. A thorough examination of how local districts as well as other states have met the challenge of providing full service to low incidence populations would be a good start.

In a similar vein, more must be known about the quality of low incidence programming that already exists. As with other disability programs, little is known about program effectiveness.

3. THE MINNESOTA SEVERELY HANDICAPPED DELIVERY SYSTEMS PROJECT

The Minnesota Severely Handicapped Delivery Systems Project is a joint three year effort between the Department of Educational Psychology at the University of Minnesota and the Minnesota Department of Education. The project examines alternative ways of providing comprehensive services to severely handicapped students as close to their homes as possible. This project is funded by a federal grant and is principally operated by the University of Minnesota. The Department of Education is providing the university with assistance and is reviewing project reports.

For the purposes of this project, the severely handicapped are defined as students, ages birth to 21, placed in Minnesota levels of service 4, 5, 6, and "other" (e.g., homebound), as well as students living in state or locally operated residential facilities. Five disability groups are addressed within these service levels: trainable mentally retarded, physically handicapped, emotionally disturbed, deaf/blind, and autistic children.

According to the university, Minnesota, like other states, has no comprehensive system of service delivery to the severely handicapped. The manner in which severely handicapped students receive special education and related services is often a matter of geographical location. As with low incidence populations in general, large metropolitan schools are better able to employ professionals to work with groups of severely handicapped children. While these services tend to be well organized and highly specialized, they are segregated in that services are most often provided in separate classes and schools.

In contrast, non-metropolitan schools have fewer severely handicapped children and cannot afford to hire staff for one or two children. Consequently, these children must be placed in homes outside their resident districts to receive services, bused considerable distances to receive services, or given perhaps inadequate services in their own districts.

The Minnesota Severely Handicapped Delivery Systems Project (MSHDS) is looking at ways to ensure that severely handicapped students receive quality services no matter where they live in the state. Specifically, its objectives are:

1. To examine existing regional systems of service delivery and if appropriate, develop a regionalized system to coordinate educational and related services for severely handicapped children from birth to age 21 in Minnesota.

2. To provide a plan for integrating severely handicapped children into local education systems and communities.

3. To assist school districts in using technology to provide quality services for severely handicapped children.

4. To implement a data collection and monitoring system to share MSHDS project results with other interested projects or schools.

5. To examine the special needs of severely handicapped children from birth to age 3 and offer recommendations to meet those needs.

6. To examine the problems associated with transitions between public school and adult services and offer recommendations to solve these problems.

7. To develop a cost-effective service delivery model for severely handicapped children from birth to age 21.[11]

This project is now in its second year of funding. Initial findings of the project are based on (1) surveys of special education directors, supervisors, and teachers of the severely handicapped; (2) on-site interviews; and (3) reviews of existing data. These findings are as follows:

- Differences that exist in the quality of service delivery are due more to resource discrepancies, lack of coordination, and ineffective information dissemination than the range of administrative structures that exist.

- ECSUs offer great potential for coordinating services for these low incidence populations because of their responsiveness to both the needs of the Department of Education and their member districts.

- Directors of special education generally report low staff turnover for these populations.

- There is an overall absence of specifically defined criteria for identifying and assessing severely handicapped children. Likewise, there is no common definition as to who is or is not severely handicapped.

- Emotionally disturbed students are underidentified and underserved, especially in sparsely populated areas of the state.

- Transitional programming from school-based to adult services could be improved, especially for emotionally disturbed students.

- There is a need for improved vocational training and adult opportunities for severely handicapped students. Many of the vocational skills being taught to severely handicapped students are not ones which will enable them to secure employment as adults.

- Increased coordination and cooperation among the many agencies serving the severely handicapped population are needed to reduce unnecessary overlap and promote a more cost effective system.

- The lack of systematic planning and program evaluation in local districts must be addressed.

- Assessment procedures do not provide enough information on the actual skills needed by severely handicapped students to function in natural environments.

- Appropriate vocational and recreational activities need to be provided as part of the special education curriculum.

- There should be more use of community resources in order to teach appropriate behavior in "normal non-school" environments.

- There is no formal communication network in place to share common problems, ideas, and seek advice for professionals working with the severely handicapped.[12]

The study notes that the Department of Education as well as local and regional education agencies are addressing many of the weaknesses delineated above. It makes the following recommendations:

1. "Exploration of alternative service delivery models which emphasize formal links among various service providers (e.g., ECSUs, local districts, community groups, state hospitals, colleges and other agencies)."

2. "Systemmatic dissemination of child centered research findings from university and state department projects to all special education units via concise easy-to-read bulletins. These descriptions should include the findings/implications for children, parents, educators and others as well as suggestions for applying the findings to educational settings."

3. "Exploration of technologies for providing quality services for severely handicapped persons, especially in the areas of assessment, professional networking and teacher inservice."

4. "Increased interagency collaboration and cooperation, including the use of standardized procedures and designation of agency and personnel responsible for providing particular services."

5. "The development of data collection and monitoring procedures for systemmatic program planning and evaluation at state, regional and local levels. These planning and evaluation procedures should include input from administrators, teachers, parents, other involved agencies and consumers."

6. "Dialogue among agencies providing adult services and educators to develop more vocational and community living options for severely handicapped adults."

7. "Increased awareness and emphasis on age appropriate functional curricula and materials and community educational sites for all severely handicapped students."[13]

Most of these recommendations make sense to us. Even though our evaluation did not focus directly on services to the severely handicapped, special education professionals throughout the state expressed concern to us about many of the problems cited above. For example, many people that we interviewed expressed concern about how well special education programs prepared students for adulthood. We are particularly concerned about the apparent lack of adequate vocational training for severely handicapped students. A report soon to be released by the Inspector General of the United States examines transitional programs for handicapped students moving from school to adult services and finds them lacking.[14] While our evaluation did not delve into such problems in any great detail, the findings of the Minnesota Severely Handicapped Delivery Systems Project, particularly those related to vocational training and school to community transition, seem appropriate to us.

During its second and third years of funding, the Minnesota Severely Handicapped Delivery Systems project will focus its efforts on program development. The project hopes to provide models for program development that will help districts both determine their own service delivery needs and goals and help them develop a plan for meeting those goals.

C. EARLY CHILDHOOD PROGRAMS

1. SERVICE DELIVERY SYSTEM

School districts in Minnesota are required to provide special education programs for handicapped pre-schoolers beginning at age 4. Districts may serve pre-schoolers in categorical special education classes or in early childhood (EC) special education programs that serve children ages 4 to 7. Districts not providing their own program may contract with another service provider. There are a number of different

providers of early childhood special education programs. In addition to school districts, other providers include:

- Developmental achievement centers (DACs). DAC special education programs for children primarily serve mentally retarded children (mild to profound), but also provide services for a wide range of other handicaps as well. DACs are private non-profit organizations funded, in part, by the Community Social Services block grant under the Department of Public Welfare;

- Head Start. This federal program for low income children requires 10 percent of its service population to be handicapped. Classes have a "kindergarten-readiness" focus;

- Day care programs; and

- Nursery schools.

Overlap between these providers exists in many districts--the same disabilities are served by more than one provider. Thus, parents may be faced with confusing choices. The Department of Education is working toward the establishment of state interagency agreements with the Minnesota Department of Health and the Department of Public Welfare to add some coordination to the system. Local education agencies are also responsible for developing their own interagency agreements.

Provisional special education licenses were banned in Minnesota in 1983. However, early childhood teachers may renew their two-year provisional licenses if they are working toward full licensure. Ninety-seven (97) percent of the state's EC teachers were provisionally licensed in fiscal year 1982, and 46 were teaching with emergency personnel variances.[15] For this reason, the Department of Education lists early childhood as its top priority for in-service and pre-service personnel development in the next two years.[16] The teachers employed by non-school district providers need not be licensed unless the district contracts with the providers for service.

School districts may also provide services for students from birth through 3, but federal dollars are available only for 3-year-olds. State special education aids are available to school districts for these programs. Like services for ages 4 to 7, birth through 3 programs are offered by many different types of providers. However, services to handicapped children from birth through 3 are not mandated by state or federal authorities. Consequently, services for this population vary from one school district to the next. For residents of some districts, there are no birth through 3 programs within a reasonable distance. In others, programs may serve children with some disabilities but not others. The Department of Education is presently working on a state interagency agreement with the Departments of Health and Public Welfare for birth through 3 services, but the impact of these attempts at increased coordination is difficult to estimate at this time. Interagency agreements may be more successful at addressing overlap in 4 to 7 programs than gaps in birth through 3 services.

2. SCREENING

P.L. 94-142 requires "child find" activities. As a result, school districts post notices, send letters, and air public service announcements to inform parents of screening programs. In 1977, Minnesota was the first state to mandate that all school districts offer comprehensive screening to each child prior to kindergarten. Today Minnesota's Preschool Screening program is the nation's largest, with 83 percent of the four-year-old population screened in 1981-82.[17] Each child is guaranteed one free examination, including the following components: vision and hearing exam, height/weight, developmental exam (speech/language, cognitive, social/emotional, motor), health history and immunization review, and summary interview for parents. Additional components (such as a physical examination) might not be free of charge. The Department of Education reimburses school districts $15 per screened child. Two other screening programs are available to young children. The Department of Public Welfare mandates Early and Periodic Screening, Diagnosis and Treatment (EPSDT) for children from birth to 20 eligible for medical assistance. The Department of Health administers Early and Periodic Screening (EPS) for children from birth to 20. EPS is not a mandated program. Families not eligible for medical assistance are charged for EPS on a sliding scale.

The Preschool Screening program has a number of objectives. One of the objectives is to assist districts in child find activities for special education programs. Screening results are used to refer preschool students for assessment. Those referred are given a comprehensive assessment to determine if they are handicapped and eligible for early childhood special education programs.

