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A Descriptive Study to Determine the Educational Needs of Visually Impaired Students in Grades 1 - 12 in North Dakota

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A DESCRIPTIVE STUDY TO DETERMINE THE EDUCATIONAL
NEEDS OF VISUALLY IMPAIRED STUDENTS IN
GRADES 1 - 12 IN NORTH DAKOTA

by

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A Dissertation

Submitted to the Graduate Faculty

of the

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for the degree of

Doctor of Philosophy

Grand Forks, North Dakota
July
1992

This dissertation, submitted by Anne S. Nielsen in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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This dissertation meets the standards for appearance, conforms to the style and format requirements of the Graduate School of the University of North Dakota, and is hereby approved.

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Title   A Descriptive Study to Determine the Educational Needs of
             Visually Impaired Students in Grades 1 - 12 in North
             Dakota

Department   Center for Teaching and Learning

Degree   Doctor of Philosophy

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ABSTRACT

The purpose of this study was two-fold: (a) to determine the educational needs of the 55 visually impaired general education (academic) students in Grades 1-12 enrolled in local educational agencies in North Dakota; and (b) to establish which programs or services the North Dakota School for the Blind should offer to visually impaired children, their parents, and educators. The target populations surveyed were educators of visually impaired students, parents, and visually impaired children. A two-part survey instrument, developed by Michigan's Department of Education, was modified and used to gather information for this study.

Results of the study indicated that local educational agencies are able to provide adequate services in basic academics, social and interpersonal relations, personal management, and productivity. Local educational agencies are not as able to provide adequate services in maximizing use of sensory ability, accessing information in print, and orientation and mobility.

Parents and their visually impaired children viewed all of the current and proposed programs or services as necessary. Parents and their visually impaired children wanted visually impaired children to have access to consultation/outreach services as well as direct consultation/teaching services. They wanted quality support available, if not locally, then at the North Dakota School for the Blind. Educators wanted programs or services which would enhance their abilities to provide better instruction to visually impaired children in

the local educational agencies with consultation/outreach services provided by the North Dakota School for the Blind.

The most needed programs or services indicated by educators and parents and their visually impaired children included evaluation and training in technology, seminars for parents on how to enhance their child's independence, seminars for parents on understanding their child's affective development, evaluation of vocational aptitude and readiness, consultation/outreach service, and summer school.

The study resulted in recommendations made to three audiences: decision-makers at the North Dakota School for the Blind and the North Dakota Department of Public Instruction, decision-makers in the local educational agencies, the parents of visually impaired children, and those persons conducting future needs assessments.

CHAPTER I

INTRODUCTION

To set the stage for a description of the present study, the
researcher first has provided an historical overview of educational
services to the visually impaired and then traced the development of
services provided by the North Dakota School for the Blind (NDSB) within
the framework of this history. In an attempt to define more clearly the
service delivery role and value of NDSB, this study sought to collect
information which could assist and provide insight in meeting the needs
of visually impaired children, their parents, and teachers in North
Dakota.

Throughout this and subsequent chapters, the term visually
impaired (VI) has been used to refer to individuals who are blind or
visually impaired. The term "residential school" refers only to a
residential school setting for the VI. A complete glossary of terms
used in this study is in Appendix A.

Education of the Visually Impaired

Residential schools have served as a service delivery model in the
United States since 1832. In the early part of the 1830s, the New York
Institute for the Education of the Blind, the New England Asylum for the
Blind (now called Perkins School for the Blind), and the Pennsylvania

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School for the Blind (presently the Overbrook School for the Blind) were
the first residential schools in the United States (McIntire, 1985).
The first state-supported school in the United States was opened in Ohio
in 1837 "in response to the view that children, including blind
children, were entitled to a free, public education" (Roberts, 1986, p.
3). The public schools from 1832 until the 1890s were not well equipped
to accommodate the individual needs of blind children. Because few
trained staff and adapted materials were available, it was assumed that
blind children, so severely impaired, could benefit only from an
education administered by these specially trained teachers in schools
where the primary goal was to accommodate this kind of exceptional need
(Roberts, 1986). Therefore, residential schools were commonly seen as
the best and only option for the VI (Lowenfeld, 1975). Residential and
public schools continued to develop and diversify their programs or
services to provide the educational support appropriate to their times.
Samuel Gridley Howe, the first superintendent of the Perkins School for
the Blind, projected that "residential schools for blind persons would
ultimately have to give way in certain respects to public school
programs" (McIntire, 1985, p. 161) and raised the question of whether it
was appropriate to segregate (separate VI individuals into residential
schools) or to integrate (include VI individuals in public schools). At
the opening ceremony for a residential school in 1866, Howe stated:

> All great establishments in the nature of boarding schools,
> where sexes must be separated; where there must be boarding
> in common, and sleeping in congregate dormitories; where
> there must be routine and formality, and restraint, and

repression of individuality; where the charms and refining

influences of the true family relationship cannot be

had--all such institutions are unnatural, undesirable, and

very liable to abuse. We should have as few of them as

possible, and those few should be kept as small as possible.

[Howe, 1866, p. 38] (cited in Roberts, 1986, p. 4)

The view that the residential school was the sole and best option began to change as public schools became more able to serve the extraordinary needs of the VI child. In the 1890s Frank H. Hall, the superintendent of the Illinois School for the Blind, along with parents of VI students from Chicago, was instrumental in convincing the Board of Education to enroll VI children in regular classes (Roberts, 1986). "Before the first decade of the 20th century . . . the Chicago Plan, also called Cooperative Plan, of sending pupils from the homerooms to the regular classrooms for most of their work was adopted" (Lowenfeld, 1975, p. 110). When public schools began serving VI children in the 1890s, the debate ignited over the value of the residential schools' versus the public schools' educational program for VI children (McIntire, 1985; Roberts, 1986).

Residential Education Versus Public School Education

Despite this debate, the evolution of public school programs to serve VI students was relatively slow. Lowenfeld (1975) noted in 1915, that about 10% of VI students attended public school and 90% went to residential schools. This proportion remained consistent until two epidemics, retrolental fibroplasia (RLF), now known as Retinopathy of Prematurity (ROP), which occurred in the late 1940s and early 1950s, and

the rubella epidemic of 1963-65, increased the incidence of children with serious eye impairments. Residential schools were not equipped to manage the number of students during these epidemics; therefore, public schools hired teachers and began programs within their districts. Lowenfeld (1975) indicated that in 1950, 88% of VI children were served in residential schools, while 12% were served in public schools. In 1960 this changed to 47% in residential schools and 53% in public schools; in 1972, 31.5% went to residential schools and 68.5% went to public schools. The American Printing House for the Blind in 1987 indicated that 81% of VI students were being served in local day schools and 10% in residential facilities, while 9% were being served in other types of programs. The American Printing House for the Blind indicated that in 1991, 9% of VI students were served in residential schools, 83% in public schools, while 8% were being served by programs for multihandicapped or rehabilitation programs. This shift of VI individuals away from residential schools to public schools was significant and necessitated an array of service delivery systems to meet their diverse needs. According to Tuttle (1986), four traditional service delivery models besides residential schools have provided support to VI students: (a) teacher-consultant, (b) itinerant teacher, (c) resource room, and (d) self-contained classroom. Each model is defined in the Glossary of Terms. (See Appendix A.) The circumstances which created this dramatic shift in the educational placement of VI students away from residential schools to public schools will be addressed briefly in this chapter.

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Forces of Change Which Affected Public Schools

In 1985, McIntire referred to seven forces in the past 70 years which contributed to the improvement of the public schools serving VI students, and which made the integration of VI children into public schools more achievable:

1. Through experience, improvements in educational practice were learned.

2. World Wars I and II facilitated change in society's attitude and understanding of being blind (orientation and mobility techniques were developed to train blinded veterans).

3. Medical science discovered more about the causes of blindness, and this information helped to educate the public and thus reduced some of the fears society held.

4. The retrolental fibroplasia outbreak caused public schools to serve a large number of VI students in their local educational agencies.

5. Awareness that children with disabilities could be educated in public schools alerted parents to the fact that they could demand this type of service.

6. The civil rights movement opened the door for advocates to press for the rights of disabled children to be educated with nondisabled children.

7. State and federal support was provided for training teachers to work with students with various disabilities, and for bringing necessary educational materials and techniques into the public schools.

The reasons for educating VI students only in residential schools in the early years did not remain applicable in the mid to latter 20th century. During this more contemporary era, public schools were able to obtain trained staff and other resources to educate VI students within their local educational agencies, allowing the VI child to live at home (McIntire, 1985).

However, the most significant influence on education for the disabled was the enactment of The Education for All Handicapped Children Act (P. L. 94-142, known as EHCA, and amended to become The Individuals with Disabilities Education Act [IDEA] in 1990) (Education for All Handicapped Children Act, 1975 & Individuals with Disabilities Act, 1990). P.L. 94-142 mandated a free appropriate public education for all handicapped children in the least restrictive environment (LRE) as determined by a multidisciplinary team and expressed through an annual individualized educational program (IEP). Today, children with visual impairment (as their only handicapping condition) can generally receive an appropriate education in their public school through one of the other service delivery models (i.e., teacher-consultant, itinerant teacher, resource room, and self-contained classroom).

Forces of Change Which Affected Residential Schools

After the passage of P.L. 94-142, the debate about the education of VI students in public versus residential school settings continued. The debates in the early 1970s were over which service delivery option was superior (i.e., residential school versus public school) (Bina, 1990). In the mid-1980s to the present, the debate has been over the interpretation of LRE and whether or not residential schools (viewed as

segregated placements) were still a viable and valuable service delivery option (Bina, 1990). The loose interpretation of LRE and the intensity of debate over placement have influenced significantly the educational direction of service delivery systems. Residential schools in the 1980s and '90s were challenged to evaluate their roles and defend or more clearly define their positions on the continuum of services for VI students.

Frampton (1953) stated that residential schools have persisted through these decades of debate and controversy because of their organizational ability to adapt to society's changing needs. This major population shift of VI students from residential to public schools encouraged a change in the role of some residential schools from a center-based (on-campus) program approach to an outreach (off-campus) program approach. As early as 1977, Deitz was advocating that residential schools assume the responsibility for delivering and monitoring educational services for VI students in public schools. She contended that residential schools, with their expertise, equipment, and knowledge of best practices, were in an optimum position to coordinate services and provide the support necessary to public schools. In 1982, Spungin described the services which the residential school (acting as a regional resource center) could provide to local educational agencies, thus developing cooperative relationships between local educational agencies and the residential schools. Some residential schools assumed this role and offered the following resource services and programs: (a) a broad array of services and programs to meet the intent of state and federal laws concerning the education of handicapped children,

(b) diagnostic and evaluation services, (c) consultation, (d) direct service to VI children and their families, (e) inservice training for teachers and parents, (f) technical consultation and assistance, and (g) disability-specific program offerings (Cronin, 1992; Livingston-White, Utter, & Woodward, 1985; McIntire, 1985; Miller, 1985). Some educators advocated that residential schools put more emphasis on serving the needs of VI students with additional handicapping conditions because the LRE for most VI children with vision as their only handicapping condition should be in their local educational agency (McIntire, 1985; Silverstein, 1985). Others, including Miller (1985, 1991), Curry and Hatlen (1988), and Hatlen (1990), advocated that residential schools be viewed as "one of many possibilities in an array of service delivery models, rather than one of several options along a continuum of educational placements ranking from most to least desirable" (Miller, 1985, p. 160). These educators contended that this full spate of services be for the full array of VI students, including those with vision as their only handicap to those with additional disabilities.

Bina (1991) referred to placements where students move back and forth from their local educational agencies to the residential school as "revolving-door" placements (p. 8). He noted that the expectation for initiating these placements has largely been advocated by the residential schools and indicates that this responsibility must be placed on the local educational agencies as well (Bina, 1991).

Both residential and public schools have modified and changed their philosophy about integration and delivery of programs or services

to respond to the new realities which society has imposed over the last 160 years. For example, residential schools have changed their programs or services to provide not only a variety of center-based instruction and residence but also to provide outreach services (e.g., evaluation and consultation services, inservice training, and the loaning of materials and equipment to VI children served in their home school). Looking to the future, Huebner (1989) projected that "new and more effective service delivery systems may modify or replace" the traditional models (p. 143).

History of the North Dakota School for the Blind

Illustrative of the traditional residential school is the North Dakota School for the Blind, which was established by the North Dakota Constitution to meet the educational needs of VI students in the state. The original school, called the North Dakota Asylum for the Blind, began serving students in 1908 in Bathgate. "Asylum" was dropped from the name in 1918, and the institution was referred to as the North Dakota State School for the Blind until the 1970s. In the 1970s, "state" was dropped from the name, and the school became known as the North Dakota School for the Blind. In 1961, a new facility was built in Grand Forks. The school was under the jurisdiction of the North Dakota Board of Administration from 1908-1968 and the Director of Institutions from 1969-1990. It presently is under the direct supervision of the North Dakota Department of Public Instruction. NDSB is financed by state appropriations and federal funds (Neal, 1983).

Until 1975, the enrollment of NDSB was primarily comprised of general education academic students. In August 1975, 12 students with dual-sensory impairments were transferred to NDSB from Grafton State School (now referred to as the Developmental Center at Grafton). With the arrival of this group of students, NDSB's on-campus population gradually shifted from an academic student body to a multihandicapped student body. Between the academic school years of 1908 and 1992, the highest enrollment at NDSB was 54 students in 1975-76. The lowest enrollment was 16 students in 1990-91. Over this 84-year span, the average enrollment was approximately 33 students per academic year (North Dakota School for the Blind Biennial Reports from 1908-1992; Syverson, 1988).

In 1991, the Department of Public Instruction created the North Dakota Division of Vision Services and established the position of Administrator of Vision Services. This individual acts as the chief administrator of NDSB, as well as the coordinator of all vision services delivered through other state agencies such as Vocational Rehabilitation, Developmental Disabilities, and the public schools. The North Dakota Division of Vision Services serves all VI residents from infants to senior citizens, some with vision as their only handicap, others with additional disabilities. NDSB's primary mission is to serve VI individuals from birth through age 21, while the school also offers a variety of programs or services to parents, public and private schools, institutions, and agencies. NDSB offers no-cost assistance in the following: (a) assessing the disability-specific curriculum of VI students, (b) establishing and implementing educational programs, and

(c) providing instructional materials, adaptations, and technological devices based upon the unique needs of the VI child. NDSB provides this support to VI students through either their center-based residential program or outreach program to persons not on campus. Center-based programs include the following: (a) diagnostic evaluations, (b) academic programs leading to regular diploma or special diploma, (c) short and long term disability-specific training programs, (d) summer school, (e) vocational training, and (f) mainstreaming to local schools. Specific outreach services provided by NDSB include the following: (a) outreach evaluations, (b) consultation services, (c) parent-infant program, (d) vocational training, (e) parent and teacher inservice and training, and (f) an instructional resource center. VI adults are provided a variety of services via the North Dakota Division of Vision Services, as designated by the Administrator of Vision Services through interagency agreements with the Department of Human Services and the Office of Vocational Rehabilitation. These adult services may not be directly affiliated with NDSB, because NDSB's main focus is the birth through 21-year-old population.

In 1991, NDSB listed 283 legally blind North Dakotans on the American Printing House for the Blind Annual Federal Quota Registration report. The American Printing House for the Blind is a national, private, non-profit organization which administers the federal funds for VI students who are less than college level under the Act to Promote the Education of the Blind (Act to Promote the Education of the Blind, 1879). This organization's purpose is to provide educational materials such as educational and recreational literature, special tools,

supplies, and other teaching aids. One of NDSB's major responsibilities is to administer and allocate the educational materials covered by this fund. Therefore, NDSB is responsible for annually registering North Dakota VI individuals who are eligible for those educational services.

Of the 283 registrants reported in 1991, 235 were birth through 21 years of age, and 48 were over the age of 21. Of the 283 total, 184 (65%) were in educational placements (public schools or infant development agencies) while 99 (35%) were in rehabilitation programs and lived in institutions or group homes. Of the 184, 55 (30%) were general education students in Grades 1-12. NDSB was serving 14 American Printing House registrants on-campus in their center-based program and 269 in their outreach program. Approximately 35% of this legally blind population was housed in institutions or group homes. Six students (6% of this 35%) were living in the NDSB residence hall; all of these residents were multi-handicapped VI students (Nielsen, 1991).

NDSB enrollment varies from year to year, depending on placement decisions made at the VI students' annual individualized education program meetings. For example, in the 1991-92 school term, NDSB's center-based program served 21 students. Of these 21, one was an academic student placed at NDSB for the year to acquire braille skills, and another (who had not graduated from high school) was placed at NDSB for an additional year of transitional training to prepare her for adult life. The other 19 students were placed in classrooms serving multihandicapped students. Ten students lived in the residence hall.

Table 1 presents the yearly totals of the North Dakota American Printing House Federal Quota Registration listing from 1985 through

1992. These totals include all registrants who comprise individuals from birth to beyond 21 years of age. The North Dakota American Printing House Federal Quota Registration listing has shown a continuous pattern of growth for seven of the past eight years.

Table 1

Yearly Totals of the North Dakota American Printing House Federal Quota Registrants

Year	Number of Registrants
1985	107
1986	141
1987	153
1988	187
1989	207
1990	225
1991	283
1992	240

Note: Representative of registrants from birth to over 21 years of age.

In 1990, the Department of Public Instruction was assigned jurisdiction of NDSB. This reassignment was the impetus for the development of a task force established by the Department of Public Instruction and NDSB. This task force (later redefined as the Visions

Committee) was comprised of parents of VI children, public school
personnel, and staff members from NDSB and vocational rehabilitation.
Their assignment was to make recommendations to the Superintendent of
Public Instruction regarding a long-range plan for NDSB. This report
contained recommendations which would enable NDSB to redefine its role
in providing supportive services to the VI of North Dakota. These
recommendations would include providing outreach support services to the
various state and local agencies interactive with VI clients.

Need for the Study

The researcher was a teacher at NDSB for six years, served on the
school's outreach committee, and coordinated summer adventure, a
two-week program for academic VI children throughout the state who
attend school in their local educational agency. She observed first
hand the needs of the VI students, their parents, and their teachers.
In reviewing the educational history of VI students in the United States
and specifically in North Dakota, she was able to develop a sense of how
the residential and public schools have delivered programs or services
to VI students since the first residential school for the blind opened
its doors. Given the framework of this historical background and the
existing economic conditions within a rural environment such as North
Dakota, the researcher was left with questions about how NDSB could
provide programs or services to become a more viable and valuable
service delivery model to educators and VI children and their parents.
Although the Visions Committee has made progress in defining the overall

role of NDSB, the researcher believes that the consumers' perceptions have not been sought nor explored.

In 1989 Helge stated, "Rural citizens are typically unimpressed by what they are told they 'have to do' for handicapped children. In contrast, they are highly motivated to provide appropriate services when the initiative is theirs" (p. 13). She suggested that "adept administrators understand and plan to use such inherent rural community attributes, particularly when attempting changes" (p. 13). Helge noted that service delivery planners must be able to understand the dynamics of a rural state in serving a low-incidence population. Zanecchia (1984) stated "because needs are individual, the client is the best source for determining those needs" (p. 42). Thus, the need for discovering what the consumers perceive as being the most important programs or services to assist the VI child, their parents, and their teachers in a rural state warrants an investigation.

Purpose of Study

The purpose of this study was two-fold: (a) to determine the educational needs of the 55 academic visually impaired students in Grades 1-12 attending school in their local educational agencies, and (b) to establish which programs or services the North Dakota School for the Blind should provide to ensure a more holistic educational program for those VI students in North Dakota.

Research Questions

The major questions of this study were the following:

1. What are the key demographics of the individuals with visual impairment, vision consultants, vision paraprofessionals, case managers, general education teachers, and the parents of visually impaired children?

2. Which of the unique educational need categories related to visual impairment do vision consultants and case managers currently think their local educational program is able to provide adequately? not able to provide adequately?

3. What are the reasons for visually impaired students in their local educational agencies having difficulty in achieving the educational outcomes necessary to meet their unique educational needs as perceived by vision consultants and case managers?

4. Which programs or services offered or proposed by NDSB are perceived by teachers, vision paraprofessionals, vision consultants, and administrators as the most important (needed) to meet the educational needs of individuals who are visually impaired and attending their local educational agency?

5. Which programs or services offered or proposed by NDSB are perceived by parents and their visually impaired children as the most important (needed) and would be used/requested by them in meeting the educational needs of children who are visually impaired?

6. Which programs or services offered or proposed by NDSB are viewed as most needed by all respondents (i.e., parents and VI children,

general education teachers, vision paraprofessionals, vision consultants, and administrators)?

Significance of the Study

The information obtained from this study will provide the North Dakota Department of Public Instruction and NDSB with pertinent information to aid in their understanding of the needs of VI students, their parents, and teachers in North Dakota, as perceived by the parents/children, teachers, and administrators. The findings from this study will assist the Department of Public Instruction and NDSB in meeting those needs by providing fundamental information for planning and developing programs or services which were identified as needed and would be most utilized by the local educational agencies to help support VI students, their parents, and/or teachers in providing a more holistic educational program.

Assumptions

1.   The North Dakota American Printing Federal Quota House Registry listing for 1991 accurately reflected the number of general education visually impaired students in North Dakota.

2.   The respondents were open, honest, and accurate when completing the survey instruments.

Delimitations of the Study

1.   This study involved only students who have been classified by the legal definition of blindness. This definition states that visual

acuity must be 20/200 or less in the better eye after correction with glasses, or if their field of vision is restricted to an area of 20 degrees or less from the normal 180 degree field. This study did not include students with low vision.