Despite its good intentions, there is reason to question the effectiveness of the Preschool Screening program as a referral mechanism for special education. First, there is relatively little empirical evidence supporting the effectiveness of preschool screening. Widespread comprehensive screening is based on the notion that screening instruments will produce accurate detections and predictions of handicaps, allowing for immediate interventions which will be effective and economical. However, research has provided little insight into the costs and benefits of comprehensive screening or the usefulness of individual screening components. Second, the value of commonly-used preschool screening tests is questionable:

> "Of the four screening tests most frequently used in Minnesota, the Denver Developmental Screening Test (DDST) lacks adequate standardization above age four, the Developmental Indicators for the Assessment of Learning (DIAL) lacks adequate reliability and validity data, the Cooperative Preschool Inventory (CPI) lacks adequate standization and validation, and the Comprehensive Identification Process (CIP) lacks all of the above."[18]

Third, a recent study shows that there are wide variations in Minnesota screening outcomes.[19] On average, 13 percent of the students screened are referred by districts for special education assessment. However,

among districts screening more than 20 preschool children, referral rates range from zero percent to 71 percent. Among ten high-referring districts examined, 88 percent of the referred students did not require special education in the next three years.[20] Such high referral rates increase the costs of follow-up assessment and heighten parental anxiety unnecessarily. Among ten low-referring districts in Minnesota, 66 percent of the children needing special education within three years of screening were not referred by the preschool screening process. Under-referrals of this magnitude may suggest missed opportunities for early intervention. Overall, the study concludes:

> "Remarkable numbers of over- and underreferrals were observed in the high and low referring groups in this study. Such a large degree of inefficiency raises questions about the cost-benefit for these schools. While some error in prediction must be tolerated, it is easy to overlook the cost implications of inefficient screening when obligated to meet a government mandate."[21]

This study clearly shows that a significant number of districts poorly utilize the Preschool Screening program as a special education referral mechanism. The study suggests, however, that preschool screening has the potential for more effectively referring those children in need of special education. Districts with moderate referral rates are more successful in referring children than districts with high or low referral rates.[22]

3. IDENTIFICATION

State rules prohibit special education placement based solely on screening -- further assessment is supposed to occur.[23] The Department of Education has developed a helpful assessment handbook, "A Consideration of the Assessment Process for Handicapped Children Under Five." This book is far more comprehensive than any assessment guides the department distributes for other disability areas. This review of available tests is not particularly encouraging, however. Many early childhood tests lack adequate reliability, validity or standardization information. Tests that do include this information often suffer from other problems. In general, the state of the art in standardized tests for early childhood assessment is not good, especially for very young children. The department has offered school districts early childhood assessment guidance, but the lack of good test instruments remains the major constraint in the identification process.

Draft entrance criteria for early childhood special education were developed by the Department of Education in March 1982. These criteria suggest services be provided if the child's handicap:

- Is hindering or will hinder normal growth and development (e.g., hearing or vision impairments, spinal cord defects, cerebral palsy and syndromes such as Down's), or

- Manifests itself as a developmental delay in one or more areas of development (motor, cognitive, speech/language, social-

emotional, adaptive behavior) that must be verified by: (1) consensus of a multi-disciplinary child study team, and (2) where measurable, an assessment using appropriate standardized norm referenced instruments which shows the child to be functioning at least 1½ standard deviations below average.

While revisions of these criteria are planned later this year, the "developmental delay" portion of the draft criteria is a problem. The department says that a criterion of 1½ standard deviations permits consideration of approximately 6.7 percent of the population for service.[24] This would be true if early childhood assessments tested for a single kind of disability. Since many handicaps are included in this service category under the general term "developmental delay," far more than 6.7 percent of the population would be considered for placement on standardized measures. For example, 6.7 percent of all pupils may be 1½ standard deviations below average on a language test, while another 6.7 percent are 1½ standard deviations below average on a cognitive test. Potentially, 13.4 percent of the students could score low on one test or the other. While testing cannot serve as the sole basis for placement, we believe the 1½ standard deviation criterion is a poor benchmark. Furthermore, the term "developmentally delayed" is presently ill-defined. "Developmentally delayed" is a broad term, reflecting the often-holistic nature of early childhood services and the desire of special educators to avoid categorical labels with young children. Although perhaps useful as a label, the term is less useful at the time of identification. Since some "delays" are normal in young children, districts need help distinguishing between handicapping and non-handicapping delays in various areas of development. This is especially important in the area of speech problems as we saw earlier in this chapter. It is also important in areas that are not easily measured, such as social-emotional development. The Department of Education expects to issue early childhood guidelines in June 1984. The department says these guidelines will be more specific than the current draft criteria.

4. COST-EFFECTIVENESS OF EARLY CHILDHOOD PROGRAMS

Proponents of early childhood special education suggest that early intervention with handicapped children will produce later benefits. These benefits include better performance in school, less restrictive environments during and after school years, and lower unemployment rates. According to proponents, early intervention saves money in the long run and best serves the child's interest.

While we cannot fully review the early childhood literature here, we can report that a number of studies support the early intervention philosophy. Perhaps the best evidence on early intervention with handicapped children is in the area of mental retardation. There seems to be a sufficient body of evidence suggesting that early education for mentally retarded children will produce later benefits, such as higher IQs and a reduced need for restrictive environments.[25]

There is also some evidence that early education experiences are beneficial for other children. The Perry Preschool Study followed

poor, low-functioning black children for two decades after their preschool experience. These students tended to require less special education, find more jobs, and stay in school longer than peers without preschool.[26] These students clearly came from disadvantaged environments, although it is not clear how many were handicapped.

Unfortunately, many studies of the cost-effectiveness of early intervention are not as rigorous and convincing as those cited above. One often quoted study (the Wood study) concludes that intervention at either birth or age two would save at least $9,000 in educational costs per child over intervention at age six.[27] However, the Wood study makes a number of questionable assumptions. In particular, the study assumes that it is no more difficult to identify handicapped children at birth or age two than it is when they reach school age. While this may be true for certain disabilities that are apparent to even a lay observer, it is not true for other disabilities. It is not possible to accurately identify at birth or age two all children who will later have learning disabilities, speech/language impairments, or emotional/behavioral disorders. As pointed out earlier in this chapter, it is also important with preschool and even school age children to exercise caution in identifying children with mild speech articulation problems as handicapped. Other questionable assumptions in the Wood study are that: (1) services to the speech/language impaired preschooler are the second most costly per child--nearly two and one-half times as costly as services to a trainable mentally retarded child; (2) early intervention has the same effects in each disability area in terms of the percentage of children who later do not require special education; and (3) regular secondary education costs per student are not more than regular elementary costs per student. Although the Wood study is often cited as evidence of the cost-effectiveness of early special education intervention, the study has a number of weak points. While early intervention may be cost-effective for children with certain disabilities, it is questionable whether the Wood study results can be applied to all disability areas.

Other studies on early intervention have similar problems. Some studies fail to use control groups. Others do not identify in detail the children studied. Also, the effect of maturation is often not considered.

Nonetheless, we believe that sufficient evidence exists that early intervention with handicapped children can be effective. However, accurate identification methods are a prerequisite for cost-effective interventions. Some identification procedures and test instruments are of questionable validity, particularly when used to identify students with mild delays in various aspects of development. Consequently, caution is appropriate in labeling young children with mild delays as handicapped.

5. BIRTH THROUGH THREE SERVICES

As noted earlier, school districts are not mandated to serve handicapped children from birth through 3. In some districts, public schools provide instruction and services for some handicapped children

in this age group. In other districts, public schools do not provide services. Parents of handicapped children may utilize non-school resources, such as developmental achievement centers, to the extent that these alternatives are available.

It is difficult to say the extent to which existing services address the needs of the handicapped birth through 3 population. The Minnesota Departments of Education, Public Welfare, and Health issued a report to the Legislature on this topic in September 1981. The report concluded that ". . . an infant with a handicapping condition in Minnesota today may have less than a 50 percent chance of being identified and receiving the appropriate services to minimize the effects of the handicapping problem."[28] While the report provides a good discussion of policy issues and options surrounding birth through 3 services, this particular conclusion on service deficiency is questionable.

The report stated that only 34 percent of the birth through 3 handicapped population were served in Minnesota by schools or DACs. This estimate was based on the assumption that 5 percent of children from birth through 3 are handicapped. The study said 5 percent is a "conservative" and "nationally accepted" rate, but no evidence was offered for this conclusion.[29] The report also surveyed Minnesota school districts to determine the prevalence of handicaps among children from birth through 3 and the extent of existing services to these children. The survey found that districts claim to identify only about one-third of the number of children that they say meet the criteria suggested in the survey.[30] However, the criteria used in the survey were no less vague than the Department of Education's current draft criteria for the ages 4 to 7 early childhood programs. For example, "developmental delays" were defined in the survey as delays of at least 25 percent of the child's chronological age in at least one area of development. It is difficult to measure "percent delays," and a single 25 percent delay may be normal for many children.

In conclusion, the report does not document actual cases where children in need of service do not receive service. Instead, the report relies on prevalence estimates to "document" service gaps. Estimating the actual cases of service gaps is difficult, but this method is superior to prevalence-based estimates. Service variations do exist for children ages birth through 3 from district to district, but the extent of service deficiencies was not satisfactorily quantified.

In comparison to the 10 percent of school-age students who are served by special education programs, the 5 percent estimate does seem conservative. One needs to consider, however, what types of handicapped students would likely be served if services to the birth through 3 population were mandated. At ages 5 through 10, 80 percent of those served by special education programs in our schools are either speech impaired or learning disabled (see Table 11 on page 29). At those ages, schools identify between 1.2 percent and 2.4 percent of students as having primary handicaps other than speech impairments and learning disabilities. If services to the birth through 3 group were expanded to serve 5 percent of the birth through 3 population, it is likely that the greatest expansion would be in the number of children with mild speech

or learning delays. Such an expansion would be questionable in light of the difficulties in properly identifying such children between birth and age 3.

Nonetheless, we believe that services to children from birth through 3 require attention. It is undoubtedly true that some more severely handicapped students do not receive necessary services in some parts of the state because services are not mandatory. However, we also believe that our earlier comments on early childhood services to children 4 to 7 are relevant to birth through 3 services. Specifically, 4 to 7 services, despite the fact that they are mandated, suffer from lack of definition, inadequate assessment, teacher shortages, and inter-district service variations. Also, we have questioned whether attention to certain problems, such as mild speech articulation problems, is beneficial at an early age. Because of these issues, we believe that efforts to improve birth through 3 services should address the following questions:

- Who will be served? Services for the 4 to 7 early childhood population offer little guidance on this question. Disability definitions for the 4 to 7 population are presently undeveloped and identification processes are poor. The nature of "developmental delays" and the means of testing for them are not well established. Overidentification of children with mild speech delays may already occur in some districts.

- Who will serve the birth through 3 population? Are services to these children best provided (or coordinated) by schools, or is the variety of service providers now available desirable? Before deeming birth through 3 services a function of the educational system, consideration should be given to the state's current lack of early childhood teachers.

- Who will pay for birth through 3 services? Presently, services to this population are funded with a combination of state, federal, local, and private dollars. Solutions to the birth through 3 issue must be fiscally responsible from the state's perspective. Non-state funding of services should not be supplanted, if possible.

- How will we identify handicapped children in the birth through 3 population? Minnesota has no mandated screening programs for all children under age 4. If the state mandates service for handicapped birth through 3 children, there is no guarantee that these children would be located for service. Instituting comprehensive screening for birth through 3 children would be expensive, and screening tools for these ages are of questionable quality.

Despite these questions, we are concerned about services to the birth through 3 population. Because service gaps exist, some more severely handicapped children in this age group are not currently served. There is a need to provide service to these children. It should be a higher priority to serve the more severely handicapped birth through 3

population than those in the 4 to 7 population with mild speech or learning delays.

It is also important to address how birth through 3 services are delivered whether or not services are mandated. Currently, the state reimburses the cost of transporting children from their homes to early childhood school sites. However, there is no state reimbursement of the costs incurred by teachers traveling to student homes. This creates an incentive in many cases for services to be provided away from the home environment. This may not be a good state policy for a number of reasons. First, many special educators believe that early childhood special education, particularly for the birth through 3 population, is most effectively delivered within the home. They believe that parental involvement in birth through 3 programs is vitally important. Second, in-home services may be less costly overall than services provided at a school site. School-based services are more commonly used now because they are less costly to school districts considering how state aids are paid. Finally, in-home services may be more flexible. Students who live great distances from a school site may more likely be served by a traveling teacher than a school-based program. For these reasons, there is a need for the Legislature to consider funding travel costs for programs serving the birth through 3 population.

6. RECOMMENDATIONS

- The Department of Education should be very specific in its development of early childhood special education criteria, particularly with regard to developmental delays.

Because of the dangers of mislabeling with young children, the department should ensure that severe, age-inappropriate problems are the ones that receive the attention of early childhood programs.

- The Department of Education should make early childhood special education programs a focus for effectiveness studies.

The state should encourage longitudinal district evaluations of children in early childhood programs. Also, the department should examine existing district programs to discover what types of children are now served in early childhood and whether some districts fail to provide services for children with severe handicaps.

- The Department of Education, in cooperation with the Departments of Health and Public Welfare, should seek ways to address the needs of children from birth through 3 without expanding programs to include children whose delays in development may be considered normal.

- The Legislature should consider funding travel costs for teachers providing in-home special education services to the birth through 3 population.

Mandating services for handicapped children in the birth through 3 population may not solve important service delivery questions.

This is particularly true in light of the state's shortage of licensed early childhood teachers. The departments' efforts to develop state interagency agreements for birth through 3 services may be helpful in eliminating service gaps and ensuring that more severely handicapped children receive services. We believe the Legislature should give the departments one year to address the problem of service gaps before considering proposals to mandate birth through 3 services.

D. OUT-OF-HOME PLACEMENTS

For a variety of reasons, hundreds of Minnesota students are placed outside their home districts for educational services. In some cases, specialized services required by severely handicapped pupils are not available in home school districts. In other cases, students are sent to residential facilities by courts, welfare agencies, or their parents. In all cases, the district of residence (the district where the child's parent or guardian lives) remains responsible for instruction and related service costs.[31] The providing district (the district in which the residential facility is located) is responsible for providing appropriate instruction to the child. This district collects state special education aids for salaries and supplies and equipment and then bills excess costs (except transportation) to the district of residence. The district of residence receives state aid equal to 60 percent of the difference between its contracted cost and the foundation aid formula allowance for the pupil. When handicapped students are placed for care and treatment by a non-school agency, care and treatment costs are not reimbursable with special education state aids nor are the costs assessed against the district of residence.[32]

Our concern in this section of the report is with one type of out-of-home placement: placement in licensed residential facilities (not including state hospitals) primarily serving children labeled emotionally disturbed or learning disabled.[33] The state's duplicated count indicates that 2,572 pupils received special education services in 52 of these facilities during fiscal year 1983.[34] State special education funding for services to these children is primarily of two types:

- Reimbursement of excess costs. After paying their residential facility education bills, districts of residence may apply for state special education reimbursement of 60 percent of the "excess costs." Excess costs are those costs greater than the prorated foundation aid formula allowance for a child. The 60 percent reimbursement applies only to handicapped children and only to that portion of their education that is special education. During fiscal year 1983, districts of residence claimed $861,902 in state special education aids for services at the facilities described above.

- Salary reimbursement. If special education teachers are used to instruct students in residential facilities, these teachers are employed by the providing district. The state now reim-

burses 70 percent of these teachers' salaries. Indeed, most facilities do use licensed special education staff. However, an accurate state total for salary reimbursement could not be obtained for the facilities in question. The Department of Education's district salary data do not indicate the school or facility where a given teacher works. Clearly, salary reimbursements for these teachers represents a large state expenditure.

Given the magnitude of state aid to these facilities, our study pursued several questions: Are these students being properly assessed prior to being declared eligible to receive special education services? Does the Minnesota Department of Education adequately monitor assessment practices at these facilities? Does the department adequately review bills submitted for state aid prior to payment?

Students are typically placed in these residential facilities because of problems such as the following: truancy, chemical dependency, running away, theft, burglary, assault, and family problems. In some facilities, all students placed have committed status or delinquent offenses. Students are typically referred or assigned to facilities by the court system or welfare agencies, and to a lesser extent by insurance companies, parents, and schools. The home district's involvement in the placement process is usually, at best, advisory. Education professionals are frequently outnumbered by corrections and welfare professionals on "placement review committees," and sometimes school personnel are not part of the placement decision. Judges, welfare officials, and parole officers apparently play key roles in many of the decisions.

Many of these students receive special education instruction and services at residential facilities. However, there is good reason to question whether all those receiving special education are handicapped. Many were not labeled handicapped by their home districts. In addition, the providing districts where these facilities are located do not adequately assess these students to determine if they are handicapped. Any assessment or development of an IEP at the residential facilities we contacted is usually only done after the student begins receiving special education instruction. Furthermore, assessment at the facilities is not generally related to special education eligibility. Achievement tests are used (1) to see what grade level materials the child should use in class, and (2) to serve as measures of progress during the child's stay. We found no evidence that special education entrance or exit criteria are in use at these facilities.

It appears that some of the state special education dollars that pay for residential facility costs should more appropriately be paid by regular education dollars. Although facilities serve a broad range of students, many of whom are placed for reasons unrelated to educational performance, a continuum of special education services is not available to most students at facilities we contacted. It is not unusual to find pupils spending their entire school day being taught by special education teachers. Some facilities have only special education (and Title I) teachers on staff. As a result, students are often taught

content area subject matter by special education teachers, although this subject matter is usually considered the responsibility of regular education. In addition, at one large facility, we found that students are assigned to teachers based on their date of arrival, not disability. Thus, students labeled LD may receive all their instruction from an E/BD teacher. Also, we found that students who receive all day special education services sometimes fail to receive sufficient individual attention. For this reason they are given supplementary Title I instruction. We find it ironic that Title I, a program the state claims is not for the educationally handicapped, serves the low achievers not adequately helped by intensive special education. Finally, interviews revealed that facility special education teachers sometimes cannot address the needs of facility students. Special educators are generally untrained to treat chemical dependency problems, and they are unable to effectively deal with family or school problems many miles away. However, special educators are often the main service deliverers at residential facilities. These findings raise questions about the appropriateness of services at these facilities and suggest that special education aids are paying for regular education provided by licensed special education teachers.

Another related finding concerns short-term placements. During fiscal year 1983, about 11 percent of placements in these residential facilities were children placed in the facility for less than 10 days. It seems that many of these cases are children placed temporarily at facilities--often for detention reasons. These are cases where there is seldom an intention to keep the child at the facility for an extended period of time. Some short-term students do not have IEPs during their stay at the residential facility yet receive special education services. Districts receive state special education aids for many of these short-term placements.

State special education aid is also often paid for children receiving services at chemical dependency (CD) treatment centers. Treatment at CD centers may be very appropriate and may serve children well. However, we found that some CD facilities apparently use a student referral as prima facie evidence of a handicap, usually a learning disability or an emotional disorder. While it is true that some chemically dependent students may be emotionally disturbed, state special education aid is being paid for students who have not been fully assessed.

Since 1981, the state has placed restrictions on the use of special education aids at residential facilities. In 1981 the Minnesota Legislature amended Minnesota Statutes 1980, Section 120.03 by adding the following subdivision:

> "Subd. 5. A child with a short-term or temporary physical or emotional illness or disability, as determined by the standards of the state board, is not a handicapped child."

Legislative committee discussion indicated that the changes in M.S. §120.03 were directed at elimination of state special education funding of homebound programs for non-handicapped students. Homebound programs include those in hospitals, treatment centers, and detention facilities.

Students in those settings are generally not permitted to leave to attend school during the time they are there. To clarify this policy, the Department of Education issued a memorandum to all school district superintendents. The following are excerpts from that memorandum:

"ISSUE: Are homebound students considered to be handicapped and in need of Special Education Services?

RESPONSE: Students with a short-term or temporary physical or emotional illness or disability who are unable to attend the regular school site and who do not have an IEP in place prior to the need for homebound service should be considered nonhandicapped and served by regular education staff. A student considered as chemically dependent or delinquent cannot be considered to be handicapped for educational purposes solely because the pupil uses chemicals or is considered delinquent. Pregnancy, as well as short term medical and emotional emergencies, is not a handicapping condition.

Minn. Stat. § 120.03 and 34 CFR 300a.5 define the handicapping conditions. The identification and assessment provisions of state and federal law must be applied before a pupil can be determined to be handicapped and in need of special education instruction and services. Minn. Stat. § 120.03 subd. 5 reads, "A child with a short-term or temporary physical or emotional illness or disability, as determined by the standards of the state board, is not a handicapped child."

The terms "short-term" or "temporary" refer to the medical treatment or physical shelter which is being provided. The legislature clarified the fact that simply receiving medical treatment does not make a student educationally handicapped and, therefore, eligible for special education instruction while they are in treatment. The use of the terms "illness" and "disability", in Subdivision 5, aids to distinguish the medical problems which pupils may have from the special educational handicaps defined in Subdivisions 1-4 of that section. If a pupil who is handicapped is placed for treatment, that child would be eligible for special education programming, whereas, a child without a handicap defined in Subdivisions 1-4 would be eligible for a regular education program only, which would need to be provided without special education financing.

ISSUE: Student placements for care and treatment are often times short-term or temporary placements. Must all due process procedures outlined in state and federal

law for the identification, assessment and provision of services for handicapped pupils be followed for homebound students?

RESPONSE: The identification and assessment provisions of state and federal law must be applied before a pupil can be determined to be handicapped. If pupils are educationally handicapped prior to placement for care and treatment, or if they are determined to be educationally handicapped while in the treatment program, appropriate special education programs must be provided by appropriately licensed special educators.

The district providing the instructional program determines the eligibility for special education services for each pupil based on all available assessment data. The providing district may amend the resident district IEP with parental permission in terms of level of placement, time spent in instruction, name of instructor, place of instruction, etc. The goals and objectives specified on the IEP must be addressed for at least one hour per day by an appropriately licensed special education teacher.