2. The visually impaired students involved in this study were registrants on the North Dakota American Printing House Federal Quota Registration Listing. There are nine American Printing House classification categories (infants, preschool, kindergarten, students in regular academic Grades 1-12, academic nongraded, post-graduate students, vocational students, other registrants, and adult students). This study involved students in only one of these categories: regular academic Grades 1-12.

3. All 55 registrants were on the North Dakota American Printing House Federal Quota Registry; however, two of the families lived in bordering states (South Dakota and Montana), but their children obtained services through the North Dakota School for the Blind.

4. This study was limited to North Dakota; no other states were included.

5. Vision impairment was the primary handicapping condition of the students in this study. No other severe disability existed to hinder their ability to complete local minimum general education requirements.

CHAPTER II

REVIEW OF THE LITERATURE

To acquaint the reader with an overview of the educational needs of individuals who are visually impaired (VI), this review of the literature is divided into six sections: (a) general characteristics of the VI, (b) classification systems and terminology associated with visual impairments, (c) effects of visual impairment on growth and development, (d) identifying the unique needs of the VI, (e) determining the most appropriate placement for the VI, and (f) using surveys to determine programs or services for the VI. This chapter concludes with summaries of two related studies which address the delivery of programs or services to meet the educational needs of VI students.

General Characteristics of the Visually Impaired

Visually impaired children comprise a small percentage of the school age population and, therefore, visual impairment is considered to be a low-incidence disability. Approximately one of every 1,400 children from birth to age 17 are VI (Kirchner, cited in Huebner, 1989). Heward and Orlansky (1992) reported that VI children represent about 0.5% of all handicapped children in the United States.

The American Optometric Association (1985) estimated that 75-90% of individuals' learning is processed through their eyes. Hatlen and

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Curry (1987) said, "psychologists, scientists, and others have speculated that as much as 90-95 percent of the perceptions of sighted children originate in the visual sense" (p. 7). Because so much information is received and processed through the visual channel of a sighted individual, loss of this sense limits the "quantity and quality of information" which quickly can be obtained at a glance (Alonso, 1989, p. 7). The visual sense helps to integrate information via other senses. Visually impaired children's inability to utilize their vision will limit their opportunities to interact within their physical and social environments (Rogow, 1988). Not being able to see puts constraints on the range and variety of experiences VI children can encounter independently.

Lowenfeld (1981) noted three disabling effects imposed on VI individuals by visual impairment: (a) "in the range and variety of experiences" they will encounter, (b) "in the ability to get about," and (c) "in the control of the environment, and the self in relation to it" (p. 68). Olson (1992) said, "attitudes of persons who are blind toward the effects of their impairment represent variations of two opposing views: that blindness is a disaster or that it is a practical inconvenience" (p. 289). Olson placed Lowenfeld's view in the middle of this continuum of attitudes toward visual impairment.

Gallagher (1988) advocated three major premises related to the education of the VI: (a) to be VI is indeed a severe impairment, (b) the impact of this impairment is cause for the individual who is VI to have extraordinary educational needs, and (c) categorical services are essential in the education of the VI student. Alonso (1989) noted

other factors affecting the VI individual's achievement or functioning level including "experiences, motivations, needs, intellectual capacities, and expectancies" (p. 11). Olson (1992) said adjustment to a visual impairment is dependent on several variables such as "personality, degree of visual impairment, age and type of onset, present [eye] condition and [prognosis], and the presence of any additional handicaps" (p. 289).

Visual impairment, a low-incidence disability, affects each VI individual differently. Loss of vision greatly affects the VI child's learning style, thus, creating the need for supportive services.

Classification Systems and Terminology

Associated with Visual Impairment

Terminology used to define visual impairment is not standard. For purposes of this study, the legal definition of blindness will be used. (Refer to Glossary of Terms in Appendix A for definition of blindness.)

The conditions surrounding a visual impairment are unique to each individual. One child may have the same diagnosis as another child; yet, the way the children function with their vision loss can be very different. The severity of the condition and the degree to which vision loss affects residual vision is an important factor. The American Printing House (APH) (1990) uses the following seven codes (underlined) to report visual measurement, i.e., residual vision after maximum correction:

1. 20/200 (or below): Method of measuring visual acuity no better than 20/200 in the better eye after correction (glasses or

contacts). For example, if the VI individual has 20/200 vision with his/her glasses on, then he/she will need to stand at a distance of 20 feet to see what sighted people normally can see from 200 feet away (APH, 1990; Heward & Orlansky, 1992). (Refer to Glossary of Terms Appendix A for definition of visual acuity.)

2. Vision field (VF) and the degree of restriction: Method of measuring restricted field of 20 degrees or less. For example, the normal eye is able to see objects within a range of approximately 180 degrees. If the VI individual has a field of vision of only 12 degrees, then he/she will have only a narrow tunnel of vision through which to view his/her environment (APH, 1990; Heward & Orlansky, 1992). (Refer to Glossary of Terms Appendix A for definition of visual field [field of vision].)

3. Count fingers (CF): Method of measuring vision used only when an eye specialist finds it is not possible to obtain an acuity using the Snellen Chart. For example, the VI person is visually able to recognize motion (movements of objects or people) (APH, 1990; Langley, 1978).

4. Hand movements (HM): Method of measuring vision used only when an eye specialist finds it is not possible to obtain an acuity using the Snellen Chart. For example, the VI person is visually able to recognize objects and people as distinct entities (APH, 1990; Langley, 1978).

5. Object perception (OP): Method of measuring perception of objects or people. For example, the VI person can visually recognize

differences in shape or outline of objects or people (APH, 1990;
Langley, 1978).

6. Light perception (LP): Method of measuring perception of light
(APH, 1990; Langley, 1978). For example, the VI person is able to
visually perceive light or the absence of light.

7. Nil: Signifies that the VI person is totally without sight and
needs to rely exclusively on his/her other senses (Alonso, 1989;
APH, 1990; Heward & Orlansky, 1992; Langley, 1978).

The researcher selected the codes used by the American Printing
House for the Blind to define the terms and classification of legally
blind individuals. This system was used to classify the VI students in
North Dakota and subsequently to identify the target population of this
study's respondents.

Effects of Visual Impairment on Growth and Development

Research findings have enhanced the understanding of how growth
and development are affected by visual impairments. This section will
look briefly at how visual impairments affect three main areas of growth
and development: (a) psychomotor, (b) cognition-intelligence/language,
and (c) social-affective.

Psychomotor

Because VI children are not able to see, they lack the
opportunities and natural motivations to be visually stimulated to
perform the tasks which their sighted peers achieve spontaneously. They
will not be able to observe nor imitate the physical activities (gross
and fine motor) of others, such as moving their heads to track an object

or person, crawling, walking, jumping, achieving appropriate postures and gait, grasping, or reaching for objects. This lack of visual ability to observe and imitate may cause an awkwardness of body movement. Visually impaired children may develop inappropriate self-stimulatory behaviors such as rocking back and forth or eye poking, which can be a result of inadequate sensory and physical stimulation. Parents may overprotect their VI child for safety reasons (e.g., by preventing him/her from bumping into something or from falling), which leads to underdeveloped muscle tone. Limiting free exploration and movement can interfere with the normal development of body image, as "body concepts are acquired through movement and interaction" within the environment (Rogow, 1988, p. 42). Lack of visual stimulation and independence to move freely can have a profound effect upon a child's physical growth and development.

Cognition-intelligence/Language

Visually impaired children begin their infant, toddler, and pre-school years lagging behind their sighted peers in the development of conceptual and cognitive abilities (Fewell, 1983). Delays begin early with some VI children demonstrating abnormal ocular movements and responses (Olson, 1987). Skills common to children between 4 and 9 months of age are delayed, with one of the most obvious being the failure of the VI child to reach for objects (Fewell, 1983). Lack of sensory stimulation hinders the "integration of sensorimotor experiences" of a VI child (Fewell, 1983, p. 246).

Object concept is an area in which VI children show a significant delay. Visually impaired children between the ages of 3 and 5 acquire

object concept skills which sighted children 2 years of age are able to
demonstrate (Fewell, 1983). This "delay in object concepts further
inhibits acquisition of the concepts of object permanence, spatial
relations, and causality" (Fewell, 1983, p. 246). "Moreover, when the
blind child is unable to gain sufficient information from the
environment, and understanding of the relatedness of objects to other
objects, events, persons, and experiences is lessened, . . . [then]
these deficiencies subsequently [may] affect higher levels of cognitive
skills" (Olson, 1987, p. 303).

Fewell (1983) stated that language develops for VI children at a
"different rate" from that of sighted children "in the early years of
language acquisition" (p. 246). However, differences in rates of
language acquisition are usually overcome by the time the VI child
reaches age 5 (Fewell, 1983).

Social-affective

If a child cannot see, then the child cannot imitate the facial
expressions and nonverbal gestures of others. Because VI children may
participate in mannerisms which set them apart from their sighted peers,
other children may view these behaviors as peculiar and choose not to
interact with them. Rogow (1988) stated that the attitude which parents
relay about their child can have an impact on how the VI child adjusts
socially. For example, if parents do not allow children to think that
they can perform tasks independently, then children may develop an image
of themselves as not being able-bodied. This attitude of not being
able-bodied may interfere with some expectations teachers have of them
when they enter school. Visually impaired children may lack the

confidence and competence necessary to complete tasks which they could achieve along with their sighted peers. Van Hasselt and Hersen (1981) suggested that if feedback to VI children about their social skills or negative reactions to their disability are inappropriate or absent, then social adjustment problems can result. Limited access to independent mobility, such as walking where they want, riding a bike, or driving a car, and lack of control over their lives can affect greatly the way VI children feel about themselves. Their self-concept can affect positively or negatively their social growth and maturity (Rogow, 1988).

Fewell (1983) noted, "There is substantial agreement among vision educators and researchers that blindness itself is not a detriment to academic achievement if favorable educational opportunities are available" (p. 247). In order to provide the most appropriate support at the stage at which a skill should be learned, those who work with VI individuals should be knowledgeable regarding the effects of visual impairments on normal growth and development.

Identifying the Unique Needs of the Visually Impaired

Hatlen (1990) described a period of time in the mid-1950s when some educators believed "that children with visual impairments had no specialized or unique needs--that their needs were believed to be parallel to those of their sighted peers" (p. 79) and that the only specialized training needed was basic instruction in braille. This guiding principle was the impetus for designing educational support programs which placed VI students in highly integrated programs within their local educational agencies (LEAs). The general education teacher

provided adequate support, and a vision teacher was needed only to teach braille and adapt or prepare materials for the general education curriculum. Hatlen (1990) further related the excitement of high school graduation for VI students who had "spent every school day of their young lives with sighted classmates and had never set foot in a segregated class or school for the blind" (p. 80). Because of their education in an integrated setting, these VI students were supposed to be able to assimilate easily into a sighted community and world. However, this belief went awry as Curry and Hatlen (1987) revealed:

> This generation of visually impaired young adults could not
> organize their personal materials, living space, or time;
> did not have the skills to live independently; had poor
> social relationships; and demonstrated large deficits even
> in the academic areas in which they had been instructed.
> Sighted students who had had the same educational programs
> were prepared to continue school, work, and live as adults,
> yet the blind and visually impaired students were not. In
> many ways, these blind and visually impaired students were
> more poorly educated and had fewer skills than students who
> had attended residential schools for the blind.
> Integration--sitting in the same classroom as sighted
> children and doing the same academic assignments--had not
> been enough. (p. 10)

Hatlen (1990) concluded that educators who worked with these VI students had "ignored a broad range of unique needs that their sighted classmates did not share: needs that were the direct result of vision

loss" (p. 80). This experience caused educators to reexamine the effects of visual impairments on learning and to reevaluate the level of support needed by VI individuals after they had "experienced the failure of a system that practiced wholesale integration with no regard to unique needs" (Hatlen, 1990, p. 81).

In the early 1980s, because of mandated legislation, California's State Department of Education undertook the task of defining the broad range of needs of VI individuals and of developing guidelines for programs serving individuals with visual impairment, deaf-blindness, hearing impairment, and severe orthopedic impairments (Hazekamp & Huebner, 1989). In 1989, the American Foundation for the Blind published Program Planning and Evaluation for Blind and Visually Impaired Students: National Guidelines for Educational Excellence, which was based upon California's work and was to assist educators of VI students to plan for their VI students' educational programs more appropriately (Hazekamp & Huebner, 1989). Such national guidelines enabled other states to adopt and modify California's standards to ensure a minimum level of achievement in the disability-specific categories of VI individuals in the United States. The unique educational needs related to visual impairment that were established in California and adopted for the national guidelines were in these areas: (a) concept development and academic needs (e.g., loss of vision impeded development of visual concepts and learning in academic areas); (b) communication needs (e.g., alternative modes for reading and writing need to be defined); (c) social/emotional needs (e.g., self-concept as it relates to socialization, affective education, recreation, sex

education, and psychological implications of vision loss); (d) sensory/
motor needs (e.g., gross and fine motor development may be affected; (e)
orientation and mobility needs (e.g., how a VI individual learns to
understand and to become oriented to the environment and move safely
within it); (f) daily living skills (e.g., ability to take care of
grooming, dressing, homemaking, household chores independently); and
(g) career and vocational needs (e.g., guidance in selecting and
preparing for an appropriate career) (Hazekamp & Huebner, 1989).

In 1989, the Michigan Department of Education published Special
Education Program Outcomes Guide: Visual Impairment, which set
standards for expected outcomes of VI academic students from
kindergarten through grade twelve. These guidelines were disability-
specific standards or outcomes VI students were to be able to meet in
order to graduate from high school as well-prepared adults. This guide
included 21 outcomes in seven educational categories (i.e., basic
academics, maximizing use of sensory abilities, accessing information in
inkprint, competence in orientation and mobility, productivity, personal
management, and social and interpersonal relations) which VI graduates
should be able to meet to fulfill general education requirements set in
their LEA. The outcomes identified in Michigan's guide were intended
"to compliment [sic] and support general education for the VI students,
not supplant it" (Michigan Department of Education, 1989, p. 23). Such
clearly stated standards helped to monitor, advise, and provide the
necessary level and quality of support needed for each VI individual.

The attitude displayed by and the knowledge professionals have
about the effects of a visual impairment on growth and development and

the educational implications of visual impairment are key elements in identifying and understanding the unique educational needs of the VI student. Some state departments of education have established standards to ensure minimum outcome achievements that the VI student must accomplish before graduation. Identifying unique needs is an essential component when determining the most appropriate placement for the VI child.

Determining the Most Appropriate Placement

for the Visually Impaired

This section of the literature review outlines three factors that have a bearing on the determination of appropriate placement for VI students: (a) interpretation of least restrictive environment, (b) inclusion of the dual curriculum, and (c) considerations for serving a low-incidence population in a rural state.

Interpretation of Least Restrictive Environment

In 1975, P. L. 94-142, The Education of All Handicapped Children Act (renamed in 1990 The Individuals with Disabilities Education Act [IDEA]) became the first federal law to include provisions which influenced what services as well as where services would be provided to disabled students (Education for All Handicapped Children Act, 1975; Individuals with Disabilities Act, 1990). Two major principles of this landmark piece of legislation were that every handicapped child has a right to receive a free appropriate public education and that the education be in the LRE. A multidisciplinary team develops an individualized educational program (IEP) to guide the student's learning

and curriculum; placement of the child will depend on where this plan can best be provided. Therefore, in the spirit of the law, the child's team bears the responsibility for designing a quality program to fit the VI child's needs. IDEA's principles of a free appropriate public education in the LRE have been open to various interpretations. Because states and local school districts interpret IDEA differently, VI children are not treated consistently from state to state nor from one school district to another (Huebner & Ferrell, 1989). The lack of consistency in the educational treatment of VI students and the lack of guidelines for assessing and measuring the unique needs of those who are VI have added to the misinterpretation of appropriate education in the LRE for VI students.

Taylor (1988) said that the LRE principle and the concept of a continuum of services are "closely linked" (p. 45). After the multidisciplinary team develops the individualized education program, placement is then identified, based upon a continuum of services. Reynolds' (1962) and Deno's (1970) hierarchies of special education programs were instrumental in designing the continuum of placement alternatives used in IDEA. These continuums included seven alternatives (listed from least restrictive to most restrictive): (a) regular classrooms, (b) resource classrooms, (c) self-contained classrooms, (d) special schools, (e) residential schools, (f) institutions and/or hospitals, and (g) homebound instruction. The most restrictive placements were considered to be the most segregated and offered the most intensive services, while the least restrictive placements were the most integrated and offered the least intensive services. In the

following paragraphs, views from Hatlen, Taylor, and others on some specific flaws in the LRE principle will be discussed.

Hatlen expressed a concern with the LRE principle as it related to the placement of VI children. Hatlen (1990) stated that educators who work with the VI "must reject the common definition of the LRE" because "it has no relevance to children with visual impairments" (p. 81), i.e., that residential schools are always the most restrictive environment. Only after disability-specific and general education assessments are completed and strengths and weaknesses are established in the VI child's educational program should placement be determined. Hatlen (1990) stated that the individualized educational team members "must consider every placement option as the LRE," (p. 81) dependent upon the VI child's individual needs.

Curry and Hatlen (1988) suggested that any position on the continuum for a designated amount of time (from short-term to long-term placements) might be appropriate to meet the VI child's needs. Bishop (1990) noted that "even the most capable visually handicapped child may fail in the mainstreamed setting if that environment is not receptive, if there is insufficient special support" (p. 351). Tuttle (1986) suggested that for some students, placement will be with sighted peers in their LEA, and for others it will be in a residential school where "essential components for optimal growth and development" (p. 240) can be provided.

The Division for the Visually Handicapped (DVH), a branch of the Council for Exceptional Children organization, stated their position in

1991 on the "meaning, interpretation and application" (Hueber & Koenig, 1991, p. 12) of LRE for students with visual impairments:

> DVH believe[s] the least restrictive environment for a student with a visual handicap is the . . . most appropriate educational environment--the environment in which specialized services are provided by qualified staff with the intensity and frequency needed by each student commensurate with all of his or her specific needs as appropriately identified in the IEP. . . .
>
> DVH opposes any action which seeks to eliminate any of the existing educational placement options. Rather than reducing options, DVH is committed to expanding the array of services to more appropriately meet the multifaceted needs of students with visual handicaps. (Huebner & Koenig, 1991, p. 14)

Taylor (1988) stated that there are other "serious conceptual and philosophical flaws" (p. 12) in the LRE principles, and he argued that it should not be accepted without critical evaluation. Taylor (1988) identified seven flaws in the LRE principle:

1. The LRE principle legitimizes restrictive environments.

2. The LRE principle confuses segregation and integration on the one hand with intensity of services on the other.

3. The LRE principle is based on a "readiness model."

4. The LRE principle supports the primacy of professional decision making.

5. The LRE principle sanctions infringements on people's rights.

6. The LRE principle implies that people must move as they develop and change.

7. The LRE principle directs attention to physical settings rather than to the services and supports people need to be integrated into the community. (pp. 45-48)

Taylor (1988) viewed LRE as a guiding principle for designing services for individuals who are disabled and implied that the "uncritical acceptance" (p. 41) of the traditional LRE principle should not be made without considering these conceptual and philosophical flaws.

Narrowing this debate, i.e., LRE versus most appropriate placement on the continuum, to address only the VI population, Bina (1990) summarized: (a) In the 1970s the debate was over which service delivery option was best--residential or public, and (b) from the mid-1980s to the present the debate is over the meaning and interpretation of LRE and whether residential schools are a viable and valuable service delivery alternative. Bishop (1990) described the emphasis of the 1980s as "a shift in philosophy from whether mainstreaming is appropriate to when it is not" (p. 351). This "lack of mutual understanding has resulted in a continuing controversy over the interpretation and application of the mandates of LRE" (Huebner & Koening, 1991, p. 12).

Inclusion of the Dual Curriculum

Curry and Hatlen (1988) defined the "most appropriate placement" as "the environment in which all the needs of a student are best met, where the student acquires the greatest benefits from the educational

program" (p. 420). Further, they described a process for determining the most appropriate placement (MAP) for students with visual impairments. They defined MAP as a comprehensive assessment which considers "the educational needs shared with nondisabled peers" (traditional academic needs) and "the disability-specific needs of each pupil" (unique to the visual disability of the individual) (Curry & Hatlen, 1988, p. 420). Both of these areas must be assessed thoroughly before placement can be decided. Michigan's Special Education Program Outcomes Guide: Visual Impairment (1989) stated, "It is imperative to recognize the dual nature of the curriculum which is required to fully educate students with visual impairments" (Michigan Department of Education, 1989, p. 23). Students with visual impairments need to meet the general education requirements, and they must also be able to achieve the "knowledge and skills taught in special education that [will] prepare [them] for general education or for adult living needs that are not directly addressed in the general education curriculum" (Michigan Department of Education, 1989, p. 23). For example, a VI student must be able to read braille before he/she can meet general education requirement skills, which are necessary to do homework and to pass an exam. Visually impaired students, therefore, have curriculum additions or prerequisite skills which they must learn in order to overcome "the learning handicaps produced by visual impairment" (Michigan Department of Education, 1989, p. 23).