When a student is placed out of the district of residence for care and treatment, the district where the treatment center is located must notify the district of residence."[35]

While 1981 legislation and subsequent department policy clearly stated that not all students in these residential facilities are eligible for special education, the 1981 Legislature did not give providing districts a means of billing home districts for regular education costs. Thus, providing districts had an incentive to continue to label these students handicapped and bill the state for special education aids. The 1982 Legislature eliminated this problem by allowing providing districts to bill regular education costs back to the home districts of the students at these facilities.[36]

Our findings suggest that state policies were still not being properly implemented by some providing districts during the 1982-83 school year. Assessment practices continue to be in conflict with state department policy and state and federal law. Some students are not being properly assessed before being labeled handicapped. Consequently, state special education aids are being paid for instruction and services provided to students who may not be handicapped. In addition, the special education budgets of school districts bear some high unexpected costs for serving students in these facilities. Some of these costs are more appropriately the responsibility of regular education. These costs may seriously impact the special education budgets that resident districts have set for serving handicapped students in their home schools.

Recently, the Department of Education examined the assessment and billing practices of some residential facilities. As a result, the practices of some providing districts are being corrected. Recognizing the limited extent of the department's efforts to date, we make the following recommendations:

- The Department of Education should take steps to determine if state aid has been claimed and paid for students not properly assessed at all residential facilities affected by the 1981 legislative change.

- The department should schedule a review of the assessment and billing practices at these residential facilities at the earliest possible date.

During our study, we noted that per diem rates charged for special education services at these residential facilities vary considerably. In addition, some per diem rates are rather high and may reflect costs other than those that may legitimately be reimbursed by special education funds. The issue of per diem rates is clearly less important than the issue of whether any special education aids should be paid for instruction provided to particular students. Consequently, the department should first examine a district's assessment practices to see if students are routinely and inappropriately labeled handicapped when they arrive at these facilities. However, we recommend that the department also examine the per diem rates charged at some facilities, particularly those with unusually high rates.

There are a number of other important issues relating to out-of-home placements. The Special Education Section of the Department of Education has prepared a draft issue paper discussing these issues and recommending legislative action. One issue of particular concern is the cost to Minnesota taxpayers when a treatment center or facility accepts students from outside Minnesota. The department recommends that the Legislature make facilities responsible for the educational costs of such students.[37]

FOOTNOTES, CHAPTER IV

[1]Van Riper, C., Speech Correction: Principles and Methods, 5th edition, 1972, p. 29.

[2]McDermott, L., "The Effect of Duplicated and Unduplicated Child Count on Prevalence of Speech-Impaired Children," Language, Speech and Hearing Services in Schools, April 1981, pp. 115-119.

[3]Spradlin, J., and Siegel, G., "Language Training in Natural and Clinical Environments," Journal of Speech and Hearing Disorders, February 1982, p. 3.

[4]Dreyer, P., and Schery, T., "Correlates of Language Development in Language Disordered Children: An Archival Study (Final Report)," Claremont Graduate School, November 1979.

[5]Siegel, G., "The Use of Language Tests," Language, Speech and Hearing Services in Schools, October 1975, p. 215.

[6]Barker, K., et al., "Iowa's Severity Rating Scales for Communication Disabilities," Language, Speech and Hearing Services in Schools, July 1982, pp. 156-162.

[7]Spradlin and Siegel, pp. 3-4.

[8]While the unduplicated incidence rate for emotional/behavioral disorders is less than one percent, it is not considered a low incidence population. Rather, special education professionals believe that this group is underidentified in that the number receiving services is low when compared to estimates of the need for such services.

[9]While the process by which funds are allocated has changed since these projects were examined, the kinds of services provided to low incidence populations have changed little. Funds are now allocated to all regions based on a formula that weighs regional child count, enrollment, and square mileage. Funds were previously awarded on a competitive basis. Thus, every region is now assured of some money for low-incidence services.

[10]An Evaluation of the Special Education Regional Discretionary Projects, Office of Evaluation, Minnesota Department of Education, August 28, 1981.

[11]Current Services to Severely Handicapped Children and Youth in Minnesota, Draft Document, University of Minnesota, January 4, 1984.

[12]Discussion and Analysis of Findings: Current Services to Severely Handicapped Children and Youth in Minnesota, Draft Document, University of Minnesota, January 4, 1984.

[13]Ibid., pp. 20-21.

[14]"Information Exchange," Minnesota State Planning Agency, February 1984.

[15]Minnesota's Special Education Plan for Years 1984-86, Division of Instruction, Minnesota Department of Education, p. 70.

[16]Ibid., pp. 74-75.

[17]The Fourth Report for the Minnesota Legislature on the Preschool Screening Program: An Executive Summary of 1981-82 Statewide Results, Minnesota Department of Education, February 1983, p. 6.

[18]Lichtenstein, R., Identifying Children with Special Educational Needs Via Preschool Screening: Binet Revisited (Ph.D. thesis, University of Minnesota), December 1980, p. 10.

[19]Lombard, T., The Efficacy of Comprehensive Preschool Screening as a System for Identifying Preschool Exceptional Children (submitted for Ph.D. thesis, University of Minnesota), June 1983.

[20]Some of the referred children end up in non-special education compensatory programs (such as Title I), so the screening may have been of some value to those children.

[21]Lombard, p. 88.

[22]Ibid., p. 81.

[23]In some districts, screening is the basis for placement, according to the supervisor of the state's Preschool Screening Program. The screening tools of some districts are indistinguishable from the assessment tools of others.

[24]Draft Criteria, Early Childhood Special Education, Special Education Section of the Minnesota Department of Education, March 1982.

[25]Research on the benefits of early intervention with retarded children dates back to 1939 (Skeels, H. and Dye, H., "A Study of the Effects of Differential Stimulation on Mentally Retarded Children", Convention Proceedings American Association on Mental Deficiency, 1939, 44, pp. 114-136). Several studies have expanded on the Skeels and Dye findings, although different definitions of retardation are used in many of the studies.

[26]Wikart, D., The Cost Effectiveness of High Quality Early Childhood Programs, presentation for the Southern Governor's Conference, July 26, 1982.

[27]Wood, M., "Costs of Intervention Programs", in Garland, C., Stone, N., Swanson, J., and Woodruff, G. (Eds.), Early Intervention for Children with Special Needs and Their Families: Findings and Conclusions, 1980, pp. 15-25.

[28]Minnesota Department of Education, in cooperation with the Minnesota Department of Public Welfare and the Minnesota Department of Health, Report to the Legislature on a Statewide Needs Assessment of Handicapped Children Birth Through Age Three in Minnesota, September 1, 1981, p. 8.

[29]Ibid., p. 2.

[30]Ibid., p. 3.

[31]Under certain conditions, transportation costs are excluded. (M.S. §120.17, Subd. 4, 4a, and 6).

[32]5MCAR 1.01222.

[33]These are the labels attached by resident districts when districts apply for state reimbursement of these residential placement costs.

[34]Calculated from "Residential Facility Summaries", Minnesota Department of Education, Special Education Section, October 27, 1983.

[35]Memorandum, from Commissioner John J. Feda to all school district superintendents, September 29, 1981.

[36]1982 Laws of Minnesota, Ch. 548, Art. 1, Sec. 1.

[37]Issue Paper: Special Education Instruction and Related Services for Handicapped Children Placed Out-of-the-Home (draft), Special Education Section, Minnesota Department of Education, November 1983.

V. DISCUSSION

Throughout this report, we have examined state policy and district practice regarding the issues of student eligibility for special education and district effectiveness in service delivery. This chapter summarizes our concerns about eligibility and effectiveness. We recommend possible courses of action for the Department of Education, school districts, the State Board of Education, and the Legislature.

A. ELIGIBILITY ISSUES

1. DEFINITIONS AND GUIDELINES

Prior to the Department of Education's development of disability guidelines, no state employed less specific categorical definitions of handicapping conditions than Minnesota. Minnesota "defined" various handicaps only by naming them in state statutes. No state descriptions of these handicaps or criteria for program eligibility existed. Only Massachusetts and South Dakota, both of which fund special education non-categorically, have had similar lack of state definition.[1] The Minnesota Department of Education is presently developing definitions and eligibility criteria for most handicapping conditions to serve as guidelines to school districts. Use of these guidelines is not mandatory. We have commented extensively on the department's learning disabilities and emotional/behavioral disorder guidelines elsewhere in this report. Guidelines in other disability areas are still being developed, so it is not possible for us to comment on these guidelines' quality or their service implications. However, the department says that forthcoming guidelines will be specific and operational. Unlike the LD and E/BD guidelines, districts could implement these guideline definitions and criteria as written.

It is difficult to say exactly what effect Minnesota's reluctance to define disabilities has had on local services. Some states that have definitions offer little more guidance to districts than Minnesota has offered. Many "definitions" of other states are vague or they merely repeat federal definitions. Furthermore, states with specific criteria do not necessarily have lower incidence rates than states with more poorly specified criteria.

It is possible, however, to conclude that Minnesota's lack of definitions or eligibility criteria contributes to the wide variations in special education eligibility we found in school districts. Districts vary both in incidence (the percentage of students served) and the consistency with which students are identified. Some of the variation is explained by differences in the "true" prevalence of disabilities. For example, one district may happen to have more mentally retarded residents than another district. However, we attribute most of the

variations in special education services to district policy and practice--particularly for LD, E/BD, speech/language, EMR, and early childhood programs. As a result, students eligible for special education in one district might not receive special education service in an adjacent district. Alternatively, students receiving a particular type of service in one district might receive a different type in another district.

There are a number of factors that affect the incidence rate and the consistency with which handicapped students are identified in a given school district:

- District eligibility criteria. First, some districts have eligibility criteria that are more lenient than others. For example, some districts label students whose achievement is two-thirds of a standard deviation below their IQ as learning disabled. Other districts require an ability-achievement discrepancy of at least two standard deviations. Second, criteria used by some districts allow a student to qualify for special education services in several ways. For example, a district that provides LD services to students who have an ability-achievement discrepancy of 50 percent or more or whose achievement lags three years behind their peers would serve more students than a district only employing the three year lag criterion. Third, districts vary in the strictness with which they apply stated criteria. Fourth, the criteria used for one disability may affect the incidence rates for other disabilities. Some districts that label a higher than average percentage of students EMR or E/BD have lower than average LD incidence rates.

- Tests used. The quality of tests used in districts affects the consistency with which districts identify students. Tests that are unreliable, invalid or poorly normed will incorrectly identify some students for special education services. Thus, a district's choice of assessment devices may determine the type of students (and perhaps the percentage of students) served. Also, the number of tests given may affect district incidence. Students given larger numbers of tests are more likely to meet district entrance criteria on some measure.

- Availability of alternatives. Districts that have ample alternatives to special education placement may feel less pressure to serve children in categories such as LD. Such alternatives might include Title I, remedial education programs or paraprofessional assistance in the regular classroom. Unfortunately, many school districts do not have alternatives aside from Title I.

- District philosophy. A district's beliefs about various disabilities determine the criteria established and the types of exceptions that will be made to criteria. Some districts are philosophically opposed to the E/BD label and refuse to apply it to children with behavior problems. Some districts target LD services at low achievers, while others believe that only students with process disorders are handicapped.

- Shortcomings of regular education. Some learning problems may be attributable to poor instruction. Some behavior problems may be attributable to lack of classroom structure and discipline. Certain teachers are particularly skilled at adapting the regular education curriculum to students of different ability levels. The adequacy of regular education in meeting students' needs varies from district to district and from teacher to teacher.

- Identification system. We found that incidence is sometimes lower in schools where child study teams include persons who are not direct service providers. These persons may have a more objective viewpoint on placement decisions. They may also be less subject to parent and teacher placement pressures and more likely to suggest that appropriate interventions be attempted prior to special education placement.

- Number of FTEs. Incidence is sometimes determined by the number of existing staff a district has. This is especially true of rural districts that often lack enough handicapped students to fill teacher caseloads. In such cases, a district may add students to their caseloads rather than adjust the number of full-time equivalent teachers in the district.

- Budget constraints. On the one hand, some districts have reduced the number of special education teachers or restricted program growth because of tight school budgets. On the other hand, others may have increased the percentage of students who are labeled LD or E/BD. A decrease in regular education resources may have reduced the ability of regular classroom teachers to address the needs of students with learning or behavior problems in the regular classroom setting.

Clearly, some of these factors might be affected or shaped by state guidelines, while others might not. For example, guidelines cannot affect budget constraints, and some variations in program philosophy are healthy. Thus, state guidelines will never completely eliminate inter-district incidence variation and inconsistent identification practices. However, we believe Minnesota's lack of state criteria and guidance has produced an unnecessary degree of inter-district variation. Funding inequities result, as some districts are more willing to apply the special education label than others. State and federal dollars pay the education costs for some districts' students, while local dollars would bear the costs for these same students in other districts. Local dollars must often support non-special education alternatives in Minnesota's two largest cities, where large numbers of low achievers need extra help. Despite the serious educational needs in these districts, they have generally had LD incidence rates below the state average and below many of their suburban neighbors.

Standardized state criteria, even if consistently applied within districts, would not completely eliminate inter-district incidence variations. Districts with higher concentrations of handicapped

students would still have higher than average incidence rates. However, state criteria would probably lessen the degree of variation in district incidence rates and contribute to more consistent district identifications. Thus, we welcome the state's promise of specific operational guidelines for disabilities other than LD and E/BD. Operational guidelines should offer criteria alternatives, guidance on testing, suggestions for test interpretation and guidance on possible service delivery models. We also believe there is a need for more specific guidelines in LD and E/BD. These categories are the ones in which there is the most inter-district incidence variation statewide. Even if the Department of Education chooses not to establish a single set of statewide criteria for these disabilities, a sense of limits is needed to ensure greater district consistency and equity.

In addition to specifying disability guidelines, the department should more actively review (1) district criteria and (2) district practice. Most districts have submitted eligibility criteria to the state for review and comment. The department has asked districts for criteria that "RUMBA." This means that criteria should be:

- Relevant to the disorder
- Understandable
- Measurable
- Behavioral
- Achievable.

Districts are not required to rewrite criteria that do not "RUMBA." Furthermore, no state comments are presently made on the quality of district criteria, although the state will do so this year for districts seeking such comments. We question why these "quality judgements" are optional. Those districts who stand to benefit most from quality judgements may be the districts least likely to submit their criteria for comment. We believe the department should specify its standards for quality for the benefit of all districts. At the very least, attention to quality will focus debate on issues more important than those raised by "RUMBA" reviews.

District practice should also be a focus of the department's district oversight. We found that some Minnesota districts employ criteria far different from those they submitted to the Department of Education. Thus, the state approval of district criteria does not guarantee appropriate identification practices. We recommend that the department address questions such as these:

(1) Are districts actually using the criteria they submitted to the state?

(2) Are good tests used in the assessment process?

(3) Are too many tests administered in the assessment process?

(4) Are the test results interpreted properly?

Such questions might be addressed in district visits now devoted entirely to compliance monitoring. While we would like to assume that

competent special education professionals employ good practices, our findings raise doubts about certain aspects of current assessment and service.

2. OTHER POSSIBLE COURSES OF ACTION

The development of operational guidelines by the Department of Education would be a positive step. But will new guidelines result in more consistent and equitable identification statewide? A number of other courses of action for the Legislature, State Board of Education, and Department of Education are discussed below.

a. Mandatory State Eligibility Criteria

Although the new guidelines will be specific and operational, districts are not required to follow the state's suggestions. Thus, wide service variations could persist even with the development of state guidelines. However, making the state criteria mandatory may create more problems without addressing current needs. First, mandatory criteria are desirable only if the mandated practices are sound. Chapter II raises a number of questions about the adequacy of the department's LD guidelines. Second, mandatory criteria might stifle creativity and flexibility. For example, strict criteria might hinder programs such as the Adaptive Learning Environments Model (ALEM) or service alternatives such as LD service for E/BD pupils. Third, mandatory criteria would likely have little effect if the criteria were not specific. The current LD and E/BD guidelines are not specific enough to implement. Before any thought is given to mandatory criteria, it is necessary to have specific criteria that are acceptable.

b. Funding Caps

Incidence rates for learning disabilities have been growing fast nationwide. They now exceed the upper end (3 percent) of the federal government's prevalence estimates. As a result, some states have begun to look seriously at limiting state funding for LD and other high incidence programs. In Colorado, the Legislature placed a cap on state funding for staff serving LD, E/BD, and speech impaired students. Local administrative units (individual districts or cooperatives) receive state funding for staff to serve no more than 9.1 percent of each unit's public school enrollment based on the December 1 child count. Adjustments in the cap may be made if the unit is affected by one or more of the following factors: (1) sparsity of population, (2) turnover rate among special education students, (3) the number of out-of-home placements, and (4) the severity level of the population served. The funding cap does not limit the percentage of students that can be served by special education programs. The cap only limits the amount of state funds that will be paid. The cap includes E/BD and speech/language services as well as LD programs because of the overlap in the populations served.

The average percentage of LD, E/BD, and speech impaired students served in Minnesota is close to the funding cap imposed in Colorado.

The most recent child count indicates that Minnesota school districts serve approximately 8.7 percent of the state's public school enrollment. As a result, it is likely that funding to a large number of Minnesota districts would be affected if a cap like that used in Colorado was implemented in Minnesota.

We think there is reason to be concerned about LD incidence in Minnesota. Incidence is above the national average and above the upper end of the federal government's prevalence estimates. Inadequate eligibility criteria and unsatisfactory assessment practices have probably resulted in over-identification of students as learning disabled in some districts. Furthermore, LD incidence rates in Minnesota may be increasing again even though they remained fairly constant between December 1980 and December 1982. This year LD incidence increased from 4.86 percent to 5.06 percent of public school enrollment (see Table 12 on page 30). Combined incidence for the LD, E/BD, and speech/language categories increased from 8.33 percent on December 1, 1982 to 8.72 percent on December 1, 1983.

This recent growth in incidence occurred despite the increased attention that has been paid to eligibility criteria in the last year or two. One possible explanation for the increase in LD incidence is that reduced staffing in regular education has increased the pressure on regular classroom teachers to refer students to special education programs. Higher student-teacher ratios in the regular classroom may limit the ability of teachers to address the needs of students with learning problems in the regular classroom. E/BD incidence has increased in part because more districts are now identifying E/BD students. However, some of the largest increases have been in districts already serving an above average percentage of E/BD students.

We think the first step that needs to be taken is for the Department of Education to write specific guideline criteria for these disability areas. Local districts should implement criteria that are at least as restrictive as those the department recommends. Also, local districts should correct poor assessment practices. If these measures do not address concerns about LD incidence, then the Legislature should consider the implementation of a funding cap for the combined areas of LD, E/BD, speech/language, and possibly EMR.

If funding caps are later considered, there are a number of problems with caps that would need to be addressed. For example, some districts may legitimately have a higher incidence of handicapped students than the cap would fund with state aids. Also, if EMR programs were not included in the cap, some districts might shift some LD students into EMR programs. Finally, capping special education funding in the LD, E/BD, speech/language, and EMR areas could adversely affect student performance in our schools if student-teacher ratios in regular classrooms are increasing at the same time. Many of the students who are now inappropriately labeled learning disabled need remedial or other assistance that regular education has not been providing. Restricting LD incidence through a funding cap will not address their needs unless regular education programs are adequately funded. These potential problems would need to be addressed but do not make a funding cap infeasible.

3. CONCLUSIONS

We have concluded that Minnesota has many special education eligibility problems that raise serious questions regarding the equity of special education funding. However, it is our opinion that the Department of Education and school districts should have the opportunity to address these problems before major legislative funding changes are attempted. Should the department take the lead in improving services or should districts? The issue is less a matter of state versus local control than it is one of control versus no control. Some districts have no criteria in effect, others are unaware of the quality of the tests they use, and still other districts interpret tests improperly.

The policy of decentralization has, therefore, not been a costless one. It has contributed to misidentifications. Ultimate responsibility for making necessary progress will rest with districts, who are the service providers. But the department needs to offer the guidance and leadership that will allow districts to improve eligibility decisions. We do not believe that the key eligibility issues will be solved by legislation at this time. However, as noted above, the Legislature should consider the need for a funding cap for the combined areas of LD, E/BD, speech/language, and possibly EMR if the department and local districts do not adequately address eligibility issues.

To address eligibility issues at this time, we recommend the following:

- The Department of Education should develop specific criteria in LD and other areas. The department should develop several criteria options for districts in certain disability areas.

- The Department of Education should evaluate local criteria both in terms of their quality and their degree of implementation. Districts should have eligibility criteria that are not more lenient than those recommended by the department.

- The department and local districts should work together to improve assessment practices, including the selection and interpretation of tests and other procedures used to determine eligibility. More districts should consider including special education coordinators or other knowledgeable staff who are not direct service providers on child study teams.

- In developing criteria and providing guidance on assessment practices, the department should be mindful that assessment can be costly. The use of time consuming assessment procedures that have questionable validity or reliability should be minimized so that more resources are available for instruction.