The traditional academic curriculum is determined by the state and LEAs, and the disability-specific curriculum is determined through an assessment of the seven areas of critical need in the development of an

individual with a visual disability as outlined by the California State
Department of Education and/or the American Foundation for the Blind's
(1989) national guidelines for educational excellence. The IEP team
members must be cognizant of the fact that "the tragic outcome of
continually emphasizing academic skills over the entire range of skill
areas within the dual curriculum is that many VI students are not fully
prepared to function as adults" (Curry & Hatlen, 1988, p. 421).

Hatlen and Curry's (1988) process for identifying the most
appropriate placement is a child-centered educational approach. This
process suggested that the placement decision should be made of the dual
curricular needs: the individual's academic curriculum (courses shared
with non-handicapped peers) and the disability-specific curriculum
("courses of study which are not shared with non-handicapped peers"--
e.g., braille, orientation and mobility) (Curry & Hatlen, 1988, p. 418).
The placement should be primarily directed by the individual needs,
considering every placement option on the continuum of services as the
LRE (Hatlen, 1990). Only then can placement decisions be made (on an
individual basis) to determine the most appropriate environment in which
all educational needs of the VI student can best be met.

Selecting a placement is a grave concern for the members of the
multidisciplinary team. Team members must be able to consider a number
of relevant factors when making placement decisions. The American
Association of Mental Deficiency (AAMD) monograph stated that "the
professionals' task is enormous because [it] must converse in two
domains--the intent of LRA [i.e., LRE] and the client's individual
needs" (cited in Turnbull, 1981, p. 42).

Considerations for Serving a Low-Incidence

Disability Population in a Rural State

Because the prevalence of visual impairment in the general
population is very limited, rural schools often experience problems in
providing appropriate services because of inadequate resources (e.g.,
categorically trained staff, money to purchase costly equipment). Helge
(1983) noted that many of the alternatives on the continuum of services
do not exist in rural areas. North Dakota, for example, does not have
any special day schools for VI students because no city in the state has
enough VI students to make it a practical alternative. Helge (1983)
found that traditional models designed to provide a continuum of
services to handicapped students are less appropriate for rural schools
attempting to serve students with low-incidence disabilities. Helge
(1983) suggested that because of the "tremendous diversity in rural
schools and communities, there is no 'one' rural service delivery model"
(p. ii) which automatically would fit but that each model must be
"individually designed for the rural school system and subculture in
which [it] will be implemented" (p. 9).

In 1989, Helge summarized 15 factors which need to be considered
when designing a service-delivery system for rural families who have a
disabled child:

1. population sparsity

2. distance from child to services needed

3. geographic barriers

4. languages spoken in community

5. cultural diversity

6. economic lifestyles of community

7. communication and power structures

8. ages of children served

9. disabilities served

10. history of services provided

11. available resources

12. governance systems

13. cost efficiency

14. expertise of available personnel

15. expertise and attitudes of existing personnel (p. 18)

Helge (1989) noted that the more factors (givens) involved, the more arduous the task becomes in creating a service delivery model. Helge (1989) then identified 10 variables which could be manipulated in order to counterbalance these problems and create a service model which would be most appropriate for the disabled child:

1. equipment

2. facilities

3. financial system

4. staff development program

5. transportation system

6. staffing for services

7. parent involvement and training

8. community involvement and support

9. governance system

10. interagency collaboration (p. 18)

The appropriate service delivery model can be created by "recognizing givens and controlling variables" (Helge, 1983, p. 16). Realistically, in addressing rural service delivery issues, educators must be aware of these dynamics. Given the intent of LRE, the child's individual needs, and the difficulty of serving the VI population in a rural state, service delivery planners need to realize how closely linked these factors are to one another and the impact one has on the other.

<p align="center">Using Surveys to Determine Programs or Services
for the Visually Impaired</p>

The review of literature revealed a sparsity of research about programs or services needed to support the needs of VI students in residential schools or at their local educational agencies, especially in rural states. However, two studies utilized surveys to obtain information on programs or services designed to support the unique educational needs of individuals who are VI.

In 1989, Harley and English surveyed 45 residential schools to determine if they were providing services to VI children in their LEA (via a regional resource role), and, if so, to discover which programs were the most frequently used by the local educational agencies which mainstreamed VI children. Of the 41 state residential schools which responded, all were cooperating with local educational agencies in providing services in at least two of the nine categories listed on the survey. The services most frequently checked on the survey were the following: (a) professional development services; (b) special intervention programs; (c) preschool services; (d) summer school

programs; (e) book, equipment, and supply services; (f) diagnosis, assessment, and counseling for school-age children attending their local schools; and (g) preparation of transition to elementary education. The services least frequently checked were the following: (a) community participation, and (b) direct services to children attending local schools. The direct services included orientation and mobility, career education, independent living skills, personal care, and recreational and leisure education. This study also illustrated that the greater the population density of the state, the fewer services the residential school offered and, conversely, that the sparser the population, the more services the residential school offered.

The study which related most closely to the present study was conducted by Livingston-White, Utter, and Woodward in 1985. The subjects of this survey were current and previous students of the Michigan School for the Blind. The purpose of the study was to investigate the perceptions of the parents, local educational agency staff, and the residential school instructional personnel concerning programs of students with visual impairment. Findings from this study were to assist the Michigan School for the Blind in analyzing their programs and adapting them, if necessary, to meet the needs of VI students more efficiently. The following conclusions were derived from this study: (a) placement decisions of the past and present VI students were appropriate, (b) the Michigan School for the Blind could provide some disability-specific services which local educational agencies could not (e.g., access to specialized equipment, adapted materials),

(c) centralized programming was a cost-effective program for meeting the comprehensive needs of all VI students, and (d) parents were satisfied with the educational programs of both the residential school and the local public schools which their VI child attended.

Several telephone conversations with the author, Deborah Livingston-White, led the researcher to a study which Michigan's Department of Education was conducting on understanding the needs of VI students, their parents, and teachers within their state (personal communication, October, 1991). A final report of the analysis of the data for that study was to be completed in December of 1991 but has been delayed until June of 1992. The researcher had anticipated including this information in her review of the literature, but the final report will not be completed in time to include the findings in this chapter.

Summary

Understanding the effects of visual impairment is essential when working with VI individuals and making decisions which ultimately will affect their lives. Visually impaired persons have unique needs, and the intensity of support necessary to meet those needs will vary from individual to individual, from year to year, and from infancy through retirement. The additional support necessary to enable individuals with visual impairment to flourish is highly influenced by these factors: (a) the service delivery model (full array of services), (b) the knowledge and expertise of the professionals who work with them, (c) their family, and (d) the quality of support provided through service systems.

Surveys have been used for gathering pertinent information about programs or services offered to support the unique needs of individuals who are VI. The findings from these studies provided insight into the consumers' perspective concerning programs for VI students and the extent to which residential schools were providing service to local educational agencies in the United States. Research studies will enable decision-makers to accomplish the following: (a) recognize the disabling effects of a visual impairment more fully, and (b) be cognizant of both barriers and aids in attaining the level of support necessary when determining the most appropriate service delivery system to ensure a more holistic educational program for individuals who are VI.

CHAPTER III
METHODOLOGY

This study involved collecting and analyzing data obtained from a
two-part survey. (See Parts I and II in Appendix B.) Part I of the
survey attempted to determine the perceptions of case managers and
vision consultants regarding the educational needs of VI students
(Grades 1-12 in North Dakota) in their local educational agency (LEA).
Part II attempted to determine the perceptions of the parents and their
visually impaired children, general education teachers, vision
consultants, vision paraprofessionals, and administrators regarding
which services or programs the North Dakota School for the Blind (NDSB)
should provide within the context of service delivery. In this chapter
a description is presented of the survey instrument and the procedures
used to gather and analyze the data.

Population to be Studied

The North Dakota American Printing House Federal Quota Registry
indicated that 55 VI general education students were attending school in
their LEAs. Thirty-two of these children attended elementary schools
(Grades 1-6), 15 were in junior high (Grades 7-9), and 8 were in senior
high (Grades 10-12). The general education teachers, vision
consultants, vision paraprofessionals, administrators, and families of

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these 55 VI children comprised the target population for this study. Overall, 49 families were involved in this study (five families had more than one VI child). The LEAs attended by the VI children were located throughout North Dakota, with the communities ranging in population from less than 100 people to over 80,000. Thirty-five of the 55 VI children had a vision consultant hired by their LEA while 20 did not. These 20 were served by a non-categorically trained person (i.e., not certified in vision). All 55 students were being served in some manner by NDSB.

Instrument

Development of Michigan's Survey Instrument

In 1989 the Outcome Indicators Project sponsored by the Michigan Department of Education developed a Special Education Program Outcomes Guide: Visual Impairment. The outcomes guide provided two major sources of information: (a) a set of standards which VI students were to meet in order to graduate from their local school; and (b) a set of standards which local schools could use to measure the effectiveness of their program for educating the VI. These guidelines were intended to establish a uniform set of statewide outcome standards for VI students to achieve by age 17 or 18 in the state of Michigan.

In 1990 the Michigan Department of Education developed a two-part survey entitled "Service Needs of Students Who Have Visual Impairments--Parts A and B" and a "Parent Survey." Michigan's Special Education Program Outcomes Guide: Visual Impairment was instrumental in the development of these surveys. The survey items on Part A were based

on the seven disability-specific categories found in the outcomes guide:
(a) basic academics, (b) maximizing use of sensory abilities,
(c) accessing information in inkprint, (d) competence in orientation and
mobility, (e) productivity, (f) personal management, and (g) social and
interpersonal relations. The graduates of local schools were to be able
to fulfill each of the outcomes involved in these seven categories.
Part B sought information concerning present and proposed programs and
services offered by the Michigan School for the Blind. Michigan's
surveys were sent to administrators, teacher/teacher consultants, and
ancillary service personnel (who worked with VI individuals attending
school in their LEA). The third survey (a modification of Part B) was
sent to the parents of VI children.

Researcher's Correspondence in Regard to Michigan's Surveys

The instrument used for the present study was adapted from
Michigan's "Service Needs of Students Who Have Visual Impairments--Parts
A and B" and the "Parent Survey." The researcher obtained written
permission from Richard Baldwin, Director of Special Education Services
for the State of Michigan, to use these surveys. A letter was written
to Dr. William Frey of Disability Research Systems, developer of the
instrument, to obtain information about the design, reliability, and
validity. The researcher received a telephone call from Dr. Frey
(personal communication, May 7, 1992) stating that no reliability had
been established. Dr. Frey noted, however, that the items selected for
the survey were carefully deliberated. He indicated that the items were
developed based upon the outcomes from the Special Education Program
Outcomes Guide: Visual Impairment. This outcomes guide was created by

selected participants representative of various areas of expertise relative to visual impairments. The participants were chosen on the basis of their knowledge, reputation in the field, and strong oral and written communication skills; they also represented all regions of Michigan. This outcomes guide was completed in slightly less than two years. Because of the comprehensive development process and the expert opinions involved, Dr. Frey stated that the items used were well founded.

Disability Research Systems conducted a pilot study with some LEAs to determine if there were any difficulties or problems in completing the surveys. The single problem cited by Dr. Frey was that administrators either thought they needed some assistance in completing the form by themselves or they would pass it on to someone with more knowledge in the area of vision. Letters sent and received relative to obtaining permission to use Michigan's survey and to obtain information on reliability and validity are contained in Appendix C.

Adaptation of Michigan's Surveys for Present Study

The researcher revised the format and items on this instrument to accommodate the differences in geographic location. Revisions to Part II of the survey were completed after meeting with the acting chief administrator and the educational specialist from NDSB. Items were deleted and added based upon realistic programs and services which were currently being or could be offered by NDSB. A panel of eight experts was chosen to critique the surveys. This panel consisted of one professor of special education who is an expert in vision disorders, one professor of educational research and statistics, two practicing vision

consultants, one legally blind teacher of academic VI students, one general education elementary principal, one administrator from the North Dakota Department of Public Instruction, and one parent. The panel's modifications were incorporated. The surveys were also critiqued and piloted by vision consultants and rehabilitation personnel in attendance at the North Dakota Vision Teachers Conference in January 1992. Changes consisted of clarifying the directions, deciding that only case managers and vision consultants should respond to Part I of the survey, and some rewording of the items to reduce the technical nature of the terminology.

Description of Parts I and II of the North Dakota Survey

Part I of the survey included 25 items and one open-ended question seeking additional comments about the local school district's capacity to serve students with VI. The surveys were distributed either to the VI children's vision consultants or to the case managers with the request that they complete a survey for each VI child on their caseload. Respondents were asked to rank the degree to which each VI student would be able to achieve the outcome (item) listed by the time the student reached age 17 or 18. The respondents then could identify one or two reasons why they thought this student would have difficulty achieving the outcome (item) by the time he/she reached age 17 or 18. Five reasons for possible difficulty were listed: (a) no difficulty achieving, (b) personal background of student, (c) lack of support services/resources, (d) lack of time with VI student, and (e) other. (A copy of the Part I survey can be found in Appendix B.)

Part II was distributed to vision consultants, vision paraprofessionals, general education teachers, school administrators (directors of special education and principals), and parents of the VI children. All surveys had 19 items with the exception of the parents'/children's survey which had 18 items. The final item on both of these surveys was an open-ended question asking educators and parents/children to describe any other program or service they thought the state should provide and which would be essential to them in meeting the needs of VI students. Respondents (with the exception of the parents) were asked to rate current and proposed services or programs offered by NDSB on a scale of one to five, with "5" indicating extremely important, "4" indicating important, "3" indicating somewhat important, "2" indicating not important, and "1" indicating very unimportant. If they ranked the item a "4" or "5", then they were asked to estimate the number of students, teachers, or parents from their district who conceivably would participate in that program or service if it were offered. The parents'/children's survey scale consisted of two columns of yes/no responses: one asking if the programs were needed and the other asking if they would use/request the program. Personal demographic information was requested on the last page of each of the surveys. (Copies of the Part II Survey and the Parent's Survey can be found in Appendix B.)

Data Collection

Procedures for Administering the Survey Instrument

At the North Dakota Vision Teachers Meeting on January 14, 1992, the researcher informed the vision consultants about the purpose of this study and the procedures which would be followed to collect the data. The vision consultants were asked to share this information with the participants who would be surveyed from their LEAs.

The names of the VI general education students were taken from the 1991 American Printing House Federal Quota Registry listing located at NDSB. This list of registrants generated the names and addresses of participants who were targeted for the study. The first mailing of packets (surveys and enclosures) occurred on February 21, 1992. Personalized letters were printed on University of North Dakota letterhead to all participants except the general education teachers and case managers. Because their names were not known, letters were addressed to them in reference to their position (e.g., Dear Case Manager).

Packets of information were sent to the principals, and they were asked to distribute the materials. Packets included the following: (a) a cover letter describing the purpose of the survey and how the information would be used; (b) a letter of support for the study from administrators with the Department of Public Instruction and NDSB; (c) a set of specific instructions for completing and mailing the survey; and (d) the surveys to be distributed to the VI students' general education teachers, case manager (if the school did not have a vision consultant providing support services), and the building principal. A copy of the

information sent out in this first mailing is included in Appendix D.
For an elementary VI student, the principal distributed the survey to
two of the student's elementary teachers. For a junior or senior high
VI student, the principal distributed the survey to four of the
student's junior/senior high school general education teachers.

The researcher sent individual sets of the above information to
the directors of special education, vision consultants, vision
paraprofessionals, and the VI children and their parents. Directions on
the parent/child survey asked, "Please fill out as a family" to obtain
input not only from the parents' perspective but from the VI children as
well. Instead of mailing packets to the principals and the VI children
and their parents directly, one vision consultant asked that all
materials be given to him personally to distribute to all survey
recipients on his caseload.

An apple shaped magnet was attached to each cover letter to serve
as a token of appreciation for completing the survey. The magnet was
red with white lettering which displayed the message "You Can Make the
Difference." The survey instruments were color coded to distinguish
between the groups surveyed. A number code was written at the bottom of
each survey to assist the researcher in tracking responses so that
further information could be sent if surveys were not returned. The
last page of each survey was printed with a business reply mail label,
so that the respondent could fold the survey, tape it closed, and place
it in the mail. (Postage was paid by the researcher.) The surveys were
returned to the Bureau of Educational Services and Applied Research at
the University of North Dakota in Grand Forks, where the researcher

received them for processing. The name of the school and the name of the participant did not appear on the survey in order to provide anonymity for the site/participant.

On March 9, 1992, postcard reminders were mailed to non-respondents. (A copy of the postcard can be found in Appendix E.) Principals were asked to distribute the postcard reminders to general education teachers and case managers. A second mailing of surveys to non-respondents occurred on March 20, 1992. (A copy of the letter sent to the principals and a notice sent to other respondents can be found in Appendix F.) Again, the principal was asked to deliver the mailing. On April 3, 1992, follow-up telephone calls were made to administrators (principals and directors of special education) and vision consultants. Vision consultants were asked to contact non-respondents from their district to encourage them to respond. In locations where there were no vision consultants, the researcher telephoned administrators and parents to remind them to return the survey. If the parents did not have a telephone, a final postcard reminder was sent.

Statistical Treatment

Data from the surveys were entered into Statistical Analysis Systems (SAS), and this program was used to assist in analyzing the data. Microsoft Works was used to produce the figures in Chapter IV.

During the analysis of the survey data, several relationships were examined. These relationships are presented separately for each part of the survey.

Survey Part I

The responses of each VI student's case manager or vision consultant (indicating their perceptions of the VI student's program achievement in the seven educational disability-specific categories and the reasons that the student was encountering difficulty in achieving these outcomes) were determined from the Part I survey. Percentages were used to describe what those two groups perceived their local educational program could and could not provide and the main reasons VI students had difficulty achieving the educational outcomes necessary to meet their unique educational needs. Written comments from the open-ended question were analyzed for individual content and to establish common areas of responses among the groups.

Part II of the Survey

A Likert scale was used to collect data for Part II, with the exception of the parents'/children's survey, which asked for yes/no responses. Personal data were tabulated, and tables and figures were created to display the findings. The data were calculated and converted into percentages to determine which current or proposed programs offered by NDSB were considered by general education teachers, vision consultants, vision paraprofessionals, administrators, and parents/children as most needed and would be most requested. Written comments from the open-ended question were analyzed to determine individual suggestions as well as common responses among the groups.

Chapter IV will provide a descriptive account of the personal characteristics of the respondents and the data to answer the questions

outlined in Chapter I. Conclusions and recommendations follow in Chapter V.

CHAPTER IV

PRESENTATION OF THE DATA

The results of this study were based on a two-part survey

distributed to administrators and educators of visually impaired (VI)

general education students attending school in their local educational

agency (LEA), as well as to the parents and their VI children. The

first survey (Part I) attempted to assess the degree of achievement of

VI general education students and the reasons these students had

experienced difficulty in attaining the outcomes in seven disability-

specific categories. The second survey (Part II) sought to obtain

information which would assist the North Dakota School for the Blind

(NDSB) in refining its role within the context of a delivery system of

programs or services based upon the needs perceived by NDSB's consumers

in LEAs.

This chapter presents the results of this study in four sections:

(a) Section I: Personal Data of Respondents was designed to look at the

demographic characteristics of key respondents; (b) Section II: Program

Adequacy Data was designed to elicit the degree of achievement and the

reasons VI students experienced difficulty in achieving outcomes in

seven disability-specific areas and to provide a summary of responses

from an open-ended question; (c) Section III: Professional Delivery of

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Programs or Services Data was designed to ascertain preferences for specific programs or services offered or proposed by NDSB; and (d) Section IV: Open-ended Question Summary Data of solicited responses to an open-ended question described any other program or service which educators and parents/children thought the state should provide to meet the needs of VI students. These sections sequentially will answer the research questions posed in Chapter I of this study.

The survey was mailed to 337 educators and parents who were affiliated with a VI individual. Of the 337 potential respondents, 242 answered the survey, resulting in an overall response rate of 72%. Part I was returned by 40 of the 53 respondents for a return rate of 75%. Part II was returned by 202 of the 282 respondents for a return rate of 72%. Table 2 presents who the respondents were and their response rates for Parts I and II of the survey.

The highest response rates were from vision consultants (83% and 89% in Parts I and II respectively), vision paraprofessionals (89%), and directors of special education (88%), followed by parents (78%) and principals (76%). General education teachers (64%) and case managers (61%) had the lowest response rates.

Section I: Personal Data of Respondents

Demographic information was obtained from the surveys and the North Dakota American Printing House Federal Quota Registry. The demographic data are presented in the following seven figures and six

Table 2

Respondents and Response Rate for Parts I and II.

Survey Part	Respondent	Number of Surveys Sent	Number of Responses Returned	Response Rate
I	Vision Consultants	35	29	83%
	Case Managers	18	11	61%
II	Vision Consultants	9	8	89%
	Vision Paraprofessionals	9	8	89%
	Directors of Special Education	17	15	88%
	Principals	49	37	76%
	Parents/Children	49	38	78%
	General Education Teachers	149	96	64%

tables and will describe the VI students, vision consultants, vision paraprofessionals, case managers, general education teachers, and parents'/children's responses.

This section attempts to answer the first research question: What are the key demographics of the individuals with visual impairment, vision consultants, vision paraprofessionals, case managers, general education teachers, and the parents of visually impaired children?

North Dakota Visually Impaired Academic Students Data

Figure 1 shows a breakdown by school level of the 55 VI students listed on the North Dakota American Printing House Federal Quota Registry. These data display the grade placements of VI general

education (academic) students in Grades 1-12 in North Dakota. The
majority of the VI students (58%) were in the elementary grades, 27%
were in junior high, and 15% were in high school.