- The Legislature should consider how districts can best provide a continuum of services (including non-special education remedial options) and how these services can best be funded. This funding issue is a policy issue that requires legislative attention.

We question whether creation of another categorical program is the proper approach to the problem of providing a broader continuum of services to students with learning difficulties. However, the state should play a strong role in promoting innovative service options. Districts need alternatives to traditional service modes, and it may be possible to develop some alternatives through service restructuring. The Adaptive Learning Environments Model (ALEM) exemplifies this possibility.

Districts trying to establish a continuum of services might also consider using a greater continuum of service deliverers. A number of studies show that paraprofessionals are effective working with low achievers and special education students. Other studies suggest that students need enthusiastic instructors with high expectations, traits characteristic of certain teachers but also certain paraprofessionals. Finally, studies suggest that pupils need more "academic engaged time" or "time on task" than they now get in regular and special education. However, special education professionals often find current demands on their time excessive. In the course of our study, we have learned of many examples of paraprofessional use--from foster grandparents to peer tutors to "bucket brigade" volunteers. Districts can utilize paraprofessionals in a variety of ways--perhaps to serve LD students who need drill and practice help, or perhaps to help teachers address academic or behavior problems in the regular classroom. Aides are presently prohibited by state policy from instructing special education students, although we found some examples of districts ignoring this policy. If the state chooses to remove present disincentives to use aides, consideration might also be given to incentives for paraprofessional use. The Kansas Department of Education trained regional paraprofessional "facilitators" who now disseminate paraprofessional information and training at the district level. In Kansas, as in other states, aides work under the direction of licensed professionals, carrying out professionally-developed instructional plans. In 1979, eight states reported having certification procedures for all paraprofessionals in public schools. Three states (Kansas, Louisiana, Wisconsin) reported certification/permit procedures for special education paraprofessionals. Eleven states had or were developing statewide models for paraprofessional training.[2] We believe paraprofessionals are one example of untapped education resources that might be tapped to address the needs of children who need help in school.

B. EFFECTIVENESS CONCERNS

A primary goal of this study was to assess the state of special education services in Minnesota. We sought insight into the efficacy of school district practice and the appropriateness of state special education policy. Our foremost concern in undertaking this study has been the effect of special education on handicapped children: To what extent does special education benefit these students, and in what ways can special education services be improved? Increasing concerns for special education effectiveness have surfaced recently in the pro-

fession's literature. A 1980 data analysis compared the achievement of special education students with the achievement of control groups remaining in regular classrooms. On average, the 50 studies analyzed showed that handicapped students in regular classrooms outscored handicapped students placed in special education classes.[3] After two years in special education, the average handicapped student (achieving at the 50th percentile at placement time) only achieved at the 45th percentile of handicapped peers retained in regular education.[4] Thus, the average student in these studies did not benefit tangibly from special education and apparently would have fared better without the intervention. Studies also indicate that the success of education techniques and models is highly variable. One author suggests that the variability of an educational model's effectiveness is typically 10 times larger than the average model's effectiveness across all schools. In other words, interventions are more notable for the variation in their effects than for the size of the average benefits that result.[5]

By raising effectiveness concerns, we do not wish to question the foundations of the special education profession or the commitments of special educators. Special education can work and does work in meeting the needs of many students. It is important, however, for special educators to explore the ingredients of successful intervention and the results of current practices. In this section, we will examine how much attention is paid to special education outcomes in Minnesota and what can be done to increase the attention paid to effectiveness.

Current federal regulations, as well as state statutes, require that school districts completely reassess a student every three years. State law requires a periodic review of each student's individualized education program (IEP) once each year. Federal regulations also require that state plans include procedures for evaluation of program effectiveness. School districts are required to "evaluate the effectiveness of programs in meeting the educational needs of handicapped children and provide evidence that the results of the evaluation are utilized."[6] In addition, the State Department of Education's Office of Monitoring provides oversight of district compliance with the various federal and state requirements.

Despite these requirements, we found a lack of sufficient attention to measuring the outcomes of special education and to evaluating instructional techniques and strategies. There are wide variations among districts in their measurement of student progress and evaluation of effectiveness. A few districts employ curriculum-based tests for LD students, thus allowing frequent progress monitoring. Curriculum-based tests, such as those developed at the University of Minnesota, can be given in one to three minutes and are reliable and valid in the areas of reading, spelling, and written language. However, most other districts rely on standardized tests or informal observations to measure LD student progress. Standardized tests tend to be less sensitive to change and take longer to administer than curriculum-based tests. As a result, they are given less frequently, ranging from twice per year to once every three years. Thus, these tests do not give teachers adequate feedback for evaluating instructional techniques. Furthermore, informal observations are generally less accurate and

objective than curriculum-based tests in measuring student progress.[7] We also found that within a given district, progress measurement can differ widely from school to school and from teacher to teacher.

In general, we often found insufficient measurement of student progress and outcomes. Teachers and other professional staff tend to pay more attention to developing IEP goals than they pay to documenting whether goals are met. Student progress is often summarized in broad statements rather than with measurable data. Frequent and ongoing measurement of educational outcomes and longitudinal record-keeping are often lacking.

While our inspection of student files focused upon learning disabled students, effectiveness questions are also relevant to other disability areas. Our conclusions regarding district evaluations and progress measurement are supported by a recent University of Minnesota study of services for severely handicapped children. This study, finding a lack of formal evaluation in Minnesota's severely handicapped programs, recommends the development of data collection and monitoring procedures for program planning and evaluation at the state, regional and local levels.[8] Effectiveness must also be a concern for speech programs. Districts that serve very young children who have mild, age-appropriate misarticulations may interfere with normal development and labeling such children handicapped may be unnecessarily stigmatizing. Finally, effectiveness must also be an important concern for early childhood special education programs. The philosophy of these programs suggests that early intervention for handicapped children prevents more costly services at later ages when disabilities may become more severe. Lacking better longitudinal data in school districts, it is difficult to say whether all early childhood special education classes in Minnesota have been successful. The effectiveness of services delivered to students with mild delays in speech articulation or learning development are of particular concern.

In calling for greater statewide emphasis on effectiveness, we recognize the concerns about such an emphasis. First, an effectiveness focus presupposes the existence of measurable special education outcomes. Indeed, many outcomes are measurable. For example, many LD assessment procedures are academically based. Achievement tests are accepted measures of the disability's severity. Thus, services to students in these areas seem particularly well-suited to ongoing effectiveness measures. However, not all desirable outcomes lend themselves as easily to measurement. Development of acceptable social skills, improvement of communication skills, and improvement of motor and physical skills are important for mentally retarded students. These outcomes can be measured although not as easily as measurement of academic achievement.

Second, the utility of effectiveness measures is tied to the purposes for which the measures are developed. Some in the special education field view effectiveness measures as "accountability" tools. Some fear that state or local funds will be cut if "effective" special education results are not shown. They worry that districts may focus their efforts on students with mild handicaps, students with the best

prospects for improvement. We see little merit in using outcome measures to "hold districts accountable" by tying state financial reimbursement to special education results. Likewise, outcome measures should not be used to "prove" to state policy-makers that special education works. Rather, outcome measures should be used to help teachers and administrators understand what works best for individual students and groups of students. Certain service models and intervention techniques will produce good results with certain types of children. Empirical outcome findings on these models and techniques will permit districts to better utilize special education resources.

Third, effectiveness measurement could be of little use if districts are not careful in program description and results documentation. Districts must describe their student populations and their interventions in detail. The student called "learning disabled" in one district currently differs from the "learning disabled" student of another district. Thus, interventions that work for one group of LD students may have less success with other LD students. Greater care in the descriptions of special education populations will communicate more accurately the knowledge that is available on effective interventions.

With these limitations in mind, we see a need for greater attention to program effectiveness. Much of the recent debate in special education has focused on eligibility--or who should be served. This emphasis has diverted attention from the more important issue of service delivery. However, alternatives such as the Adaptive Learning Environments Model (ALEM) discussed earlier suggest that alternatives to "traditional" service models hold promise. To learn from these alternatives, districts must measure and compare student gains. In addition to comparison of various program models' effectiveness, districts need to evaluate what works with individual students under specific conditions. This will improve the basis for educational decision-making. Overall, effectiveness measurements from a "macro" perspective (looking at entire programs) and a "micro" perspective (looking at specific types of students) are needed to enhance special service delivery.

The Department of Education is becoming increasingly interested in the issue of effectiveness. The department prepared a document last year entitled "The Effectiveness of Special Education". That document reviewed effectiveness literature for several disabilities and issues in special education. More important, the department will use $200,000 in federal discretionary funds in the coming fiscal year to fund roughly a dozen evaluation projects. The department solicited proposals from school districts and universities. Those proposals now under final consideration are interesting and varied. Included in the list of finalists are proposals for LD, EMR, speech/language, hearing impaired, E/BD, and early childhood programs.

The department's solicitation of effectiveness studies is encouraging and commendable. However, the intensive study of effectiveness in a small number of districts on a limited number of topics is no substitute for ongoing district effectiveness monitoring. Concern for effectiveness should be routine and should contribute to day-to-day program operations. We believe the State Department of Education should

also address this need. The development of outcome measures is difficult and the quality of such measures is critically important. Because of this, the department can best assist districts by offering guidance in the following areas:

- Suggestion of possible outcome measures. It is not necessary for all districts to use the same measures. However, the department could suggest various outcome measure options and thus facilitate district use of outcome measures.

- Assistance in the interpretation of results. Once districts develop outcome measures, standards for "effective" service may not be readily apparent. The department should facilitate inter-district sharing of results and help districts explore the implications of these measures for program modification.

- Dissemination of what is known about "best practice". Special education researchers produce an ongoing stream of articles and studies, more than most districts can keep up with. The department should point districts to worthwhile findings in the field. For example, the department could familiarize districts with findings of the various institutes for research on learning disabilities, findings that may be too extensive and inaccessible for a single district to obtain.

The State Department of Education cannot fully respond to these recommendations without the assistance of others. The department's Special Education Section is limited by the number of staff it has and the staff's capabilities. Special education practitioners, who would implement measurement of student outcomes, should have considerable input into the choice of model measures. The department should also solicit the contributions of university researchers, advocacy groups, and other interested parties. Development of appropriate, valid outcome measures may prove difficult, especially for certain disabilities. But, by including a variety of perspectives in the development process, the department would encourage creative and practical measures to emerge. The department has used this approach to develop guideline eligibility criteria. The state should exert no less effort in tackling the issue of effective service delivery.