High School
(Grades 10-12)
15%

Junior High
(Grades 7-9)
27%

Elementary
(Grades 1-6)
58%

n = 55
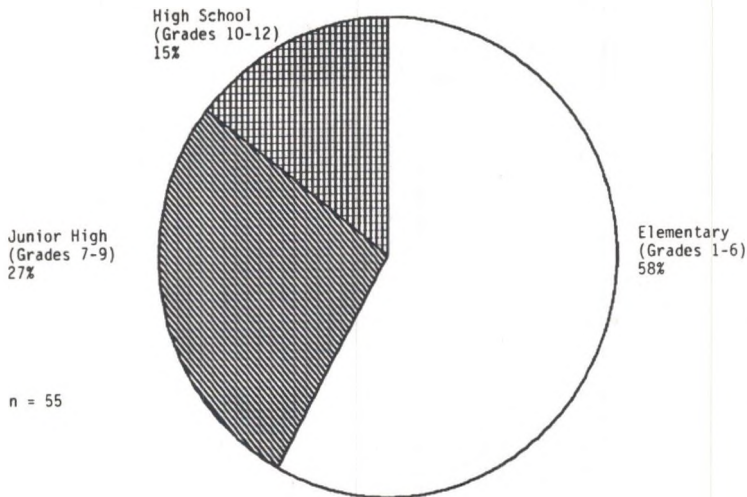
Figure 1. School level of academic visually impaired students in North
Dakota.

North Dakota Vision Consultants Data

The population of communities providing services to VI children in
North Dakota was indicated by respondents on the survey. Vision
consultants served VI students in communities with a median population
of 24,383. The smallest community size was 7,774, and the largest
community size was 61,308. Vision paraprofessionals served VI students
in communities with a median population of 1,941. The smallest
community size was 592, and the largest community size was 61,308.

Question #25 asked the respondents to "Specify the number of years you have been a vision consultant." Responses were the following: (a) 7 through 10 years (37.5%), (b) 11 or more years (37.5%), and (c) 1 through 3 years (25%).

Data indicating grade placement divisions of all students served by the vision consultants are presented in Figure 2. Because the respondents could indicate if they worked with multiple divisions, the percentages in this figure will exceed 100%. Eighty-eight percent of the vision consultants served elementary students, 75% of the consultants served junior/senior high students, and 63% served the preschool population. One consultant wrote beside the infant (birth to 2 years) choice--"We should serve infants too when totally blind--need more service."
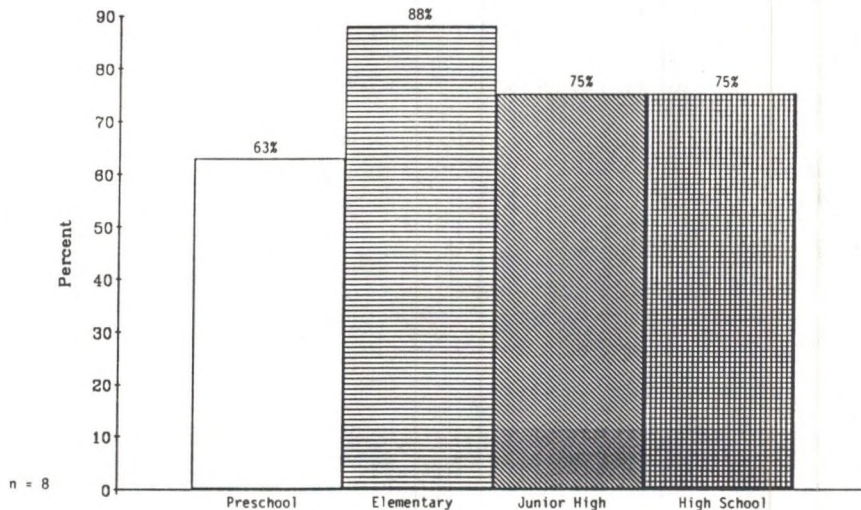
Figure 2. Grade placement divisions of visually impaired students served by vision consultants.

Respondents were asked to indicate the service delivery systems used to serve the VI children in their school districts. Because the respondents could indicate working within multiple service delivery systems, the percentages in Figure 3 will exceed 100%. One hundred percent of the vision consultants served as itinerant teachers and vision consultants. Seventy-five percent of the respondents reported having resource classrooms for the VI children in their system. Thirteen percent reported the residential school as the service delivery system used to serve VI students in their district. There were no self-contained classrooms in the school districts. Most of the vision consultants served in at least three of these delivery systems.
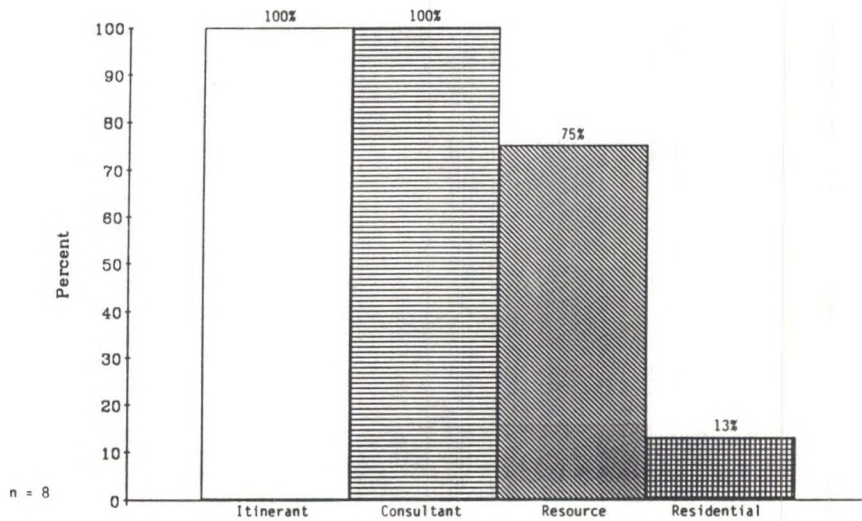
Figure 3. Service delivery systems of vision consultants.

Table 3 presents the data which indicate the vision consultants' certification status for visual impairment. Eighty-seven and one-half percent of the vision teachers surveyed were fully certified by the

state of North Dakota. One respondent (equivalent to 12.5% of the responses) noted "working on [his/her] certificate."

Table 3

Certification Status of Vision Consultants

Current Certification	Number of Responses	Percentage of Responses
Current certification	7	87.5
Provisional certification	0	0
No certification	0	0
Other (specify)	1	12.5
n = 8		

Table 4 displays the percentage of time which vision consultants allocated to serving VI general education (academic) students in grades 1-12 who were on their caseloads. Fifty percent of the vision consultants spent 1 to 25% of their time with academic students, 37.5% spent 51 to 75% of their time with academic students, and 12.5% spent approximately 26 to 50% of their time with the academic VI students on their caseloads.

The frequency with which vision consultants reported seeing VI students is presented in Table 5. Seventy-five percent of the respondents indicated "other" frequency levels: once a month; varies from daily, to once a week, to three times per year; blind students seen daily and low vision students are seen as needed (at least monthly).

Twenty-five percent indicated that they saw the academic VI students on
a daily basis.

Table 4

Direct Service Time Vision Consultants Spend with Students

Time Allocated	Number of Responses	Percentage of Responses
1-25%	4	50.0
26-50%	1	12.5
51-75%	3	37.5
76-100%	0	0.0

n = 8

Table 5

Frequency Visually Impaired Students Are Seen by Vision Consultants

Frequency of Service	Number of Responses	Percentage of Responses
Daily	2	25
Once a week	0	0
Twice a month	0	0
Other (specify)	6	75

n = 8

Data Related to the Vision Paraprofessionals

Vision paraprofessionals were asked to indicate the "number of
years they had been a teacher's aide for the visually impaired." The "4

to 6 years" category was selected most often (37.5%), followed by "1 to 3 years" and "7 to 10 years" (both selected by 25% of respondents). Twelve and one-half percent of the vision paraprofessionals indicated having "11 or more years" of experience. One paraprofessional said that she had been with "this particular student since he was in third grade."

The grade placement divisions of students served by the vision paraprofessionals are presented in Figure 4. Because the respondents could indicate if they worked with multiple divisions, the percentages in this figure will exceed 100%. Sixty-three percent of vision paraprofessionals worked with elementary VI children. Fifty percent of the paraprofessionals served students in junior high school, and 25% served high school students.
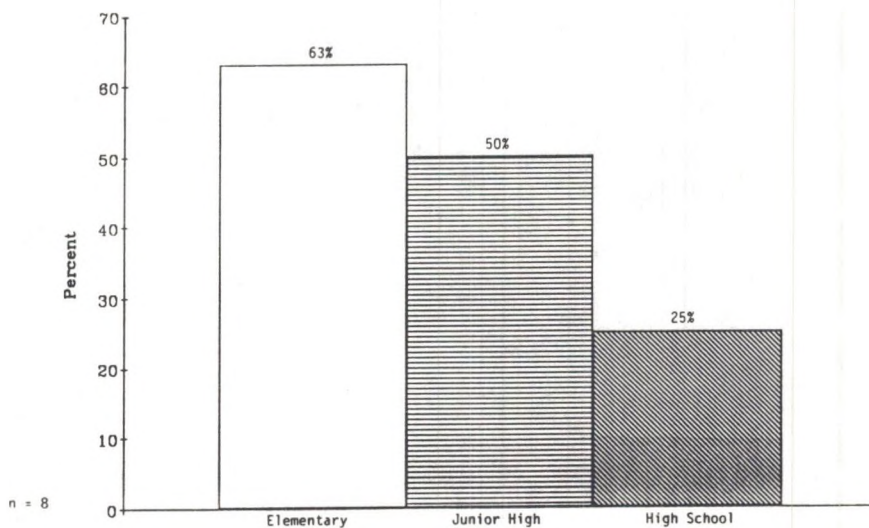
Figure 4. Grade placement divisions of visually impaired students served by vision paraprofessionals.

The highest degree earned by most vision paraprofessionals (62.5%) was the high school diploma or GED, with 25% of the respondents having some college coursework, and 12.5% holding a Bachelor's degree. The educational levels of the respondents are presented in Table 6.

Table 6

Highest Degree Earned by the Respondents

Degree	Number of Responses	Percentage of Responses
HS diploma or GED	5	62.5
Some college	2	25.0
Bachelor's degree	1	12.5
Other	0	0.0
n = 8		

The results to question #24, "Are you under the direction of or do you confer with a certified vision consultant," are presented in Table 7. Seventy-five percent of the vision paraprofessionals reported that they were under the direction of or did confer with a certified vision consultant, and 25% reported that they did not. If the respondents answered "yes" to this question, then they were to indicate how frequently they conferred. These responses varied: once a month; twice a week; we work in the same office; by telephone two times a month; three times a year, or a telephone call away when needed; and professionals usually come to the school twice a school year.

Table 7

Vision Paraprofessionals Who Confer with Certified Vision Consultants

Response	Number of Responses	Percentage of Responses
Yes	6	75
No	2	25
n = 8		

The frequency with which visually impaired students were seen by their vision paraprofessionals is indicated in Table 8. Eighty-seven and one-half percent indicated that they saw the academic VI students on a daily basis. Twelve and one-half percent responded that they saw VI students two to three times per week.

Table 8

Frequency Visually Impaired Students Are Seen By Vision Paraprofessionals

Frequency of Service	Number of Responses	Percentage of Responses
Daily	7	87.5
Two to three times per week	1	12.5
Once per week	0	0
Other	0	0
n = 8		

Personal Data of the Case Managers

The case managers of VI students were asked to indicate their major responsibility. Figure 5 displays a breakdown of these general area categories. Sixty-four percent had a special education background. Of those who indicated special education as their background, five were learning disability teachers (one of these teachers also taught seventh and eighth grade English), and one was a teacher of the educable mentally handicapped. Eighteen percent were trained in general education and 36% chose "other": a tutor braillist, a certified vision consultant, a school social worker, and a reference to having a well-trained aide who works directly with the VI student.
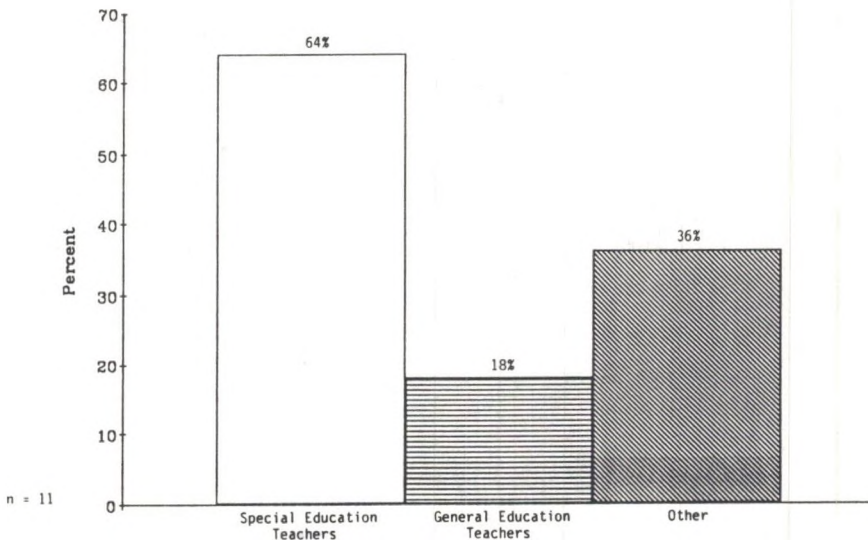
Figure 5. Case managers' major academic responsibility.

Training in Visual Impairment

Figure 6 displays the percentage of general education teachers, case managers, and vision paraprofessionals who reported having had no training opportunities (e.g., classes, workshops) in working with VI students. General education teachers (72%) represented the largest group who had not received any training, followed by case managers (45%) and vision paraprofessionals (13%). (These percentages are figured on each subgroup's total.) The educators who indicated that they had received some training in working with VI individuals, mentioned these training experiences: (a) college coursework, a programmed instruction course in braille, a workshop (16 of 43); (b) inservice or consultations provided by vision consultant or NDSB staff (12 of 43); (c) working with other teachers on their staff (12 of 43); and (d) previous work experience or personal relationship with a VI person (3 of 43).

n = 96 General Education Teachers, 11 Case Managers, 8 Vision Paraprofessionals
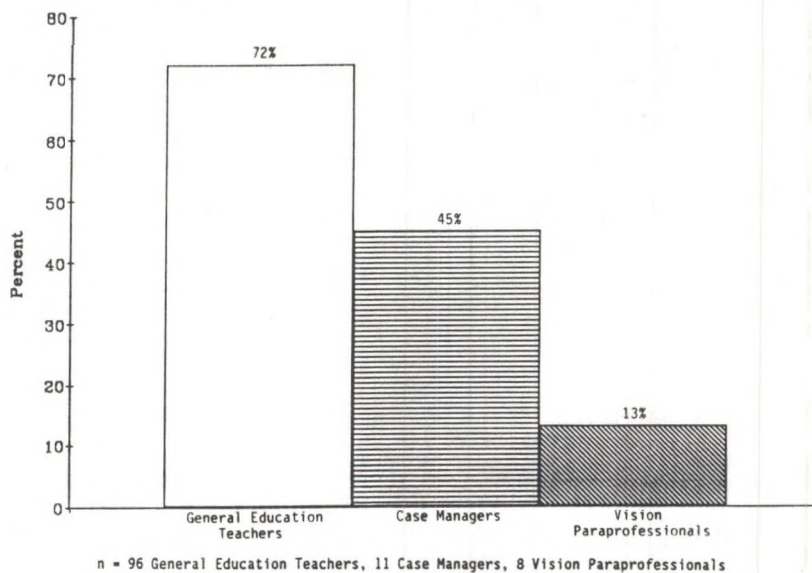
Figure 6. Educators whose experience excluded training opportunities.

Note: All figures are reported as a percentage of the number of responses per subgroup (e.g., 72% of 96 = 69 responses).

The parents'/children's survey question #24 asked respondents, "Are you satisfied with your child's current educational program?" Thirty-five percent indicated that they were very satisfied, 32% were satisfied, and 32% were somewhat satisfied with their child's current educational program. Figure 7 displays these levels of satisfaction.
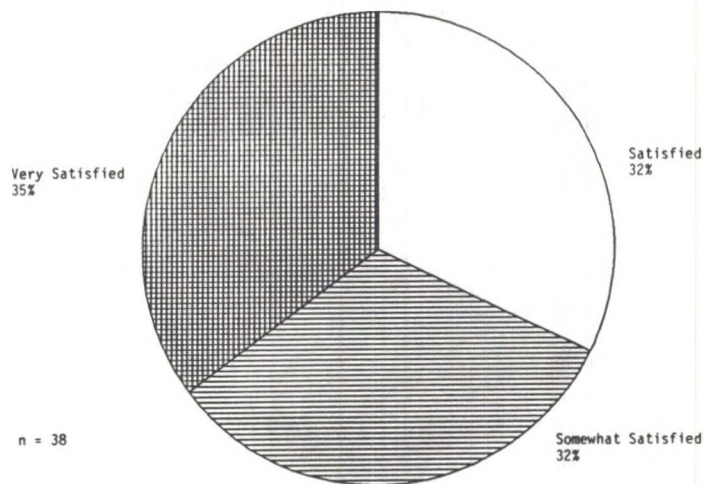
Figure 7. Satisfaction with child's current educational program.

Comments written by parents about their level of satisfaction are listed below. To protect the anonymity of the respondents, non-gender specific terminology will be used.

- My child seems well rounded in life. My child's grades are excellent--I give full credit to the teachers especially the vision teacher. I really could not have asked for anything more.

- At this age level all is fine but would really appreciate implementation of all ideas in this survey.

- We are fortunate to have very qualified and dedicated professionals assisting in our child's education. What I see lacking, if anything, is support for parents (with other parents).

- There is room for improvement but the vision teachers time allotment is the problem. The teacher doesn't have enough hours in the day. Support systems would fill that need.

- My child now has a very good teacher's aide. But you never know from one year to another. I believe the teachers aides are a very important and an often overlooked part of the child's education. They are the ones that bring all the different factors of the child's education together.

- I have had to initiate everything--they are generally willing to do whatever I suggest or demand, but I'd feel better if they initiated a little! Also, many teachers don't understand incorporating specific student needs into their lesson plans. That's very frustrating. And they rarely ask me or the individual student's special needs teachers for help--and they should.

- The curriculum is fairly satisfactory and has been through the years. However, we have struggled to keep our child on track and pumped up through years of battling attitudes and individuals in the school system. The visually impaired program has been probably the most

helpful as well as the specific education consultant with whom we've worked. The staff at the school for visually impaired has been most helpful and encouraging to us through the years. If this will help ensure future programming--I'd like to help.

- Our child has no direct services. Anything extra our child needs we do. The vision service person enlarges papers if necessary but otherwise is terribly overloaded with students and evaluations, etc. It might be more accurate to ask the question "What services?" "What educational program?"

Section II: Program Adequacy Data

This section will describe the data collected from the Part I survey completed by vision consultants and case managers. The data discussed in this section are condensed in Table 9 and summarized in Table 10. Table 9 reports the ratings of "outcome achievements" and "reasons for difficulty" contained in the seven disability-specific categories. Table 10 summarizes the category averages of the "outcome achievements" and the "reasons for difficulty."

The seven disability-specific categories of "outcome achievements" will be reported first. The "reasons for difficulty" will then be reported in the following manner: the "no difficulty achieving" reason will be stated first, followed by the two reasons for difficulty cited most often by respondents representative of the VI students as a group for each category. "Other" responses will be summarized.

Table 9

Ratings of Outcome Achievements and Reasons for Difficulty

	%	Reasons for Difficulty				
		ND	B	S	T	O
Basic Academics						
1. Ability to complete minimum regular education requirements.	76	60	8	5	0	28
2. Ability to use low vision and blindness materials and techniques.	87	63	13	18	5	8
3. Ability to use measurement tools and read/interpret adapted charts in primary learning medium using visual and tactual techniques.	68	58	23	15	8	18
4. Ability to communicate through creating written/printed material.	80	60	3	8	5	23
Category Average	78	60	12	12	5	19
Maximizing Use of Sensory Abilities						
5. Knowledge of personal vision loss and functional ability.	71	63	10	3	3	13
6. Knowledge of the prognosis of their blindness or visual impairment.	74	60	10	3	3	15

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| | Reasons for Difficulty | | | | |
	%	ND	B	S	T	O

	%	ND	B	S	T	O
7. Knowledge of assistive devices, technique, and resources for maximizing vision.	58	50	20	20	8	10
8. Knowledge of the causes of their blindness and visual impairment.	68	60	20	3	3	10
Category Average	68	58	15	7	4	12

Accessing Information in Print

	%	ND	B	S	T	O
9. Ability for comprehensive reading at grade level using braille or inkprint.	71	63	10	3	5	20
10. Knowledge of services, agencies, and organizations which are available to people with visual impairments and the ability to use these resources to obtain information and materials.	61	48	25	15	15	15
Category Average	66	56	18	9	10	18

Competence in Orientation and Mobility

	%	ND	B	S	T	O
11. Ability to move about in one's school, neighborhood, community, and work environments.	77	58	18	15	5	15
12. Ability to use all major forms of public transportation.	59	43	33	28	3	28

	%	Reasons for Difficulty				
		ND	B	S	T	O
13. Ability to travel to specific destinations in an unfamiliar community of at least moderate size (approximately 50,000) and return to point of beginning.	56	43	40	33	8	18
14. Ability to locate and rad survival symbols in order to access public places.	66	58	23	20	5	15
15. Ability to problem solve within an unknown environment.	51	48	35	18	0	15
Category Average	62	52	26	19	6	18

Productivity

	%	ND	B	S	T	O
16. Ability to set goals, organize tasks toward meeting goals, and carry out plans commensurate with personal, daily living, or work needs.	63	45	23	13	10	18
17. Ability to articulate a realistic vocational/ career goal or vocational education plan.	77	63	15	15	5	13
Category Average	70	54	19	14	3	16

| | % | Reasons for Difficulty | | | | |
		ND	B	S	T	O
Personal Management						
18. Ability to manage personal care needs using established visual and tactual techniques.	72	55	25	8	13	18
19. Ability to participate in active leisure or recreation activities.	70	58	30	8	3	25
20. Ability to plan leisure and recreation activities.	67	55	33	10	3	20
21. Competence in practical skill areas: telephone usage, time management, and money management skills.	74	55	23	5	3	13
22. Knowledge of proper prevention of and procedures for responding to emergencies.	73	58	28	8	8	10
23. Demonstrates a well-developed knowledge of self.	80	53	23	25	5	8
24. Ability to manage difficulties with interpersonal skills.	65	40	25	30	5	20
Category Average	72	53	27	13	6	16

	%	ND	B	S	T	O
Social and Interpersonal Relations						
25. Ability to effectively interact socially with others and to communicate one's thoughts to enable constructive daily living interaction.	77	58	18	13	5	8
Category Average	77	58	18	13	5	8

The columns under "%" fall under the header **Reasons for Difficulty** (columns ND, B, S, T, O).

<u>Note</u>. All figures are reported as percentages of the number of respondents. % = the percentage of visually impaired students who were perceived as able to achieve that outcome. In the "Reasons for Difficulty" column: ND = no difficulty achieving, B = personal background of students, C = lack of support/services/resources, T = lack of time with students, O = other. Percentages in "Reasons for Difficulty" column may total over 100% due to multiple responses.

Table 10

Category Averages of Outcome Achievements and Reasons for Difficulty

Category	Category Average of Outcome Achievements	Category Averages of Reasons for Difficulty				
		No Difficulty	Background	Services	Time	Other
Basic Academics	78	60	12	12	5	19
Social and Interpersonal Relationships	77	58	18	13	5	8
Personal Management	72	53	27	13	6	16
Productivity	70	54	19	14	3	16
Maximizing Use of Sensory Abilities	68	58	15	7	4	12
Accessing Information in Print	66	56	18	9	10	18
Competence in Orientation and Mobility	62	52	26	19	6	18

Note. All figures reported as percentage of the number of respondents. Percentages in "Reasons for "Difficulty" column may add up to over 100% due to multiple responses.

This section will attempt to answer the second and third research questions:

Which of the unique educational need categories related to visual impairment do vision consultants and case managers currently think their local educational program is able to provide adequately? not able to provide adequately?

What are the reasons for visually impaired students in local educational agencies having difficulty in achieving the educational outcomes necessary to meet their unique educational needs as perceived by vision consultants and case managers?

The basic academics category contained four outcomes. The percentage of VI students predicted to achieve each outcome in this category ranged from a high of 87% to a low of 68%. Ability to use low vision and blindness materials and techniques was the highest percentage (87%), followed by ability to communicate through creating written/printed material (80%), and ability to complete local minimum general education requirements (76%). The ability to use measurement tools and read/interpret (adapted) materials and charts, was the lowest percentage of the four outcomes (68%). Sixty percent of the students in the LEAs were viewed by their vision consultants or case managers as having little or no difficulty in achieving the outcomes in this category. "Other" (19%) was the most common reason cited for difficulty in achieving these outcomes, followed by personal background of students and lack of support services/resources at 12% each. "Other" reasons listed for students having difficulty in achieving basic academic outcomes included the student's functioning level, ability, or low

motivation level; the prognosis of the child's condition which caused the visual impairment; and the curricular adaptations made (such as coursework reduced). In one case, the respondent noted that the prognosis for a child's achievement would be low considering that the vision condition was a deteriorating one, and even though the child is now functioning as an academic student, the child eventually will become a non-academic achiever before graduating from high school.

Maximizing use of sensory abilities contained four outcomes. The percentage of VI students predicted to achieve each outcome in this category ranged from a high of 74% to a low of 58%. Knowledge of the prognosis of their blindness or visual impairment was the highest percentage (74%), followed by knowledge of personal vision loss and functional ability (71%) and knowledge of the causes of their blindness and visual impairment (68%). Knowledge of assistive devices, techniques, and resources for maximizing vision was the lowest percentage (58%). Fifty-eight percent of the students were viewed by their vision consultants or case managers as having little or no difficulty in achieving the outcomes in this category. The personal background of the students (15%) and "other" (12%) were the two most frequent reasons noted for difficulty in achievement. "Other" comments included inability to formulate a clear understanding of what VI children could visually interpret and their level of cognitive functioning in conjunction with the visual handicap. Some of the VI students may be experiencing learning disabilities as well as visual impairment.

Accessing information in print included only two outcomes. The percentage of students predicted to achieve the ability for comprehensive reading at grade level using braille or inkprint was 71%, and the percentage of students predicted to achieve a knowledge of services, agencies, and organizations which are available to people with visual impairment and the ability to use these resources to obtain information and materials was 61%. Fifty-six percent of the students were viewed by the vision consultants or case managers as having little or no difficulty in achieving these outcomes. Personal background of the students (18%) and "other" (18%) were the more frequent reasons cited for difficulty. "Other" reasons included ability of the students or the students' conditions.

Competence in orientation and mobility included five outcomes. Of the seven categories, the lowest percentage of students were predicted to achieve the outcomes in this category. The percentage of VI students predicted to achieve each outcome in this category ranged from a high of 77% to a low of 51%. Ability to move about in one's school, neighborhood, community, and work environment was the highest percentage (77%), followed by the ability to locate and read survival symbols (66%), ability to use all major forms of public transportation (59%), ability to travel to specified destinations in an unfamiliar community and return to a point of beginning (56%), and the ability to problem solve within an unknown environment (51%). Fifty-two percent of the students were viewed by their vision consultants or case managers as having no difficulty in achieving these outcomes. The personal background of the students (26%) and lack of support services/resources

(19%) were the two most frequently mentioned reasons for VI students not being able to achieve the outcomes in this category.

Productivity contained two outcomes. The percentage of VI students predicted to achieve the ability to articulate a realistic vocational/career goal or vocational education plan was 77%, and the percentage of students predicted to achieve the ability to set goals, organize tasks toward meeting goals, and carry out plans commensurate with personal, daily living, or work needs was 63%. Fifty-four percent of the VI students were viewed by their vision consultants or case managers as having no difficulty achieving these outcomes. The personal background of the students (19%) and "other" (16%) were the top two reasons cited for VI students not being able to achieve the outcomes in this category. "Other" reasons noted included: lack of exposure to vocational/career opportunities, poor role models to influence their motivations, lack of assistance from home to help them achieve independence in these areas, and lack of support from NDSB to provide adequate training opportunities in these areas.

Personal management contained seven outcomes. The percentage of VI students predicted to achieve this outcome ranged from a high of 80% to a low of 65%. Demonstrating a well-developed knowledge of self was the highest percentage (80%), follow by competence in the practical skill areas (74%), knowledge of proper prevention of and procedures for responding to emergencies (73%), ability to manage personal care (72%), and ability to participate in active leisure or recreation activities (70%), ability to plan leisure and recreation activities (67%), and the ability to manage difficulties with interpersonal skills (65%).

Fifty-three percent of the VI students were viewed by their vision consultants or case managers as having little or no difficulty achieving these outcomes. The personal background of the students (27%) and "other" (16%) were the most frequently cited reasons for VI students not being able to achieve the outcomes in the category. "Other" reasons included poor role models to influence their motivations; the attitude, and amount of family support provided; lack of instructional time for daily living skills; few activities in rural communities which VI individuals can participate in; lack of personal funds for social/ leisure activities; and eye conditions which limit physical activities. One vision consultant stated this reason for difficulty:

- As the major focus in a public school is typically academic and achievement, daily living skills (DLS), are often put on the "back burner." There's just not enough time to stay on top of the academic curriculum and devote time to the DLS/personal skills areas, too. At least, I haven't managed to strike a balance.

The last category, social and interpersonal relations, had one outcome: the ability to effectively interact socially with others and to communicate one's thoughts to enable constructive daily living interaction. Seventy-seven percent of the VI students were predicted to achieve this outcome. Fifty-eight percent of the VI students were viewed by their vision consultants or case managers as having little to no difficulty in achieving this outcome. Personal background of the students (18%) and the lack of support services/resources (13%) were the

most frequently cited reasons for VI students not being able to achieve this outcome.

Summary of Part I Survey

Table 10 summarizes the seven disability-specific categories in the rank order of program adequacy based upon their category averages of percentages of VI students expected to achieve the outcomes in each category. Also summarized in Table 10 are the "reasons for difficulty" columns which are averaged in relationship to each of the disability-specific categories. The "outcome achievements" categories fell in this rank order: 1) basic academics (78%), 2) social and interpersonal relations (77%), 3) personal management (72%), and 4) productivity (70%), 5) maximizing use of sensory ability (68%), 6) accessing information in print (66%), and 7) competence in orientation and mobility (62%). In the "reasons for difficulty" column, the category averages under the "no difficulty achieving" reason fell in this rank order: 1) basic academics (60%), 2) maximizing use of sensory abilities (58%) and social and interpersonal relations (58%),
3) accessing information in print (56%), 4) productivity (54%), 5) personal management (53%), and 6) competence in orientation and mobility (52%). Of the four remaining "reasons for difficulty," personal background of students and "other" were cited as the top two reasons vision consultants and case managers thought VI students would experience difficulty achieving the outcomes in the disability-specific categories. Lack of services/resources and lack of time with students were ranked the lowest of the remaining reasons for difficulty.

Question #26 sought additional comments from respondents regarding their school district's capacity to serve students with visual impairment. The respondents' comments were focused in five areas: (a) the curricular needs of VI students in disability-specific areas, (b) the reasons difficulties were experienced in the school district's capacity to meet disability-specific needs, (c) thoughts expressed about VI students' educational programs, (d) the level of cooperative support provided by parents, and (e) the NDSB's role in providing supportive programs or services. Vision consultants' and case managers' comments are summarized, or the most representative of their comments are quoted. Non-gender specific terminology will be used to provide anonymity when quoting respondents. Curricular needs in disability-specific areas were the most frequent comments noted (10 of 22). The orientation and mobility comments alluded to the fact that more service was needed in their districts. Since many of the students were educated in rural schools, the respondents said the opportunities to do orientation and mobility training in a city would be difficult.

Curricular needs were identified which would affect skills related to social relations and interaction. Because visual impairment is a low-incidence handicapping condition, VI students have little opportunity to socialize and interact with other VI peers and adults:

- Because of limited amount of visually impaired students, there is very little "peer" interaction. This child is shy and does not necessarily need to communicate needs as peers tend to watch over him/her. I think support groups would help with all the social aspects, but because of

our ruralness that is hard to attain, except at a "summer
experience."

- Emotional stability and role models difficult to provide.

Two other curricular areas identified were in regard to the
perceived "need for more counseling," and "live-in and work programs"
offered in the summer to provide additional instruction in vocational
education and daily living skills.

The four difficulties most often cited in meeting the unique needs
of VI students in school districts were the following: (a) the amount
of time scheduled, "not enough time for students"; (b) the level of
functioning of the child, "this child's problems are much more related
to his/her brain damage rather than his/her vision"; (c) resource
restrictions of a "low salary base--cannot draw anyone in"; and (d)
location "because of our ruralness our child misses out on a lot of
activities our child could participate in."

The following comments were directed at the VI students'
educational programs:

- There has not been a problem thus far. We use a
  consultant from (city named) to assist with programming.
  Our child isn't in need of any additional vision-related
  equipment at this time.

- District handles student's needs well.

- Student does not receive direct services for visual
  handicap, but has an IEP written which included classroom
  modifications and the student is monitored by the
  learning disability teacher.

Two comments referred specifically to parents' involvement and the level of support they provided through their homes:

- Though parents are "nice," the skills needed for daily living and experience in general is not being provided at home. They are capable [but] just seem to lack organization and motivation. The student is a bright child! What do we do?

- Parent motivation and funds limit student.

NDSB's role was mentioned in the comments made by the respondents. Some of the respondents made reference to supportive programs or services they thought NDSB should continue to provide or do more to provide (i.e., orientation and mobility, vocational and daily living skills training, and summer programs which VI students could attend for curricular and social purposes). One of the respondent's comments alluded to the ever-evolving relationship NDSB has with public schools and how NDSB's mission needs to be more clearly specified:

- Because of the close proximity to NDSB, Grand Forks has relied on their staff and expertise in planning for and working with its visually impaired students. Apparently, the incidence of visually impaired children has been very low up until recently, and with the above mentioned support, concern has been minimal for Grand Forks. I see this changing, however, and am curious as to how the increased numbers of visually impaired students will impact the Grand Forks policy. NDSB has been an

invaluable resource, but I definitely think its role with
us needs clearer definition.

Section III: Professional Delivery
of Programs or Services Data

This section will describe the data collected from the Part II
survey completed by directors of special education, principals, vision
consultants, vision paraprofessionals, case managers, general education
teachers, and parents/children.

Table 11 presents a comprehensive overview of the perception of
educators and parents/children for the programs or services offered or
proposed by NDSB as outlined in the Part II survey. Table 11 also
indicates which of the programs or services the parents/children
indicated they would use/request.

In this portion of the study, the term "educators" is used to
refer to directors of special education, principals, vision consultants,
vision paraprofessionals, and general education teachers who are
affiliated with public schools (i.e., local educational agencies) in
North Dakota.

This section will attempt to answer the fourth, fifth and sixth
research questions:
Which programs or services offered or proposed by NDSB are perceived by
teachers, vision paraprofessionals, vision consultants, and
administrators as the most important (needed) to meet the educational
needs of individuals who are visually impaired and attending their local
educational agency?

Table 11

Respondents' Selection of Most Needed Programs or Services

Item	Principals n=39 MN	Vision Consul- tants n=8 MN	Directors of Special Education n=15 MN	Vision Parapro- fessionals n=8 MN	General Education Teachers n=96 MN	Total n=164 MN	Parents/Children n=38 MN	Would Use/ Request
1.	41	57	20	38	46	43	89	63
2.	38	57	60	63	52	50	95	79
3.	41	71	60	38	40	44	89	63
4.	45	86	40	25	42	44	84	58
5.a.	55	71	70	50	63	61	89	89
5.b.	52	57	60	63	69	63	95	84
5.c.	52	29	30	50	46	45	84	79
5.d.	48	29	50	63	54	51	79	37
5.e.	62	29	60	75	66	63	95	89
5.f.	66	43	70	75	72	69	95	89
5.g.	55	100	90	50	57	61	95	84
5.h.	52	86	50	63	64	61	84	58

Item	Principals n=39 MN	Vision Consul-tants n=8 MN	Directors of Special Education n=15 MN	Vision Parapro-fessionals n=8 MN	General Education Teachers n=96 MN	Educators Total n=164 MN	Parents/Children n=38 MN	Would Use/ Request
5.i.	45	29	50	38	58	51	84	58
5.j.	21	29	20	50	37	32	84	84
5.k.	38	29	60	50	42	42	89	89
5.l.	59	29	50	75	69	63	84	84
6.	59	57	90	63	70	68	89	89
7.	62	86	100	75	58	65	100	95
8.	72	86	80	63	63	68	95	79
9.	59	57	50	75	58	59	95	63
10.	48	43	50	38	45	45	95	89
11.a.	66	71	60	63	72	69		
11.b.	69	71	60	50	72	69		
11.c.	52	86	60	63	54	56		
11.d.	31	43	40	50	24	30		
11.e.	55	57	50	50	60	57		

Item	Principals n=39 MN	Vision Consul- tants n=8 MN	Directors of Special Education n=15 MN	Vision Parapro- fessionals n=8 MN	General Education Teachers n=96 MN	Educators Total n=164 MN	Parents/Children n=38 MN	Would Use/ Request
11.f.	38	86	60	50	31	40		
11.g.	45	57	40	50	42	44		
11.h.	59	43	40	38	60	55		
11.i.	66	86	80	63	66	68		
11.j.	66	86	60	50	54	59		
11.k.	62	57	40	88	57	59		
11.l.	62	71	70	50	57	60		
11.m.	55	43	30	75	49	50		
11.n.	55	57	50	38	57	55		
11.o.	66	57	80	38	69	66		
11.p.	48	57	70	38	45	48		
11.q.	62	71	70	75	54	60		
11.r.	28	43	20	13	28	27		
11.s.	38	43	40	13	34	35		

Item	Principals n=39 MN	Vision Consultants n=8 MN	Directors of Special Education n=15 MN	Vision Paraprofessionals n=8 MN	General Education Teachers n=96 MN	Educators Total n=164 MN	Parents/Children n=38 MN	Would Use/ Request
12.	38	100	60	63	63	59	89	89
13.	41	100	70	75	61	60	89	84
14.	52	100	80	63	58	61	95	89
15.a.	59	57	80	63	76	70	68	53
15.b.	62	71	60	38	70	65	79	58
15.c.	62	100	100	75	75	75	89	84
15.d.	62	71	90	50	73	70	84	68
15.e.	69	43	70	38	67	64	84	84
15.f.	48	29	50	63	55	52	68	47
15.g.	69	29	70	38	66	63	84	84
15.h.	59	43	60	50	64	60	79	63
15.i.	38	29	40	38	48	43	84	74
15.j.	55	43	30	63	67	60	84	63
15.k.	69	100	70	50	76	74	95	89

Item	Principals n=39 MN	Vision Consultants n=8 MN	Directors of Special Education n=15 MN	Vision Paraprofessionals n=8 MN	General Education Teachers n=96 MN	Educators Total n=164 MN	Parents/Children n=38 MN	Would Use/ Request
15.1.	59	43	60	63	64	61	79	58
15.m.	48	43	40	50	45	45	84	79
15.n.	59	29	50	38	54	52	84	74
15.o.	66	71	60	63	69	67	79	68
16.	62	100	90	75	70	72	95	84
17.	52	57	70	75	67	64	89	84
18.	55	100	80	25	67	64	84	63

Notes. The percentages in the most needed (MN) columns of the individually named groups of educators (e.g., principals, vision consultants) are figured on the number of individuals in that group who answered with a rating of "4" or "5." The percentages in the total column are figured on the responses of all respondents (i.e., directors of special education, principals, vision consultants, vision paraprofessionals, and general education teachers). The parents'/children's percentages were based on the number of parents/children answering "yes" (most needed [MN]).

Which programs or services offered or proposed by NDSB are perceived by parents and their visually impaired children as the most important (needed) and would be used/requested by them in meeting the educational needs of children who are visually impaired?

Which programs or services offered or proposed by NDSB are viewed as most needed by all respondents (i.e., parents and VI children, general education teachers, vision paraprofessionals, vision consultants, and administrators)?

Question Number Four: Educators' Priority of Programs or Services

The scale was developed on the basis of the number of groups (i.e., 5, 4, 3, 2, or 1) that concurred on the importance of programs or services of the total number of groups surveyed (i.e., 5). The percentage of concurrence (i.e., 100%, 80%, 60%, 40%, or 20%) reflects the number of groups that agreed that a program or service was "5" (extremely important) or "4" (important). For example, if three of the five groups rated a program or service as a "5" or "4," then the percentage of concurrence was 60%, which defined that program or service as most needed. If the program or service was rated only as a "3," "2," or "1" by each of the groups, then the percentage of concurrence was 0%, which defined that program or service as not being important and as least needed. (See Appendix B for a copy of this rating code on the Part II survey.)

100% (5/5 groups concurred) = Very Strong Support

80% (4/5 groups concurred) = Strong Support

60% (3/5 groups concurred) = Support

40% (2/5 groups concurred) = Minimal Support

20% (1/5 groups concurred) = Weak Support

0% (Lowest rated items) = Not Important/Least Needed

The items on the survey have been abbreviated (i.e., information has been condensed and the acronyms VI and NDSB will be used for visual impairment/visually impaired and the North Dakota School for the Blind). Items are numbered as they appear on the Part II survey. (See Appendix C.)

The following summary lists the educators' priorities for the programs or services:

Very Strong Support (Rating 100%)

8. Evaluate and provide recommendations and training for technology.

15c. Provide seminars for parents in enhancing child's independence.

Strong Support (Rating 80%)

7. Evaluate pre-vocational and vocational aptitude and readiness.

14. Provide consultation/outreach service.

11i. Provide training for teachers and paraprofessionals in curriculum adaptations.

15k. Provide seminars for parents in understanding affective development.

16. Provide summer experience.

Support (Rating 60%)

5f. Provide training for students in ability to obtain materials, equipment, and personally useful services.

5g. Provide training for students in orientation and mobility.

6. Provide diagnostic and evaluation service.

11a. Provide training for teachers and paraprofessionals in teaching the use of low vision and blindness materials and techniques.

12. Provide library and materials service.

13. Provide Resource Center.

15a. Provide seminars for parents in supporting child in learning appropriate orientation and mobility techniques.

15d. Provide seminars for parents in understanding factors that may influence attitude toward child.

15o. Provide seminars for parents in connecting with other parents.