In conclusion, we recommend that the State Department of Education play a leading role in shifting special education attention increasingly toward effectiveness issues. Current efforts are commendable but are not enough. Minnesota's current preoccupation with eligibility questions is understandable. Until the development of disability guidelines (not all of which are completed), Minnesota was one of only a few states that offered no disability definitions to school districts. Also, questions of eligibility and definition preoccupy the attention of the special education profession as a whole, not just Minnesotans. But while definitional questions are important to address, the effectiveness of services to handicapped students are even more important.

Minnesota's past preoccupation with legal procedural compliance is also understandable. Public Law 94-142 is less than a decade

old. As a result of P.L. 94-142, school districts faced new requirements to meet the right of handicapped students to a free and appropriate education. However, all Minnesota school districts have been monitored since 1980 for procedural compliance. Remaining compliance problems seem to be relatively minor. It is time to focus attention on the tangible benefits resulting from special education services. Greater concern for effectiveness should enable districts to design more appropriate instructional techniques and program structures. Perhaps nothing else would fulfill the spirit of P.L. 94-142 more than effective service delivery.

FOOTNOTES, CHAPTER V

[1]Definitions and Eligibility Criteria for Special Education, by State, U.S. Department of Education, June 1982.

[2]A Study of Paraprofessional Competencies and Statewide Trends for Training, California Department of Education, June 1981.

[3]Conrad Carlberg and Kenneth Kavale, "The Efficacy of Special Versus Regular Class Placement for Exceptional Children: A Meta-Analysis", Journal of Special Education, Fall 1980, pp. 295-309.

[4]Gene V. Glass, "Effectiveness of Special Education", Policy Studies Review, 2: Special No. 1, 1983, p. 68.

[5]Ibid., p. 77.

[6]Minnesota Rule, Chapter 7/P.L. 94-142 Compliance Manual, p. 17.

[7]Fuchs, L., Mirkin, P., Deno, S., Marston, D., and Tindal, G., Considerations for Designing a Continuous Evaluation System: An Integrative Review (Monograph No. 20). Minneapolis: University of Minnesota, Institute for Research on Learning Disabilities, 1982.

[8]Current Services to Severely Handicapped Children and Youth in Minnesota, Draft Document, Minnesota Severely Handicapped Delivery Systems Project, University of Minnesota, 1984.

APPENDIX A

STATE DEPARTMENT OF EDUCATION
DRAFT GUIDELINE ENTRANCE CRITERIA
FOR SPECIFIC LEARNING DISABILITIES

1. Definition.

Specific learning disabilities. The handicapping condition of specific learning disabilities denote severe learning problems due to one or more deficits in the essential learning processes which significantly interferes with the ability to acquire, organize or express information. These problems are manifested in school functioning by reading, writing, spelling, or mathematical disabilities. Even though a specific learning disability may occur with other sensory/ motor/behavioral handicaps or environmental influences (e.g., cultural, economic, limited English proficiency, insufficient/ inappropriate instruction) the specific learning disability is not the direct result of these handicaps or influences.

2. A Systematic Pre-referral Procedure.

2.1 A systematic process is used within the regular education setting to determine whether a student needs to be considered for alternative services, including referral for a comprehensive child study assessment.

a. Results of any screening procedures used--general testing, checklists, screening instruments.

b. Review of educational and health records to note:

(1) vision, hearing, and health history,
(2) attendance and any family mobility patterns,
(3) previous referrals and/or provision of special services,
(4) language used in the home,
(5) progress (grades) and promotion history.

c. Review and observation of student's current academic, social, physical and emotional functioning levels:

(1) the student's instructional level in all basic skill areas, i.e., reading, writing, spelling, math,
(2) how the student's general academic, social, physical (motor), and behavioral performances compares to classroom expectations,
(3) how the student compares to age/grade mates in these areas,
(4) strengths and weaknesses in the student's daily oral and written work, motivation, organizational skills and work habits.

2.2 A minimum of two (2) specially designed and documented interventions applied within the regular education setting did not accommodate, modify or resolve the academic and/or attendent behavior problems of concern.

3. Referral for Special Education Assessment.

3.1 When there is a reasonable basis for believing a student has a handicap in need of special education the student should be referred.

3.2 If there is not a reasonable basis for such a referral, the referring person should consult with other professionals and resource persons in the district.

3.3 All referrals for special education should be reviewed (screened) by a knowledgeable team or person to insure (a) the referral is complete, (b) the interventions have been documented, and (c) the reason(s) for referral concisely describe the academic, behavioral, social, ability and/or other areas in need of assessment.

4. Pre-Assessment Data.

4.1 The collection and analysis of information and data for a student referred for special education must include:

a. Vision screening (within 90 days of referral),

b. Hearing screening (within 90 days of referral),

c. Review of all past and current ability and achievement testing results,

d. Review of all past and current health records,

e. Language proficiency if the student has limited English proficiency.

4.2 Referral is made to appropriate specialists when screening tests are failed or if physical or medical problems are suspected.

5. Required Assessment Data.

5.1 Results obtained from Section Four above.

5.2 Formal diagnostic teaching and measurement by qualified personnel:

a. Ability Functioning (the instrument used is valid, reliable, adequately normed and a comprehensive measure of intellectual functioning).

b. Global Achievement (the test used is valid, reliable, adequately normed, and a comprehensive measure of global achievement).

c. Additional Achievement (specific diagnostic assessment is required in each area of deficit as indicated by the global achievement test).

d. Observation(s), interviews, rating scales to confirm academic, learning process, and other problem areas.

e. Learning Process Functioning (two confirming assessment procedures/tests required in each area of suspected learning process deficit as indicated by pre-assessment, diagnostic teaching and test performance data):

- auditory process function,
- visual process function,
- memory function,
- language function (receptive and expressive)

6. Analyzing Information/Data for Educational Decision Making.

6.1 The diagnostic teaching and formal/informal assessment data will generally indicate average to above average ability with a significant deficit in specific learning processes.

6.2 Eligibility for special learning disabilities must verify criteria which indicate all of the following:

a. Evidence of significant academic deficiency relative to expectancy. For example:

- A significant discrepancy between functional achievement and expected achievement.
- Age/grade level or higher achievement in some academic areas.

b. Evidence of average or better intellectual functioning.

c. Evidence of a deficit in one or more of the essential verbal learning processes to such an extent that specially designed educational techniques, not reasonably provided in the regular school setting, are required for initial, as well as remedial and compensatory instruction.

- Visual Processing - perception (e.g., discrimination, figure-ground, closure) memory.
- Auditory Processing - perception (e.g., discrimination localization and attention, closure) memory.
- Language - receptive and expressive.
- Note: The following types of problems may be present and may be related to deficits in essential learning processes. In and of themselves they do

not denote a specific learning disability. However, the presence of one or more of them can seriously affect a student and/or others. They should be identified and programming developed to assist the student develop more appropriate and/or useful skills and behaviors:

- social perception skills,
- orientation skills,
- motor skills,
- conceptualization abilities,
- control factors,
- social-emotional and motivation problems.

d. Students with any of the following primary handicaps or conditions are not eligible for specific learning disabilities programming and services:

- visually impaired
- hearing impaired
- emotional/behavioral disordered
- environmental/cultural influences
- limited English proficiency

Secondary handicaps. If, after qualified personnel have provided appropriate programming to meet the special needs of a student with a listed primary handicaps or conditions, there is reason for suspecting that a specific learning disability may also exist, the student should be referred for a formal assessment following the steps previously outlined. A student may be eligible for and in need of additional special education programming due to multiple handicaps.

Mental Retardation. Students handicapped and in need of special programming due to mental retardation are excluded from the above list because the assessment process has determined that the:

- learning potential is so significantly different from the normal peer group and other handicapped students that considerable long term modification of the standard curriculum and competencies standards are required.

- adaptive behavior is so significantly different from the normal peer group and other handicapped students that special provisions must be made to accommodate to and/or develop more adaptive behavior in terms of relationships and social adjustment.

- special instruction and programming for students handicapped by retardation is based upon a learning model which takes into account and uses the strengths

and weaknesses of the student's essential learning processes to develop the abilities necessary for fuller participation in the total environment:

- achieve maximum intellectual potential,
- develop acceptable social skills,
- increase communication skills,
- develop problem solving skills,
- increase motor and physical skills,
- increase functional academic skills,
- develop competencies in health/safety habits, independence and self-help skills.

Examples and Discussion of Some Essential Learning Processes. Verbal learning requires the ability to process and give meaning to all types of symbols at different levels. The degree to which verbal learning occurs determines, in large part, the level a student is able to achieve in the areas of reading, spelling, writing, arithmetic and speaking.

a) Perception: as the term is used to describe the visual and auditory processing of information.

Some sub-areas of perception include:

- discrimination
- object recognition
- figure-ground
- localization and attention
- closure

b) Memory (imagery) as the term is used to describe the ability to remember or retain in and out of sequence that which is seen, heard, or felt.

It involves both short and long term memory.

1) Auditory memory
2) Visual memory (memory sequence)

c) Language as the term is used to describe the application of meaning to words and other symbols based on experiences.

1. receptive language

- visual/auditory language classification
- visual/auditory language association
- visual language symbol association

2. expressive language

- motor language expression (manual, oral, written)
- verbal language expression
  - meaningful talk/descriptions
  - retrieve words for speaking
  - syntax and formation flow
  - grammatically correct sentences

Some students may also exhibit other deficiencies or problems in other areas which can negatively affect a student's success in school. Evidence of the following types of problems do not in and of themselves denote a specific learning disability in need of special instruction and services. However, the presence of one or more of them can seriously affect the student and/or others. They should be acknowledged and provisions made to assist the student develop more appropriate, replacement, and useful skills and behaviors.

2. Nonverbal learning systems

(a) Social perception as the term is used to mean the ability to interpret, and understand gestures, facial expressions, cause effect relationships in a social situation.

(b) Orientation skills

- spatial - ability to relate self to distance, size, position, direction
- temporal - ability to order and organize time
- directionality - ability to relate self to and distinguish right-left, north-south.

(c) Motor skills

- gross motor - balance coordination, rhythm
- fine motor - eye-hand coordination and writing

(d) Conceptualization - the ability to think and use good judgment. The ability to conceptualize is dependent upon the integrity of essential learning processes such as perception, memory and language. Types of concept development are described as being at the concrete response level (description), the functional response level (utility), and the abstract response level (relationships).

(e) Control factors

- distractability
- hyperactivity
- perseveration
- disinhibition
- impulsivity

(f) Social-emotional and motivation factors

- withdrawn
- aggressive
- immature-inadequate
- social perception disorders

This outline was adapted from a design entitled "Correlates for the Analysis of Learning and Behavior" by Mann, Suiter & McClung, (1979). Readers can obtain many characteristics and teaching strategies from this handbook. Other examples of essential learning processes/characteristics have been developed by Adapt Press in Sioux Falls, S.D.; Chalfant and King (1976); Walter (1982); St. Louis Park's SLD Lead Teacher and staff; the Waconia Public School's SLD Committee; Bloomington Public School's SLD staff; and, many others too numerous to list.