18. Provide day activity support group (family retreat).

Minimal Support (Rating 40%)

2. Provide living experience for VI students at NDSB campus.

3. Provide living experience for teachers, vision consultants, and vision paraprofessionals at NDSB campus.

5a. Provide training for students in ability to use low vision and blindness materials and techniques.

5b. Provide training for students in ability to use measurement tools and read/interpret adapted materials and charts.

5e. Provide training for students in knowledge of services, agencies, and organizations.

5h. Provide training for students in managing personal care.

9. Provide personal management training.

11b. Provide training for teachers and paraprofessionals in instructional approaches in the uses of vision.

11c. Provide training for teachers and paraprofessionals in ability to formally/informally assess student's VI needs.

11j. Provide training for teachers and paraprofessionals in technology.

11o. Provide training for teachers and paraprofessionals in orientation for general education teachers.

11q. Provide training for teachers and paraprofessionals in instructional approaches when student has secondary impairment.

17. Provide experiences by collaborating with regional schools.

<u>Weak Support (Rating 20%)</u>

1. Provide 180 day residential program.

4. Provide living experience for parents or families of VI student at NDSB campus.

5d. Provide training for students in ability to read braille.

5i. Provide training for students in knowledge of their development.

5k. Provide training for students in knowledge of prognosis of VI.

10. Provide direct consultation/teaching.

11f. Provide training for teachers and paraprofessionals in acquisition and teaching of braille.

11k. Provide training for teachers and paraprofessionals in services, agencies, and organizations.

11l. Provide training for teachers and paraprofessionals in understanding affective development.

11m. Provide training for teachers and paraprofessionals in understanding development.

15b. Provide seminars for parents in enhancing child's ability to manage personal care.

15e. Provide seminars for parents in helping plan for child's IEP.

15f. Provide seminars for parents in learning to use braille.

15g. Provide seminars for parents in understanding child's VI.

15j. Provide seminars for parents in understanding development of child's knowledge.

15l. Provide seminars for parents in understanding development.

Not Important/Least Needed (Rated 0%)

5c. Provide training for students in knowledge of personal vision loss.

5j. Provide training for students in knowledge of causes of blindness and VI.

5l. Provide training for students in knowledge of development of listening skills.

11d. Provide training for teachers and paraprofessionals in interpreting eye examination reports.

11e. Provide training for teachers and paraprofessionals in understanding cognitive development.

11g. Provide training for teachers and paraprofessionals in teaching personal management skills.

11h. Provide training for teachers and paraprofessionals in ability to plan IEP.

11n. Provide training for teachers and paraprofessionals in orientation for teachers to recognize vision disorders.

11p. Provide training for teachers and paraprofessionals in understanding basic orientation and mobility techniques.

11r. Provide training for teachers and paraprofessionals in knowledge of causes of blindness and VI.

11s. Provide training for teachers and paraprofessionals in knowledge of prognosis of VI.

15h. Provide seminars for parents in making home adaptations.

15i. Provide seminars for parents in interpreting eye reports.

15m. Provide seminars for parents in understanding cause of blindness and VI.

15n. Provide seminars for parents in understanding prognosis of VI.

Research Question Number Five: Parent Priority of

Programs or Services and Usage Estimates

In Table 11 the parents'/children's columns indicate the most needed programs or services selected and whether they would use/request them. The scales below were developed according to the percentage of support which the items achieved based upon this group's "yes" responses:

90% to 100% = Very Strong Support

80% to 89% = Strong Support

70% to 79% = Support

60% to 69% = Minimal Support

The "would use/request" code is displayed below:

HU = High Usage (Items rated 80% or higher)

MU = Moderate Usage (Items rated 50 to 79%)

LU = Least Usage (Items rated 0 to 49%)

The following summary lists the parents' and their VI children's priorities for programs or services. The percentage of support for the program or service is listed after each item which is followed by the would use/request code and respective percentage.

<u>Very Strong Support (Rated 90 to 100%)</u>

2. Provide living experience for VI students at NDSB campus (95%); MU (79%).

7. Evaluate pre-vocational and vocational aptitude and readiness (100%); HU (95%).

5b. Provide training for students in ability to use measurement tools and read/interpret adapted materials and charts (95%); HU (84%).

5e. Provide training for students in knowledge of services, agencies, and organizations (95%); HU (89%).

5f. Provide training for students in ability to obtain materials, equipment, and personally useful services (95%); HU (89%).

5g. Provide training for students in orientation and mobility (95%); HU (84%).

8. Evaluate and provide recommendations and training for technology (95%); MU (79%).

9. Provide personal management training for students (95%); MU (63%).

10. Provide direct consultation/teaching (95%); HU (89%).

14. Provide consultation/outreach service (95%); HU (89%).

15k. Provide seminars for parents in understanding affective development (95%); HU (89)%.

16. Provide summer experience (95%); HU (84%).

<u>Strong Support (Rated 80 to 89%)</u>

1. Provide 180 day residential program (89%); MU (63%).

3. Provide living experience for teachers, vision consultants, and vision paraprofessionals at NDSB campus (89%); MU (63%).

4. Provide living experience for parents or families of VI student at NDSB campus (84%); MU (58%).

5a. Provide training for students in ability to use low vision and blindness materials and techniques (89%); HU (89%).

5c. Provide training for students in knowledge of personal vision loss (84%); MU (79%).

5h. Provide training for students in managing personal care (84%); MU (58%).

5i. Provide training for students in knowledge of development (84%); MU (58%).

5j. Provide training for students in knowledge of causes of blindness and VI (84%); HU (84%).

5k. Provide training for students in knowledge of prognosis of VI (89%); HU (89%).

5l. Provide training for students in knowledge of development of listening skills (84%); HU (84%).

6. Provide diagnostic and evaluation service (89%); HU (89%).

12. Provide library and materials service (89%); HU (89%).

13. Provide Resource Center (89%); HU (84%).

15c. Provide seminars for parents in enhancing child's independence (89%); HU 84%).

15d. Provide seminars for parents in understanding factors that may influence attitude toward child (84%); MU 68%.

15e. Provide seminars for parents in helping plan for child's IEP (84%); HU (84%).

15g. Provide seminars for parents in understanding child's VI (84%); HU (84%).

15i. Provide seminars for parents in interpreting eye reports (84%); MU (74%).

15j. Provide seminars for parents in understanding the development of child's knowledge (84%); MU (63%).

15m. Provide seminars for parents in understanding the cause of blindness and VI (84%); MU (79%).

15n. Provide seminars for parents in understanding prognosis of VI (84%); MU (74%).

17. Provide experiences by collaborating with regional schools (89%); HU (84%).

18. Provide day activity support group (family retreat) (84%); MU (63%).

Support (Rated 70 to 79%)

5d. Provide training for students in ability to read braille (79%); LU (37%).

15b. Provide seminars for parents in enhancing child's ability to manage personal care (79%); MU 58%).

15h. Provide seminars for parents in making home adaptations (79%); MU (63%).

15l. Provide seminars for parents in understanding child's development (79%); MU (58%).

15o. Provide seminars for parents in connecting with other parents (79%); MU (68%).

Minimal Support (Rated 60 to 69%)

15a. Provide seminars for parents in supporting child in learning
appropriate orientation and mobility techniques (68%); MU 58%.

15f. Provide seminars for parents in learning to use braille (68%); LU
(47%).

Question Number Six: Educators' and Parents'/Children's
Priority of Programs or Services

In analyzing the data for this question, the researcher used the
top priorities of each of the six groups of respondents to determine
similar responses among these groups. The "teacher and paraprofessional
training programs" were not included on the parents'/children's survey,
so that category is not included in this section.

The scale below was developed on the basis of the number of groups
(i.e., 6, 5, 4, 3, 2, or 1) that concurred on the importance of programs
or services of the total number of groups surveyed (i.e., 6). The
percentages of concurrence (i.e., 100%, 83%, 66%, 50%, 33%, or 17%)
reflect the number of groups that agreed that a program or service was
"5" (extremely important) or "4" (important). For example, if five of
the six groups rated a program or service as a "5" or "4," then the
percentage of concurrence was 83%, which defined that program or service
as most needed. If the program or service was rated only as a "3," "2,"
or "1" by each of the groups, then the percentage of concurrence was 0%,
which defined that program or service as not being important and as
least needed. (See Appendix B for a copy of this rating code on the
Part II survey.)

100% (6/6 groups concurred) = Very Strong Support

83% (5/6 groups concurred) = Strong Support

66% (4/6 groups concurred) = Support

50% (3/6 groups concurred) = Moderate Support

33% (2/6 groups concurred) = Minimal Support

17% (1/6 only a single group selected) = Weak Support

0% (Lowest rated items) = Not Important/Least Needed

The following summary lists the educators' and parents' and their VI children's priorities for programs or services:

Very Strong Support (Rating 100%)

8. Evaluate and provide recommendations and training for technology.

15c. Provide seminars for parents in enhancing child's independence.

Strong Support (Rating 83%)

7. Evaluate pre-vocational and vocational aptitude and readiness.

14. Provide consultation/outreach service.

15k. Provide seminars for parents in understanding affective development.

16. Provide summer experience.

Support (Rating 66%)

5f. Provide training for students in ability to obtain materials, equipment, and personally useful services.

5g. Provide training for students in orientation and mobility.

6. Provide diagnostic and evaluation service.

12. Provide library and materials service.

13. Provide Resource Center.

18. Provide day activity support group (family retreat).

Moderate Support (Rating 50%)

2. Provide living experience for VI students at NDSB campus.

5a. Provide training for students in ability to use low vision and blindness materials and techniques.

5b. Provide training for students in ability to use measurement tools and read/interpret adapted materials and charts.

5e. Provide training for students in knowledge of services, agencies, and organizations.

9. Provide personal management training for students.

15a. Provide seminars for parents in supporting child in learning appropriate orientation and mobility techniques.

15o. Provide seminars for parents in connecting with other parents.

17. Provide experiences by collaborating with regional schools.

Minimal Support (Rated 33%)

1. Provide 180 day residential program.

3. Provide living experience for teachers, vision consultants and vision paraprofessionals.

5h. Provide training for students in managing personal care.

5k. Provide training for students in knowledge of prognosis of VI.

10. Provide direct consultation/teaching.

Weak Support--Single Group Selected (Rated 17%)

4. Provide living experience for parents or families of VI student at NDSB campus.

5d. Provide training for students in ability to read braille.

5i. Provide training for students in knowledge of development.

15b. Provide seminars for parents in enhancing child's ability to manage personal care.

15e. Provide seminars for parents in helping plan for child's IEP.

15f. Provide seminars for parents in learning to use braille.

15g. Provide seminars for parents in understanding child's VI.

15j. Provide seminars for parents in understanding development of child's knowledge.

15l. Provide seminars for parents in understanding child's development.

Not Important/Least Needed (Rated 0%)

5c. Provide training for students in knowledge of personal vision loss.

5j. Provide training for students in knowledge of causes of blindness and VI.

5l. Provide training for students in knowledge of development of listening skills.

15h. Provide seminars for parents in making home adaptations.

15i. Provide seminars for parents in interpreting eye reports.

15m. Provide seminars for parents in understanding cause of blindness and VI.

15n. Provide seminars for parents in understanding prognosis of VI.

Section IV: Open-ended Question Summary Data

The last item listed on the educators' and parents'/children's survey was an open-ended question asking respondents to describe any other program or service they thought the state should provide which would be essential in meeting the needs of their students or children

who were VI. The researcher ascertained seven common areas of response:
(a) curricular needs, (b) training opportunities, (c) service
provisions, (d) program adequacy, (e) barriers to obtaining educational
services and support, (f) educator's responsibility when training in
disability-specific categories, and (g) frustrations with service
delivery. Comments from all six respondent groups will be summarized or
the most representative of the comments will be quoted. Non-gender
specific terminology will be used to provide anonymity when quoting
respondents to protect the student, family, or school district.

Curricular Needs

Curriculum needs received the most frequent comments (19 of 60).
These curricular needs will be divided into two parts: (a) overall
curricular needs, and (b) curricular needs to prepare for post-secondary
experiences.

Six of the comments in the overall curricular needs category were
directed at providing support groups, counseling, or networking
opportunities for parents of VI children and for VI individuals. Two
parents, a vision consultant, and a principal stated this need:

- I would like a support group for visually impaired
  teenagers in our area. Say perhaps in (city named) or
  closer. We receive letters about the support group in
  (city named) but it is too far for us to attend. Could
  we have the same visual consultant and teacher come to
  (city named) once a month to meet with a group for 1/2
  day? My child has expressed an interest in a support
  group, but it is hours of driving for a three hour

meeting and a whole day of school to make up, so that is why our child doesn't come to (city named). My child is fine academically but only has a few girls and boys in my child's class. My child has no friends or social life [other] than family and church. I am sure my child feels isolated and lonely with the social life.

- A support group would be helpful for parents. I realize demographics makes this difficult, but it would be nice. Do you ever have an annual convention where perhaps a parent component could be incorporated so we could be updated on the most up to date equipment, etc., and be able to network with other families?

- North Dakota needs to organize families of the visually impaired for fun and counseling get togethers (A weekend Games the Visually Impaired, like fun olympics would be great if we could involve the entire family as well as the community [Lions, etc.])

- The student is fully mainstreamed into regular classes. This student is doing well but certainly could use counseling and guidance from the school for the blind. This, ideally, would be coordinated with family counseling.

Technology and orientation and mobility skills followed as the most desired curricular needs (each was mentioned three times). Comments of the vision consultants, the primary contributors of these responses, are stated below:

- I would like to see more technology available to the
  outer areas, seems like it has changed before I get a
  chance to use the initial equipment.
- Technology to loan to school districts.
- Orientation and mobility services, not just consultation.

The last overall curricular need mentioned twice by parents was in regard to sports/leisure recreational activities:

- I would really love to see our child be able to do some
  type of sport in school (after school sport). Our child
  has many friends in school, but not out of school. Our
  child is pretty much alone and needs to be able to do
  more with kids in this town.

Curricular needs to prepare for post-secondary experiences were addressed five times. These comments are taken from a director of special education, two vision consultants (another vision consultant wrote similar comments), and a parent:

- Provide opportunities for awareness of post-secondary
  options including training institutions as well as career
  options, especially those which offer support services
  for persons with visual impairments.
- Next to orientation and mobility, the most important step
  would be to make graduation requirements contingent upon
  living in a NDSB apartment "independently" for two weeks
  or so--these students need to be taught laundry, money,
  shopping . . . skills and quite often their academic day

doesn't leave enough time to adequately teach these
tasks.

- Programs similar to Minnesota where the student (11th or
  12th grade) stays at NDSB, works at a job, uses bus to
  get there, cooks meals, etc.

- My child is nearly finished with high school, but we are
  looking toward college or trade school and I'm sure my
  child will need some services in those institutions. I
  would gladly use whatever resources are available for my
  child's continued benefit. We, as parents, would like to
  know as much as we can to be able to anticipate needs or
  help find resources when need arises.

Training Opportunities

The next identified area was concerned with providing training
opportunities (14 of 60 comments). A parent suggested that a "good
place to start" would be at the postsecondary level:

- I believe a good place to start would be at the
  universities and colleges. They need to teach future
  mainstream teachers to think more like special education
  teachers. I do believe there are two separate mind
  frames, and now that there is so much mainstreaming the
  teachers have to start thinking how can I adapt my way of
  teaching to help children to do their best. Instead of
  how can I make children adapt to my way of teaching. But
  to be fair, I guess it can be overwhelming for a teacher

who has not been prepared to deal with this. So first we have to teach the teachers!

Similar comments (13 of 60) were made by general education teachers, directors of special education, principals, vision consultants, vision paraprofessionals, and parents. The six quotes below, provided by four general education teachers, a director of special education, and parent, are representative of several:

- All teachers should have greater knowledge of disability understanding and techniques prior to getting students in class, once you have the student the motivation is there, but one's abilities to work with the students is hindered by either lack of knowledge or insecurity.

- We need people who are educated and willing to be used as go betweens for mainstreamed students and general education teachers who don't have a clue what to do with these children. We are just not trained in your specialty areas!

- Provide a training period for the general education teacher so the teacher is well versed in the needs of the child and how to work with the equipment.

- One or two day workshops, in our home school with our complete staff, since all of us eventually have these children, to show us equipment adaptable to these students needs.

- I like the suggestions of 24-hour, week-end, or week seminars or workshops with which to provide necessary

information to both the clients who are visually impaired and the parents and care providers/instructors of these clients. This is particularly important for those from rural areas, that have to travel long distances to the school for the blind.

- There should be a workshop or training session for all aides that are hired by the schools to assist a visually impaired or blind student. There should also be an optional class for them to learn braille, or at least the braille alphabet. I think these things would help produce a more qualified aide to the student. Learning how to help but not over-help, etc.

Service Provisions

Issues in regard to providing services were named in 9 of 60 comments. Providing a low-vision clinic for VI students in the state (three times) and making textbooks and ancillary material available (twice) were cited most often. Others service include the following: (a) NDSB "as a school, should be a leader in the latest technology"; (b) NDSB as a library service to supplement "our town library, also our school's library"; and (c) providing an outreach teacher "for ongoing consultations and teaching of specific skills." A parent remarked about a low-vision clinic, a general education teacher commented on providing materials and equipment, and a vision consultant talked about an outreach teacher:

- Perhaps something along the lines of the Montana Low Vision Clinic could be looked at. When I attended it I

found it very informative and helpful. It was good to
have an assessment and the items at hand to experiment
with.

- Braille textbooks and ancillary materials as well as
  models, diagrams, and graphs are necessary. Many concepts
  are lost to the student when such materials are not
  readily available.

- Outreach teacher stationed in western part of the state
  for ongoing consultations and teaching of specific
  skills. Availability of a teacher to provide outreach
  direct instruction to rural areas for extended times.

Program Adequacy

Program adequacy was mentioned in 5 of 60 comments. Two
principals thought that "the state is doing enough" or that "current
services seem adequate." A director of special education suggested,
"Their needs are now met. Meeting these needs, seems to me, would be
increased by most of the suggestions on this study." A parent (two
parents wrote similar comments) stated these thoughts:

- Our child's visual impairment is not as severe as most
  students needing these programs. So, although we would
  not participate in most, we feel these programs are
  vitally essential for most visually impaired students.
  Our special education department keeps very close tabs on
  our child and keeps us advised as to what is available to
  help our child so we are doing fine. But I want to make
  sure you use my "yes" vote as very sincere support for

all these programs, for even though our child has no use
for them at this time, there may be need for these
special programs as our child goes on to college and I
want to know they will be there if necessary.

Barriers to Obtaining Educational Services and Support

Barriers which posed problems for obtaining support were mentioned
in 3 of 60 comments. All of these remarks were made by parents of VI
individuals. Two factors were caused from being in a rural community/
state, and the other was classified as a financial/career opportunity
barrier:

- It is essential that the services be available to all
  visually impaired people regardless of their location in
  the state. My child would have loved to have been on a
  goal ball team but we live miles from the school for the
  blind.

- Distance and winter weather/road conditions are
  determining factors for my family.

- North Dakota should provide a mandatory state scholarship
  and grants to all handicapped students with a 3.0 grade
  point average or above. This is needed to further their
  education in any way. This is the only way that they can
  make it in life. The scholarship and grants should pay
  for 75% of the total cost of the program enrolled in. If
  graduation, North Dakota should find jobs for these
  people or why spend any money at all to get them
  educated.

Educator's Responsibility When Training in
Disability-Specific Categories

In defining the educator's role when working with students who are VI, a principal, general education teacher, vision paraprofessional, and vision teacher (4 of 60 comments) questioned the boundaries of the educator's role or the family's role when teaching personal management skills (and other disability specific needed skills):

- Teaching personal management: Parent's role?

- Teaching personal management: Home Responsibility!

- I feel some of these services should be provided by the parents. I have found over the last years, that the more responsibilities the local school takes on, the less responsibilities the parents will assume. They tend to sit back and wait for the school to do everything.

- Orientation and mobility training on a regular basis, at the very least weekly! We are doing these children a disservice if we train them academically but don't train them to travel independently.

Frustrations With Service Delivery

The last area to be addressed has been entitled "frustrations" (6 of 60 comments). Although these are not suggestions for additional programs or services, they present ideas which are needed to re-think present programs or procedures. General education teachers and parents were the primary contributors:

- As a classroom teacher of a visually impaired student I have been quite frustrated with the speed at which we

have received large print books. Somewhere along the line
the materials were not ordered--or orders sat on
someone's desk--or something happened, to prevent us from
getting some books until the 3rd quarter of school. The
books are great but don't help the student if he doesn't
have the book! This is an area that needs more
improvement!

- I feel that as parents of an academic blind student, we
are basically out on our own. We have a support group
here for our child but no services are available for
parents or siblings. About the only area that NDSB helps
us on is the Summer Adventure program. I get very
frustrated that the services in this state for higher
functioning blind students and their families is next to
zero. All the information that I have comes from research
and digging around on my own. We would benefit from
training sessions, workshops, etc., on many topics
related not only to the blind child but the role of
parents, siblings, grief issues, coping strategies, self
esteem, financial, estate planning, etc. We are so far
behind the national trends in services for the blind
child.

- I would like to see a substitute teacher that would be
available when the regular vision teacher is gone. Right
now there is nothing and the student might as well be
absent also. Can understand it would be hard to find a

substitute for one day, but if a regular vision teacher knows he/she will be gone, out of town, sick for a few days, gone on maternity leave, etc., there should be a teacher available to keep up the student's lessons.

- My child is involved in a Chapter program. To be placed in this program they use the Iowa Basic test scores. This is a timed test which I don't feel is fair for my child--I feel all timed tests should be given to them orally--say on a cassette tape. My concern is upper grades and if this will be possible.

Conclusions and recommendations which are based upon the findings of this study will follow in the next chapter. Limitations of the survey instrument will also be discussed.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was two-fold: (a) to examine the
disability-specific needs of visually impaired (VI), general education
(academic) students in Grades 1-12 in North Dakota; and (b) to collect
data which would assist the North Dakota School for the Blind (NDSB) in
defining more clearly their role in the context of a delivery system of
programs or services. The target populations surveyed were educators in
their local educational agencies (LEAs) where VI students were being
served, as well as the parents and their VI children.

This chapter presents conclusions and recommendations which are
based upon the findings as reported in Chapter IV. Whenever the related
literature reviewed in Chapter II has a bearing on a conclusion
statement, it will be discussed following the conclusion.

Conclusions

The researcher will describe a limitation of this study relative
to the survey instrument which became apparent as the data were
collected and analyzed. The first problem with the instrument related
to the directions on the Part II survey; respondents reported these as
confusing and complicated. Some respondents apparently inverted the
rating code (e.g., thought "1" rating meant extremely important rather

than very unimportant). Others reported the survey instrument was burdensome to complete comfortably because of the length and the technical specificity of the items.

These problems may have had an effect upon some of the data collected and analyzed. However, the researcher believes that the analysis of the data supports the conclusions reached.

This chapter presents the conclusions of this study in three parts: (a) Conclusions Related to the Personal Data of the Respondents are concerned with the data analysis related to the demographic characteristics of the respondents; (b) Conclusions Related to Program Adequacy Data are concerned with the data analysis related to the degree of achievement and the reasons for difficulty experienced by VI students in the seven disability-specific categories; and (c) Conclusions Related to Professional Delivery of Programs or Services Data are concerned with the data analysis related to the preferences of the specific programs or services offered or proposed by NDSB.

Conclusions Related to the Personal Data of the Respondents
(Research Question Number One)

The data gathered by the survey instruments revealed the following conclusions:

1.   The majority of academic students with visual impairment were of elementary and junior high school age. The smallest group consisted of students in high school.

2.   Most of the vision consultants served students from various grade placement divisions (i.e., preschool, elementary, junior high, and high school).

3. Vision consultants surveyed were involved in providing services through more than one of the service delivery models (i.e., itinerant, consultant, resource classroom, self-contained classroom, and residential school).

4. Vision consultants displayed a wide variation in terms of "time devoted to academic students" on their caseload.

5. The majority of the vision paraprofessionals were directed by or conferred with a certified vision consultant; only one-fourth did not.

6. Non-categorically trained case managers of VI students tended to have a background in special education (most were learning disability teachers), "other" (e.g., social worker, tutor braillist), or general education.

7. Vision consultants and vision paraprofessionals tended to be experienced (based upon years as a teacher/aide) and well trained (either certified or had some training opportunities).

8. General education teachers were the largest group of educators who had received no training opportunities in working with VI students, followed by case managers, and a small percentage of vision paraprofessionals.

9. Slightly varying degrees of satisfaction were indicated by parents in regard to their child's current educational program.

One of the findings in the research study conducted by Livingston-White, et al., (1985) was that parents were satisfied with the educational programs of both the residential school and the public schools the VI children attended. Similarly,

parents/children in the present survey indicated a slightly
variant but consistent level of satisfaction with the public
schools the VI children attended.

Conclusions Related to Program Adequacy Data
(Research Question Numbers Two and Three)

The data gathered by the survey instruments disclosed the
following conclusions:

1. Vision consultants and case managers currently thought that their
    local educational program was able to provide adequate supportive
    services in the following disability-specific categories:
    (a) basic academics, (b) social and interpersonal relations,
    (c) personal management, and (d) productivity.

2. Vision consultants and case managers currently thought that their
    local educational program was not as able to provide adequate
    supportive services in the following disability-specific
    categories: (a) maximizing use of sensory ability, (b) accessing
    information in print, and (c) competence in orientation and
    mobility.

    That basic academics was ranked as the most adequate
    category the LEAs were able to provide for was not unexpected.
    That orientation and mobility was ranked as not being provided
    adequately in the LEAs was also not unexpected. However, the
    question arises as to whose role it is to assure that a dual
    curriculum is being addressed appropriately. In reviewing the
    degree of outcome achievements in each of these categories and the
    "reasons for difficulty," the dual nature of the curriculum

required to educate VI students must be recognized. When
determining the most appropriate placement, Curry and Hatlen
(1988) suggested that an evaluation of both the general education
curriculum and the disability-specific curriculum be completed
before the child's educational plan is determined. They reminded
the individualized education program (IEP) team members to be
cognizant that "emphasizing academic skills over the entire range
of skill areas with the dual curriculum" (p. 421) may cause the VI
students not to be "fully prepared to function as adults" (p.
421).

The following questions about the development of the VI
students' IEPs might be raised:
Were the disability-specific curriculum and general education
curriculum given equal weight, credibility, and consideration,
when being assessed and discussed so that a more holistic approach
to education was being envisioned? Did the goals and objectives
facilitate skill building which would provide support not only to
meeting the objectives of the general education curriculum but
also to meeting the objectives of the disability-specific
curriculum? Were students with VI being assigned a level of
support in all areas of the disability-specific curriculum or was
there a prioritizing of needs based upon what "we can do our best"
while other unique needs were "put on the back burner" for a later
review or assigned to parents? Were IEP team members considering
the broad range of needs in planning for adulthood or primarily
the academic priorities of the present?

3.   Data disclosed that the reasons VI students in LEAs were experiencing difficulty in achieving educational outcomes were due to the personal background of the students and "other" reasons.

Conclusions Related to Professional Delivery of Programs or Services Data (Research Question Numbers Four, Five, and Six)

The data gathered by the survey instruments revealed the following conclusions:

1.   Educators tended to select programs or services which would enhance their abilities to provide a better quality of instruction to VI students within their LEAs with consultation/outreach services offered by NDSB.

These program selections seem to support Helge's assumption that "rural citizens are typically unimpressed by what they are told they have to do for handicapped children. In contrast, they are highly motivated to provide appropriate services when the initiative is theirs" (Helge, 1989, p. 13).

2.   Parents and children viewed all of the current and proposed programs or services as needed. They would use/request almost all of the programs or services with the exception of the two they rated lowest: (a) a seminar to learn braille, and (b) short-term training for their VI child on the ability to read braille appropriate to age and functional level. Parents wanted their children to have access to consultation/outreach services as well as direct consultation/teaching services. The parents wanted to be assured that the quality and intensity of support their child needed was available (if not locally, then at NDSB).

Harley and English's 1989 study concluded that fewer services were offered by residential schools in densely populated states, while, conversely, residential schools in more sparsely populated states provided more services. Given North Dakota's sparse population, parents naturally perceived the majority of programs or services listed on the Part II survey as important. The respondents of Livingston-White's, et al., (1985) study concluded that the Michigan School for the Blind could provide some disability specific services which some local educational agencies could not and, therefore, the residential school was deemed the most appropriate location for providing a full range of services. This conclusion seems to agree with the perspective of the parents/children in North Dakota.

3. Educators and parents/children (all respondents) thought the following programs or services offered by NDSB were the most needed: (a) to evaluate and provide recommendations and training for technology, (b) to provide seminars for parents in enhancing child's independence, (c) to provide seminars for parents in understanding affective development, (d) to evaluate pre-vocational and vocational aptitude and readiness, (e) to provide a consultation/outreach service, and (f) to provide a summer experience.

The areas on which all respondents in the present study concurred (professional development opportunities and summer school) were similar to the areas in which residential schools nationwide were reported as being used in Harley and English's

1989 study. Their study also revealed that direct services from residential schools was the "least used," paralleling the ranking of services by educators on the North Dakota survey.

Recommendations

The researcher's interpretation of the literature reviewed and analysis of the data collected has resulted in recommendations which will be made to three audiences: (a) decision-makers at the North Dakota School for the Blind and the North Dakota Department of Public Instruction, (b) decision-makers in the local educational agencies and parents of VI children, and (c) those persons conducting future needs assessments.

Recommendations to Decision-Makers at the North Dakota School for the Blind and the North Dakota Department of Public Instruction

1. A service delivery system generates different meanings to different people. As this study has shown, educators and parents/children have a different perspective on how, what, and where programs or services should be delivered. The North Dakota School for the Blind, serving as a resource center, needs to clearly define its role. To do so, the Department of Public Instruction in conjunction with NDSB will need to establish standards to serve as statewide guidelines for disability specific needs of VI students. NDSB also will need to outline specific programs or services they are currently providing as it moves further in the direction of providing support services to VI children who are being served in their LEAs.

2. Because most vision consultants serve a diversity of students in terms of grade placement and deliver their services through more than one service delivery model, NDSB should maintain an experienced staff with broad and diverse backgrounds who can articulate the role of NDSB and are knowledgeable about all levels of programs or services offered by NDSB.

3. Inservice training of all educators, parents, and VI students would be beneficial, but it is particularly needed by general educators and must be planned to accommodate different levels of background (e.g., from untrained general educators to highly trained and experienced vision consultants).

4. In prioritizing the offering of services or programs, NDSB might want to begin with those upon which educators and parents agreed:

    •   Evaluate and provide recommendations and training for technology.

    •   Provide seminars for parents in child's independence.

    •   Evaluate pre-vocational and vocational aptitude and readiness.

    •   Provide consultation/outreach service.

    •   Provide seminars for parents in understanding affective development.

    •   Provide summer experience.

5. The prioritization of programs or services suggested by the various respondents will need to be reviewed by decision makers within the North Dakota Department of Public Instruction as well as by the North Dakota School for the Blind. These decisions should focus on the retention/maintenance, enhancement, or

reduction of current programs or services offered in combination with the perceived needs for new programs; these decisions will be framed and driven by limitation of resources, which include time and energy as well as budget allocations.

6. The decision-making process should be ongoing. To permit informed decision-making to occur, data collected regularly through a checklist (developed by NDSB and distributed to LEAs and parents) would be helpful. In addition, a computer data base of needed programs or services should be created, maintained, and updated periodically by NDSB.

Recommendations to Decision-Makers in the Local Educational Agencies of North Dakota and Parents of Visually Impaired Children

1. Because NDSB cannot possibly judge the ever-changing needs of visually impaired students on a daily basis, general educators, case managers, and parents must communicate their needs to vision consultants, vision paraprofessionals, and NDSB staff. Communication of their needs could be initiated and fostered by the following: (a) annually completing a comprehensive follow-up check-list of programs or services for educators and parents/children to provide NDSB with a timely, meaningful, and accurate projection of "individualized" services or programs; and (b) forming a task force with representatives from LEAs, residential school personnel, parents, university training program professor, etc., to develop long- and short-term objectives for implementing a statewide continuum of programs or services for VI students, their parents, and local public school educators.

2.   Schools will need to create time on their calendars for regular
     inservice training of personnel serving VI students in North
     Dakota. These inservices should occur at strategic times (e.g.,
     initial placement of child and preparation for transition between
     grade placement divisions, at workshops for general educators) or
     whenever a need exists.

Recommendations to Those Persons Conducting Future Needs Assessments

1.   This study's instrument should be improved by shortening items and
     simplifying instructions.

2.   Additional needs assessments should be conducted of other grade
     placement divisions (i.e., infants, preschoolers, post-secondary
     students) as well as students with visual impairments who have
     additional handicapping conditions.

     As a result of this study, the researcher has been able to provide
some insight into what educators and parents/children perceive about
their LEA's ability to meet the unique needs of students who are
visually impaired and, further, to determine which programs or services
offered by NDSB were thought needed by the consumers. Gallagher (1988)
suggested that the professionals bear the greatest responsibility for
the quality of education VI students will experience:

     For all of us--female and male, handicapped or not--in this

     complex, fast-changing multinational world we live in, the

     door that legal and moral rights open is really just ajar.

     Only individuals who have the appropriate skills and

     self-esteem to go along with them can open those doors wide

     . . .

Whether those doors remain just tantalizingly ajar for blind and visually impaired all over the world well into the future is up to us. Well-prepared blind and visually impaired persons can lubricate the hinges that will open those doors wide. Ill-prepared blind and visually impaired persons cannot. And it is we--professionals in the field--who bear the responsibility for the quality of the lubricant . . .

The lubricant has three necessary ingredients: blind and visually impaired persons; professionals who serve them; and service setting, management, and administration designed to provide the support both the blind and the professional need to flourish. (p. 227)

It is hoped that this study will in some way "open the door" to quality education for the VI academic students in North Dakota by providing information to decision-makers based on the perceptions of VI students themselves, their parents and their educators.

GLOSSARY OF TERMS

The definitions of terms in this glossary are taken from the <u>Dictionary</u> <u>of Special Education and Rehabilitation</u> (Vergason, 1990).

<u>Adventitious</u> - Acquired after birth through accident or illness (p. 6).

<u>Affective</u> - Pertaining to emotions, feelings, or attitudes of an organism. Affective education refers to school objectives that deal with motivation and development of self-image (p. 6).

<u>Age of Onset</u> - The age at which an individual's disability or disease occurs or becomes apparent; e.g., the age at which an individual became blind (p. 7).

<u>Blind (Blindness)</u> - A descriptive term referring to a lack of sufficient vision for the daily activities of life. Legally defined in most states as having central visual acuity of 20/200 or less in the better eye with correction, or having the peripheral vision contracted to an extent in which the widest diameter of the visual field covers an angular distance no greater than 20 degrees (p. 23 & 24).

<u>Blindism</u> - A behavior pattern, such as swaying the body back and forth or moving the head from side to side, that is a characteristic motion of blind persons. These behavior patterns are interpreted to be acts of involuntary self-stimulatory behavior resulting from a lack of meaningful activity. Because the symptoms are observed in emotionally disturbed, brain injured, and retarded children, the terminology is changing to stereotypic behavior or manneristic behaviors (p. 24).

Braille - A tactile (touch) approach to reading and writing for blind persons, in which the letters are formed by combinations of raised dots in a cell two dots wide by three ots high. This approach originated in France by Louis Braille. Braille may be written by hand with a slate and stylus or with a mechanical brailler, or braille writer. In Braille Grade I, every letter is spelled out; in Braille Grade II, contractions are substituted for words according to certain definitive rules -- this is the most widely used braille form in English-speaking areas (p. 25).

Community-Based Instruction - That instructional environment where a student is taught to perform skills in the actual environment rather than being taught skills at school with an expectation for generalization and application on the job (p. 35).

Compensatory Education - A term for programs that emphasize circumventing a learning problem. In special education an attempt is made to teach through strengths rather than remediating deficiencies. In regular education compensatory education usually refers to all the efforts made to remediate cultural disadvantagement or academic underachievement (p. 36).

Consultant - One type of resource person in special education, offering diagnostic and other help and support to teachers, rather than direct services to students (p. 39).

Continuum of Alternative Placements/Continuum of Services - The range of possible types of programs offered in special education, involving a gradient from full-time placement in regular classes to the most restrictive environment of a special day school or institutionalization (p. 40 & 51).

Daily Living Skills (Activities of Daily Living) - A term referring to practical skills needed to function in society--e.g., dressing, eating, using money. Also termed independent living skills (p. 5 & 45).

Delivery model (system) - An administrative arrangement to provide services. Special education models include resource room, special class, itinerant program, and others (p. 46).

Disability - A physical, psychological, or neurological deviation in an individual's make-up. A disability may or may not be a handicap to an individual, depending on one's adjustment to it. The terms disability and handicap often have been considered and used synonymously, but this is not accurate as a handicap actually refers to the effect produced by a disability (p. 51).

Education for All Handicapped Children Act of 1975 (PL 94-142) - A federal law that has been described as a "Bill of Rights for the Handicapped," which includes many provisions and special features including free appropriate public education, definitions of the various handicaps, priorities for special education services, protective safeguards, and procedures for developing the mandatory individualized education program (p. 57).

Exceptional Child(ren) (Exceptionality) - One who deviates markedly, either above or below the group norm, in mental, emotional, physical, social, or sensory traits, to a degree that special services are required to help the individual profit from educational experiences (p. 63).

Free Appropriate Public Education (FAPE) - One of the key requirements of PL 94-142, which requires an educational program for all children

without cost to parents. This does not mean the best possible education but, when combined with least restrictive environment, implies that the individual is to receive the education and related services that will bring about an adequate program (p. 70).

Handicap (adj., Handicapped) - The result of any condition or deviation, physical, mental, or emotional, that inhibits or prevents achievement or acceptance (p. 77).

Homebound Instruction - Teaching provided for students who are unable to attend school. Home instruction represents one of the options in the service delivery system of special education (p. 80).

Impairment - A general term indicating injury, deficiency, or lessening of function. For example, visual impairment indicates a condition less than normal (p. 86).

Incidence - The number of cases of a given condition identified and reported for a population...usually reported as a numerical ratio... or expressed as the number or percentage to have a given condition at some time in their life (p. 87).

Individualized Education Program (IEP) - A component of the Education for All Handicapped Children Act that requires a written plan of instruction for each child receiving special services, giving a statement of the child's present levels of educational performance, annual goals, short-term objectives, specific services needed by the child, dates when these services will begin and be in effect, and related information. This program is undertaken by a team including parent involvement (p. 88).

Individuals with Disabilities Act (IDEA) - An act passed and implemented
at the beginning of 1990 encompassing civil provisions similar to those
previously provided to other minorities (p. 88).

Integration - The placement of children with handicaps in educational
programs also serving children without handicaps. A similar term is
mainstreaming (p. 91).

Itinerant Teacher - A professional person who renders service in small
groups or individually, traveling to more than one school. Usually
applied to . . . teachers of low-incidence exceptionalities such as
visual impairment (p. 93).

Kinesthetic - A term first used by Victor Lowenfeld to refer to the
kinesthetic and tactile feedback that a child receives through movement
and touch. Includes all the sensations derived from the skin receptors
for contact, pressure, pain, warmth, and cold. If the haptic sense is
impaired, individuals may have difficulty making the correct motor
responses. Some children with learning disabilities appear to have
haptic deficiencies (p. 77).

Least Restrictive Alternative - A legal term that antedate the term
least restrictive environment but is presently essentially synonymous.
The term was first used in 1918 in relation to branch banking but has
subsequently been employed in cases such as Wyatt v. Stickney (1971) and
PARC v. Commonwealth of Pennsylvania (1971) (p. 100).

Least Restrictive Environment (LRE) - A concept expressed by the courts
in the 1970s, mandating that each person with a handicap should be
educated or served in the most 'normal' setting and atmosphere possible.
This led to the concept and practice of mainstreaming. Under PL 94-142

it includes educational placement as similar to that of nonhandicapped children as possible (p. 101).

Local Educational Agency (LEA) - An administrative arrangement referred to by federal and state legislation to designate the entity responsible for providing public education through 12th grade--usually a school district (p.102).

Low-Incidence Handicap - A classification of impairments that are few in number in relation to other handicaps of the general population (e.g., those involving vision, hearing, or orthopedic impairments) (p. 103).

Mainstreaming (Mainstreamed) - The concept of serving students with handicaps within the regular school program, with support services and personnel, rather than placing children in self-contained special classes. This practice relates to the concept of least restrictive environment. It has been most successful when using appropriate personnel such as resource teachers, and with students who have mild handicaps (p. 104).

Mobility - The process of moving about safely and effectively within the environment. An especially important ability for blind persons, who must coordinate mental orientation and physical locomotion to achieve safe, effective movement. They may use mobility aids such as canes, guide dogs, sighted guides, or electronic devices to help move about (p. 109).

Orientation (v., Orient) - With reference to blind persons, and individual's sense of determining position with relation to the environment or to a particular person, place, or thing by utilizing the

remaining senses. Orientation of a blind person depends upon retaining a 'mental map' of his/her environment (p. 120).

Paraprofessional - An individual such as a teacher aide who performs some of the functions of a professional under the general supervision of a professional but who, because of insufficient training or experience, is not allowed total responsibility (p. 125).

Parent Training - A term used in the 1980s that is equivalent to parent education. It seeks to train the parent in skills that will augment and extend that which is taught at school (p. 125).

Prevalence - How common a condition is in the population. Residential Institution - A facility, either private or state-supported, designed to provide designated care and other services on a 24-hour basis to those housed there (p. 144).

Resource room - A specially equipped and managed setting where a teacher with special training instructs students who are assigned to go at designated times for assistance in some aspect of learning or guidance (p. 145).

Segregation - In this context, the placement of exceptional children in programs in which they relate only to other exceptional children and do not have an opportunity to interact with regular class pupils. This term represents the opposite of mainstreaming and integration (p. 149).

Self-contained class - One in which pupils with similar needs and skills are assigned and taught by the same teacher throughout the school day (p. 149).

Visual Acuity - One's ability to see things and to accurately distinguish their characteristics; how well one sees (p. 172).

Visual Efficiency - The effectiveness with which an individual uses his/her eyesight. Two persons with visual acuity may not use their vision equally; the person who makes better use of vision would be said to have greater visual efficiency. Visual efficiency can be trained, according to Natalie Barraga and others (p. 172).

Visual Field (Field of Vision) - The entire area one can see without shifting the gaze. In visually impaired individuals, a reduction in field of vision can be considered a handicapping condition (p. 68).

Visual Impairment - Educationally defined as a deficiency in eyesight to the extent that special provisions are necessary in education (p. 172).

APPENDIX B

Survey Instrument Used by Researcher

Included are surveys for Parts I and II for the
vision consultants and the parent/child survey.