The experimental edition of the "Minnesota Review of Observations for Learning Disabilities" is another example of how learning processes can be associated with specific tasks within the broader academic/basic skills areas. The behaviors in each of the seven academic areas do not represent a hierarchy of all the behavior tasks needed to be proficient in each academic area. The behaviors listed are those which have been observed that in combination with others may indicate specific learning disabilities.

DRAFT GUIDELINE CRITERIA FOR CHANGES IN PROGRAM AND EXIT FROM SLD INSTRUCTION AND SERVICES

The team (5 MCAR Sec. 1.0125) after reviewing data collected over a predetermined period of time to document the progress made in academic and other IEP goals/objectives (observation, assessment results, reports, etc.) may propose:

1. A significant change in the program which:

    a. necessitates the addition or change/modification of special education instruction and/or related services because the data demonstrates documented lack of progress in the achievement of IEP goals and objectives; or

    b. allows the reduction of special education instruction and/or related services because (1) the data demonstrates documented progress in the achievement of IEP goals and objectives , and (2) demonstrates, during a predetermined trial period, the student's ability to function and progress adequately with the reduced amount of special education and/or related services.

2. Exit (dismissal, termination, discontinuance) from special education:

    a. when data documents that (1) the student has achieved all IEP goals and objectives, and (2) demonstrated, during a predetermined trial period, the ability to function in regular education programs without the provision of special education instructions and/or related services;

    b. when the student has completed a secondary program and is eligible to graduate;

    c. when the student exceeds school age, i.e., 21.

Source: State Department of Education

APPENDIX B

STATE DEPARTMENT OF EDUCATION
DRAFT ELIGIBILITY CRITERIA FOR EMOTIONAL/BEHAVIORAL DISORDERS

PILOT DEFINITION AND CRITERIA FOR EMOTIONAL/BEHAVIORAL DISORDERS: OPTION ONE

Within the educational setting the existence of an emotional/behavioral disorder requiring special education intervention is determined by the team specified in State Board of Education Rule 5 MCAR Sec. 1.0125 and, when necessary, P.L. 94-142 Sec. 121 a. 344. Minimally, the team must substantiate that all five of the following elements exist and verify that the condition (behavior):

1) has not been changed/improved by at least two planned and documented interventions applied in the school setting;

2) occurs in more than one setting under school jurisdiction;

3) greatly interferes with the student's or other student's academic/social/emotional growth;

4) is chronic (continuing over a long period of time) and intense (characterized by high frequency, long duration, and/or high strength); and

5) is characterized by one or more of the five behavior criteria listed below:

    a. Inability to build or maintain satisfactory interpersonal relations with peers, teachers and/or school personnel.

    b. A general pervasive mood of unhappiness or depression, wide-mood swings.

    c. The development of a variety of physical symptoms or fears associated with personal or school problems.

    d. Inappropriate behaviors or feelings under normal circumstances.

    e. Inability (underachievement) to learn given adequate educational opportunities which cannot be explained by intellectual, sensory, health, cultural or linguistic factors.

The team responsible for verifying these five elements must also determine that the behavior is not primarily the result of intellectual, sensory, health, cultural or linguistic factors. (No student shall be identified or assigned to a program for students with emotional/behavior disorders for disciplinary reasons only.)

PILOT DEFINITION AND CRITERIA FOR EMOTIONAL/BEHAVIORAL DISORDERS: OPTION TWO (With Characteristics)

Within the educational setting the existence of an emotional/behavioral disorder requiring special education intervention is determined by the team specified in State Board of Education Rule 5 MCAR Sec. 1.0125 and, when necessary, P.L. 94-142 Sec. 121 a. 344. Minimally, the team must substantiate that all five of the following elements exist and verify that the condition (behavior):

1. has not been changed/improved by at least two documented interventions applied in the school setting;

2. occurs in more than one setting under the school's jurisdiction;

3. greatly interferes with the student's or other student's academic/social/emotional growth;

4. is chronic (continuing over a long period of time) and intense (characterized by high frequency, long duration, and/or high strength); and

5. is characterized by one or more of the five behavior criteria listed below:

    a. Inability to build or maintain satisfactory interpersonal relations with peers, teachers and/or school personnel.

        Examples of characteristics of this behavior pattern:

        Argumentative
        Avoids interaction with peers or others
        Does not trust others
        Is excessive dependency
        Is excessively controlling of others
        Inappropriate sexual behavior
        Is afraid of others
        Isolation or social withdrawal
        Is physically or verbally abusive
        Self-effacing
        Volatile relationships

    b. A pervasive mood of unhappiness or depression, wide-mood swings.

        Examples of characteristics of this behavior pattern:

        Apathetic
        Despair
        Excessive anxiety
        Excessive crying
        Withdrawn
        Hopelessness
        Immobilized

Preoccupation with negatives
Rapid mood swings
Suicidal, self-destructive (once is enough)

c. The development of a variety of physical symptoms or fears associated with personal or school problems.

Examples of characteristics of this behavior pattern:

Absences and tardiness due to illness
A persistent fear related to:
-a specific subject area; e.g., PE
-failure/success
-testing
-new situations:
authority figure
females
males
touch
Chemical abuse/dependency
Complains of not feeling well
Hygiene problems (neglect)
Nervous habits such as tics, nail biting, flinching
Preoccupied with disaster, death, disease, etc.
Refusal to attend school
Requests to visit the school nurse
Self-mutilating
Stress related illnesses, such as:
-asthama/allergies
-headaches
-nausea/vomiting
-rashes, hives
-ulcers/colitis
Truancy due to illness
Unusual sleep or eating patterns
Weight problems

d. Inappropriate behaviors or feelings under normal circumstances.

Examples of characteristics of this behavior pattern:

Affect which is inappropriate or highly changeable
Behavior/development not age appropriate
Disorganized
Excessive/antagonizing behavior
Hostility
Inappropriate laughter, crying or sounds
Lying, stealing, cheating
Odd or unconventional behavior
Overreacts
Refused to do school work or respond
Rigid - not able to make changes or transitions

Seeks attention in inappropriate ways - language/actions
Self-stimulation
Temper tantrums
Threatens others
Unanticipated violence or destruction

e. Inability (underachievement) to learn given adequate educational opportunities which cannot be explained by intellectual, sensory, health, cultural or linguistic factors.

Examples of characteristics of this behavior pattern:

Emergence of assignment problems:
-incomplete, late
-complete but not handed in
Behind in credits earned
Change in organizational skills
Change in rate of skill acquisition
Change in school attendance pattern
Day dreaming
Reaction to life crisis event such as death, divorce, etc.
Reaction to a life threatening event such as illness, accident or crime
Inability to stay on task
No longer follows classroom rules and procedures
Normal achievement rate followed by regression or failure to progress
Retention problems
Significant decline in grades earned
Quits/give up

The team responsible for verifying these five elements must also determine that the behavior is not primarily the result of intellectual, sensory, health, cultural or linguistic factors. (No student shall be identified or assigned to a program for students with emotional/behavior disorders for disciplinary reasons only.)

CHANGE IN PROGRAM AND EXIT CRITERIA FOR EMOTIONAL/BEHAVIORAL DISORDERS

The team (5 MCAR Sec. 1.0125) after reviewing data collected over a predetermined period of time to document academic and/or behavioral progress (observation, assessment results, reports, etc.) may propose:

1. A significant change which:

    a. necessitates the addition of special education instruction and/or related services because the data demonstrates documented lack of progress in the achievement of IEP goals and objectives; or

    b. allows the reduction of special education instruction and/or related services because the data demonstrates documented progress in the achievement of IEP goals and objectives, and demonstrates, during a predetermined trial period, the student's ability to function adequately with the reduced amount of special education and/or related services.

2. Exit (dismissal, termination, discontinuance) from special education:

    a. when data documents that the student has achieved all IEP goals and objectives, and demonstrated, during a predetermined trial period, the ability to function in regular education programs without the provision of special education instructions and/or related services;

    b. when the student has completed a secondary program and is eligible to graduate;

    c. when the student exceeds school age; i.e. 21.

STUDIES OF THE PROGRAM EVALUATION DIVISION

Final reports and staff papers from the following studies can be obtained from the Program Evaluation Division, 122 Veterans Service Building, Saint Paul, Minnesota 55155, 612/296-8315.

1977

1. Regulation and Control of Human Service Facilities
2. Minnesota Housing Finance Agency
3. Federal Aids Coordination

1978

4. Unemployment Compensation
5. State Board of Investment: Investment Performance
6. Department of Revenue: Assessment/Sales Ratio Studies
7. Department of Personnel

1979

8. State-sponsored Chemical Dependency Programs
9. Minnesota's Agricultural Commodities Promotion Councils
10. Liquor Control
11. Department of Public Service
12. Department of Economic Security, Preliminary Report
13. Nursing Home Rates
14. Department of Personnel, Follow-up Study

1980

15. Board of Electricity
16. Twin Cities Metropolitan Transit Commission
17. Information Services Bureau
18. Department of Economic Security
19. Statewide Bicycle Registration Program
20. State Arts Board: Individual Artists Grants Program

1981

21. Department of Human Rights
22. Hospital Regulation
23. Department of Public Welfare's Regulation of Residential Facilities for the Mentally Ill
24. State Designer Selection Board
25. Corporate Income Tax Processing
26. Computer Support for Tax Processing

27. State-sponsored Chemical Dependency Programs, Follow-up Study
28. Construction Cost Overrun at the Minnesota Correctional Facility - Oak Park Heights
29. Individual Income Tax Processing and Auditing
30. State Office Space Management and Leasing

1982

31. Procurement Set-Asides
32. State Timber Sales
33. Department of Education Information System
34. State Purchasing
35. Fire Safety in Residential Facilities for Disabled Persons
36. State Mineral Leasing

1983

37. Direct Property Tax Relief Programs
38. Post-Secondary Vocational Education at Minnesota's Area Vocational-Technical Institutes
39. Community Residential Programs for Mentally Retarded Persons
40. State Land Acquisition and Disposal
41. The State Land Exchange Program
42. Department of Human Rights: Follow-up Study

1984

43. Minnesota Braille and Sight-Saving School and Minnesota School for the Deaf
44. The Administration of Minnesota's Medical Assistance Program
45. Special Education

In Progress

46. County Managed Tax-Forfeited Lands
47. Sheltered Employment Programs
48. State Block Grants to Counties