Surveys for other respondents were prepared but
not included because of similarity.

SPECIAL EDUCATION SURVEY:
SERVICE NEEDS OF STUDENTS WHO HAVE VISUAL IMPAIRMENTS

VISION CONSULTANT

PART I

Student Needs

Please fill out a separate survey for each visually impaired general education (academic) student on your caseload. This survey does not include multiply handicapped visually impaired students.

Considering only the general education (academic) student in grades 1-12 on your caseload who has a visual impairment, in column A (next page) circle the word which most closely represents the degree to which that student will, under current district circumstances, achieve the OUTCOME by the time he/she is age 17 or 18.

In column B (next page), circle UP TO TWO reasons why you think that this student will have difficulty achieving the OUTCOME by the time he/she reaches age 17 or 18. The reasons are defined below:

A)   **No Difficulty Achieving** - refers to the fact that some students will have little or no difficulty in achieving the OUTCOME.

B)   **Personal Background of Students** - refers to the fact that some students lack the opportunities or personal experiences necessary to facilitate the achievement of the OUTCOME.

C)   **Lack of Support Services /Resources** - refers to the lack of support service availability (e.g., orientation and mobility, school counseling, social worker) or resources (e.g., special equipment needed).

D)   **Lack of Time with Students** - refers to the fact that not enough time during the school week is available for providing the kind of support needed by these students.

E)   **Other** - refers to reasons not already defined. At the bottom of each page, using the OUTCOME item numbers (1, 2, 3, etc.), write other reasons this student will have difficulty achieving the OUTCOME.

A--No difficulty achieving
B--Personal background of students
C--Lack of support services/resources
D--Lack of time with students
E--Other (write in other reasons)

	A (circle only one)	**B** (circle up to two)

TO WHAT DEGREE (i.e., POOR, FAIR, WELL, OR VERY WELL) WILL THE VISUALLY IMPAIRED STUDENT ON YOUR CASELOAD ACHIEVE THE OUTCOMES BELOW:

OUTCOME	DEGREE OF ACHIEVEMENT BY AGE 17 OR 18	NO DIFFICULTY	BACKGROUND	SUPPORT SERVICE	TIME	OTHER*

BASIC ACADEMICS

	OUTCOME	DEGREE OF ACHIEVEMENT	A	B	C	D	E
1.	Ability to complete local minimum general education requirements.	Poor Fair Well Very Well	A	B	C	D	E
2.	Ability to use low vision and blindness materials and techniques.	Poor Fair Well Very Well	A	B	C	D	E
3.	Ability to use measurement tools and read/interpret (adapted) graphic maps, globes, gauges, graphs, diagrams, and charts in primary learning medium using visual and tactual techniques.	Poor Fair Well Very Well	A	B	C	D	E
4.	Ability to communicate through creating written/printed material.	Poor Fair Well Very Well	A	B	C	D	E

MAXIMIZING USE OF SENSORY ABILITIES

5.	Knowledge of personal visual loss and functional ability.	Poor Fair Well Very Well	A	B	C	D	E
6.	Knowledge of the prognosis of their blindness or visual impairment.	Poor Fair Well Very Well	A	B	C	D	E

*OTHER (Footnotes/Comments)

OUTCOME Item Number   Comment

_____

_____

_____

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A--No difficulty achieving
B--Personal background of students
C--Lack of support services/resources
D--Lack of time with students
E--Other (write in other reasons)

		A (circle only one)			**B** (circle up to two)

TO WHAT DEGREE (i.e., POOR, FAIR, WELL, OR VERY WELL) WILL THE VISUALLY IMPAIRED STUDENT ON YOUR CASELOAD ACHIEVE THE OUTCOMES BELOW:

	OUTCOME	DEGREE OF ACHIEVEMENT BY AGE 17 OR 18				NO DIFFICULTY	BACKGROUND	SUPPORT SERVICE	TIME	OTHER*
7.	Knowledge of assistive devices, techniques, and resources for maximizing vision.	Poor	Fair	Well	Very Well	A	B	C	D	E
8.	Knowledge of the causes of their blindness and visual impairment.	Poor	Fair	Well	Very Well	A	B	C	D	E

ACCESSING INFORMATION IN PRINT

9.	Ability for comprehensive reading at grade level using braille or inkprint.	Poor	Fair	Well	Very Well	A	B	C	D	E
10.	Knowledge of services, agencies, and organizations which are available to people with visual impairments and the ability to use these resources to obtain information and materials.	Poor	Fair	Well	Very Well	A	B	C	D	E

COMPETENCE IN ORIENTATION AND MOBILITY

11.	Ability to move about in one's school, neighborhood, community, and work environments.	Poor	Fair	Well	Very Well	A	B	C	D	E

*OTHER (Footnotes/Comments)

OUTCOME Item Number   Comment

_____

_____

_____

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A--No difficulty achieving
B--Personal background of students
C--Lack of support services/resources
D--Lack of time with students
E--Other (write in other reasons)

	A (circle only one)	**B** (circle up to two)

TO WHAT DEGREE (i.e., POOR, FAIR, WELL, OR VERY WELL) WILL THE VISUALLY IMPAIRED STUDENT ON YOUR CASELOAD ACHIEVE THE OUTCOMES BELOW:

OUTCOME	DEGREE OF ACHIEVEMENT BY AGE 17 OR 18	NO DIFFICULTY	BACKGROUND	SUPPORT SERVICE	TIME	OTHER*
12. Ability to use all major forms of public transportation.	Poor Fair Well Very Well	A	B	C	D	E
13. Ability to travel to specified destinations in an unfamiliar community of at least moderate size (approximately 50,000) and return to point of beginning.	Poor Fair Well Very Well	A	B	C	D	E
14. Ability to locate and read survival symbols in order to access public places (e.g., elevators, rest rooms, restaurants).	Poor Fair Well Very Well	A	B	C	D	E
15. Ability to problem solve within an unknown environment.	Poor Fair Well Very Well	A	B	C	D	E

PRODUCTIVITY

OUTCOME	DEGREE OF ACHIEVEMENT BY AGE 17 OR 18	NO DIFFICULTY	BACKGROUND	SUPPORT SERVICE	TIME	OTHER*
16. Ability to set goals, organize tasks toward meeting goals, and carry out plans commensurate with personal, daily living, or work (employment) needs.	Poor Fair Well Very Well	A	B	C	D	E

*OTHER (Footnotes/Comments)

OUTCOME Item Number   Comment

A--No difficulty achieving
B--Personal background of students
C--Lack of support services/resources
D--Lack of time with students
E--Other (write in other reasons)

	A (circle only one)	**B** (circle up to two)

TO WHAT DEGREE (i.e., POOR, FAIR, WELL, OR VERY WELL) WILL THE VISUALLY IMPAIRED STUDENT ON YOUR CASELOAD ACHIEVE THE OUTCOMES BELOW:

OUTCOME	DEGREE OF ACHIEVEMENT BY AGE 17 OR 18	NO DIFFICULTY	BACKGROUND	SUPPORT SERVICE	TIME	OTHER*
17. Ability to articulate a realistic vocational/career goal or vocational education plan.	Poor Fair Well Very Well	A	B	C	D	E

PERSONAL MANAGEMENT

OUTCOME	DEGREE OF ACHIEVEMENT BY AGE 17 OR 18	NO DIFFICULTY	BACKGROUND	SUPPORT SERVICE	TIME	OTHER*
18. Ability to manage personal care (e.g., dressing, eating, table manners, grooming safety, money management) needs using established visual and tactual techniques.	Poor Fair Well Very Well	A	B	C	D	E
19. Ability to participate in active leisure or recreation activities.	Poor Fair Well Very Well	A	B	C	D	E
20. Ability to plan leisure and recreation activities.	Poor Fair Well Very Well	A	B	C	D	E
21. Competence in the practical skill areas: telephone usage, time management, and money management skills.	Poor Fair Well Very Well	A	B	C	D	E
22. Knowledge of proper prevention of and procedures for responding to emergencies.	Poor Fair Well Very Well	A	B	C	D	E

*OTHER (Footnotes/Comments)

OUTCOME Item Number   Comment

_____

_____

_____

A--No difficulty achieving
B--Personal background of students
C--Lack of support services/resources
D--Lack of time with students
E--Other (write in other reasons)

| | **A**
(circle only one) | **B**
(circle up to two) |

TO WHAT DEGREE (i.e., POOR, FAIR, WELL, OR VERY WELL) WILL THE VISUALLY IMPAIRED STUDENT ON YOUR CASELOAD ACHIEVE THE OUTCOMES BELOW:

OUTCOME	DEGREE OF ACHIEVEMENT BY AGE 17 OR 18	NO DIFFICULTY	BACKGROUND	SUPPORT SERVICE	TIME	OTHER*
23. Demonstrates a well-developed knowledge of self.	Poor Fair Well Very Well	A	B	C	D	E
24. Ability to manage difficulties with interpersonal skills (e.g., dating, stereotypic behavior, sexual awareness).	Poor Fair Well Very Well	A	B	C	D	E
SOCIAL AND INTERPERSONAL RELATIONS						
25. Ability to effectively interact socially with others and to communicate one's thoughts to enable constructive daily living interaction.	Poor Fair Well Very Well	A	B	C	D	E

26. Please offer any additional comments you wish regarding your district's capacity to serve students with visual impairments.

Comments:

*OTHER (Footnotes/Comments)

OUTCOME Item Number   Comment

Please fill out only one survey to represent all visually impaired general education (academic) students on your caseload. This survey does not include multiply handicapped visually impaired students.

Given your district's current resources and capacity to serve visually impaired general education (academic) students in grades 1-12, this survey attempts to **estimate the need of a program or service** provided by the North Dakota School for the Blind (NDSB) (either in-house or on an outreach basis). If such a program or service (listed on the next pages) were available, how would you respond to the following questions.

1.   **Does this program or service represent a need of visually impaired students, their parents, or teachers?** (In responding to this question do not consider whether it is currently being provided or not.)

2.   **Would your district use this service if it were offered?** (Consider your district's need to meet the expected outcomes for its students who are visually impaired and the resources available to your district.)

3.   In column "A" (next page) circle the number (see scale below) that most closely represents the importance of this program or service:

> 1 -- Very unimportant
> 2 -- Not important
> 3 -- Somewhat important
> 4 -- Important
> 5 -- Extremely important

If you answered either 4 (Important) or 5 (Extremely Important) to #3 above, then please **estimate the number of students, teachers, parents from your district who would use the program or service in a given year.** (We are seeking to get some idea of the demand for the program or service statewide. We recognize you would not have definite numbers, but try to estimate what might be the expectations in a given year.)

In column "B" (next page) put your estimated number of participants.

1--Very unimportant
2--Not important
3--Somewhat important
4--Important
5--Extremely important

	A (circle one)	**B**

Estimated # of Participants Per Year

Program or Service

1. Provide a school year (180 day) residential program for those students who have IEP requirements that cannot be met in the local district.

    1 2 3 4 5   _____ (Students)

2. Provide a short-term (e.g., week, month, summer, semester), 24 hour living experience for visually impaired students in a residential atmosphere located on the North Dakota School for the Blind (NDSB) campus for specific short-term training programs.

    1 2 3 4 5   _____ (Students)

3. Provide a short-term (e.g., week, month, summer, semester), 24 hour living experience for teachers, vision consultants, and vision paraprofessionals in a residential atmosphere located on the NDSB campus for specific short-term training programs.

    1 2 3 4 5   _____ (Students)

4. Provide a short-term (e.g., weekend, week), 24 hour living experience for parents or families of a visually impaired student in a residential atmosphere located on the NDSB campus for specific short-term training programs.

    1 2 3 4 5   _____ (Students)

STUDENT'S EDUCATIONAL PROGRAMS

5. Provide short-term specific training in one or more of the following areas for students who are progressing satisfactorily in most areas of the program of the local school, but are in need of skill development or enhancement in a specific outcome area.

   a. Ability to use low vision and blindness materials and techniques (e.g., magnifiers, reading stands, letter guides, closed circuit TV, talking calculators, abacus, computer with voice synthesizer).

    1 2 3 4 5   _____ (Students)

   b. Ability to use measurement tools and read/interpret adapted graphic maps, globes, gauges, graphs, diagrams, and charts using tactual low vision and blindness techniques.

    1 2 3 4 5   _____ (Students)

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1--Very unimportant
2--Not important
3--Somewhat important
4--Important
5--Extremely important

	A	**B**
	(circle one)	

Program or Service

		A (circle one)	**B** Estimated # of Participants Per Year
c.	Knowledge of personal vision loss (the eyes functional capabilities).	1 2 3 4 5	_____ (Students)
d.	Ability to read braille appropriate to age and functional ability.	1 2 3 4 5	_____ (Students)
e.	Knowledge of services, agencies, and organizations that are available to people with visual impairments.	1 2 3 4 5	_____ (Students)
f.	Ability to obtain materials, equipment, and personally useful services from these service agencies and organizations.	1 2 3 4 5	_____ (Students)
g.	Ability in orientation and mobility appropriate to the student's age and functioning level.	1 2 3 4 5	_____ (Students)
h.	Manage personal care (e.g., dressing, eating, table manners, grooming) using visual and tactual techniques.	1 2 3 4 5	_____ (Students)
i.	Knowledge of their tactual (touch), kinesthetic (body movements--motor/muscle), and auditory (hearing) development.	1 2 3 4 5	_____ (Students)
j.	Knowledge of causes of blindness and visual impairment.	1 2 3 4 5	_____ (Students)
k.	Knowledge of the prognosis of visual impairment.	1 2 3 4 5	_____ (Students)
l.	Knowledge of the development of listening skills.	1 2 3 4 5	_____ (Students)
6.	Provide a diagnostic and evaluation service for students who need a comprehensive evaluation regarding functional vision skills, academic skills, and traveling skills.	1 2 3 4 5	_____ (Students)
7.	Evaluate pre-vocational and vocational aptitude and readiness for training or specific jobs.	1 2 3 4 5	_____ (Students)

1--Very unimportant
2--Not important
3--Somewhat important
4--Important
5--Extremely important

A
(circle one)

B

Estimated # of
Participants
Per Year

Program or Service

8. Evaluate and provide recommendations and
   training for technology that may be utilized in
   unique ways appropriate to the visually impaired
   child.

   1 2 3 4 5

   _____
   (Students)

9. Provide short-term personal management
   training (e.g., meal preparation, safety, money
   management, labeling clothes) for students who are
   doing satisfactorily in the academic program of the
   local school, but are in need of training in personal
   care.

   1 2 3 4 5

   _____
   (Students)

10. Provide direct consultation/teaching on a short-term
    basis to students within their home school.

    1 2 3 4 5

    _____
    (Students)

TEACHER AND PARAPROFESSIONAL TRAINING PROGRAMS

11. Provide short-term (e.g., one day, one week, weekend,
    evenings) refresher or awareness training for
    special education and general education **TEACHERS
    AND PARAPROFESSIONALS (T & P)**, offering
    continuing education credits, in the following areas:

    a. Teaching the use of low vision and blindness
       materials and techniques.

       1 2 3 4 5

       _____
       (T & P)

    b. Instructional approaches in the uses of vision,
       including low vision aids.

       1 2 3 4 5

       _____
       (T & P)

    c. Ability to formally/informally assess a
       student's visual impairment instructional
       needs.

       1 2 3 4 5

       _____
       (T & P)

    d. Interpreting eye examination reports.

       1 2 3 4 5

       _____
       (T & P)

    e. Understanding the cognitive development of a
       student who is visually impaired.

       1 2 3 4 5

       _____
       (T & P)

    f. Acquisition and teaching of braille at various
       functional levels.

       1 2 3 4 5

       _____
       (T & P)

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1--Very unimportant
2--Not important
3--Somewhat important
4--Important
5--Extremely important

		A (circle one)	**B**

**Estimated # of
Participants
Per Year**

Program or Service

g. Teaching personal management (e.g., meal preparation, safety, money management, labeling of clothes) skills.

   1 2 3 4 5   _____
                                    (T & P)

h. Ability to plan the instructional/educational program from the IEP.

   1 2 3 4 5   _____
                                    (T & P)

i. Curriculum adaptations needed in general education (e.g., science, math, social studies).

   1 2 3 4 5   _____
                                    (T & P)

j. Training in technology and setup appropriate for visually impaired students.

   1 2 3 4 5   _____
                                    (T & P)

k. Services, agencies, and organizations that are available to persons with vision impairments.

   1 2 3 4 5   _____
                                    (T & P)

l. Understanding the affective development of a student who is visually impaired.

   1 2 3 4 5   _____
                                    (T & P)

m. Understanding the tactual, kinesthetic, perceptual development.

   1 2 3 4 5   _____
                                      (T & P)

n. Orientation for general education teachers to recognize indicators of a visual disorder.

   1 2 3 4 5   _____
                                    (T & P)

o. Orientation to the needs of students with vision impairments for general education teachers who have mainstreamed students who are visually impaired.

   1 2 3 4 5   _____
                                    (T & P)

p. Understanding basic orientation and mobility techniques.

   1 2 3 4 5   _____
                                    (T & P)

q. Instructional approaches when a student has a secondary impairment.

   1 2 3 4 5   _____
                                    (T & P)

r. Knowledge of the causes of blindness and visual impairment.

   1 2 3 4 5   _____
                                    (T & P)

s. Knowledge of the prognosis of visual impairment.

   1 2 3 4 5   _____
                                    (T & P)

	A (circle one)	**B**

Estimated # of Participants Per Year

Program or Service

12. Provide library service and materials service where staff, students, and parents can obtain books and other materials for instruction or student leisure use.

   1 2 3 4 5

_____
(Parents & Staff)

13. Provide a Resource Center for staff and parents where they could observe, try out, and borrow the "latest" in equipment and materials.

   1 2 3 4 5

_____
(Parents & Staff)

14. Provide a consultation/outreach service where North Dakota School for the Blind staff or contracted specialists provide in-district consultation to help local staff meet the needs of specific students.

   1 2 3 4 5

_____
(Students)

PARENT TRAINING PROGRAMS

15. Provide a series of "How To" seminars for parents:

How to:

a. Support my child in learning appropriate orientation and mobility techniques.

   1 2 3 4 5

_____
(Parents)

b. Enhance my child's ability to manage his/her personal care (e.g., dressing, eating, table manners, grooming).

   1 2 3 4 5

_____
(Parents)

c. Enhance my child's independence.

   1 2 3 4 5

_____
(Parents)

d. Understand the factors that may influence my attitude toward my child.

   1 2 3 4 5

_____
(Parents)

e. Help plan for my child's educational program (IEP).

   1 2 3 4 5

_____
(Parents)

f. Learn to use braille.

   1 2 3 4 5

_____
(Parents)

g. Understand my child's vision impairment.

   1 2 3 4 5

_____
(Parents)

1--Very unimportant
2--Not important
3--Somewhat important
4--Important
5--Extremely important

	A (circle one)	B
		Estimated # of Participants Per Year

Program or Service

h. Make home adaptations to assist my child. 1 2 3 4 5 _____
(Parents)

i. Interpret eye reports. 1 2 3 4 5 _____
(Parents)

j. Understand the development of my child's knowledge about the world (cognitive development). 1 2 3 4 5 _____
(Parents)

k. Understand the development of my child's social skills and feelings (affective development). 1 2 3 4 5 _____
(Parents)

l. Understand my child's tactual (touch), kinesthetic (body movements--motor/muscle), and auditory (hearing) development. 1 2 3 4 5 _____
(Parents)

m. Understand the cause of blindness and visual impairment. 1 2 3 4 5 _____
(Parents)

n. Understand the prognosis of visual impairment. 1 2 3 4 5 _____
(Parents)

o. Connect with other parents who have a visually impaired child. 1 2 3 4 5 _____
(Parents)

GROUP OUTREACH PROGRAMS

16. Provide a summer experience (one to two weeks) for students who are visually impaired. 1 2 3 4 5 _____
(Students)

17. Provide experiences (e.g., goal-ball tournaments, summer campus, winter activities [skiing]) by collaborating with regional schools for the visually impaired and coordinating attendance, transportation, and supervision while at that activity/site. 1 2 3 4 5 _____
(Students)

18. Provide a day activity support group (family retreat) in various locations in the state for parents and visually impaired students. 1 2 3 4 5 _____
(Parents & Students)

19. Describe any other program or service that you think the state should provide which would be essential to you in meeting the needs of students who are visually impaired on your caseload. Please provide a description below (add pages as necessary).

20. Considering only the general education (academic) students in grades 1-12 in your district who have a visual impairment, specify the number of students and their current grade levels.

    Number(s) _____

    Grade level(s) _____

21. Please indicate the population of the community in which this/these visually impaired general education (academic) student(s) is/are served._____

22. Please indicate your educational status (circle appropriate responses).

    a. High school or GED

    b. Some college

    c. Bachelor's degree

    d. Other (specify) _____

23. What training opportunities (e.g., classes, workshops) in working with visually impaired individuals have you had?

    a. None

    b. Some

        If some, explain what they were _____

24. Are you under the direction of or do you confer with a certified vision consultant?

    a. Yes

    b. No

        If yes, how frequently? _____

25. Please indicate how often visually impaired general education (academic) students (grades 1-12) are seen by you.

    a. Daily

    b. Two to three times a week

    c. Once a week

    d. Other (specify)_____

26. Please indicate the general level of students you serve (circle all which are appropriate).

    a. Infant (birth to 2 years)

    b. Preschool (3 to 6 years)

    c. Elementary

    d. Middle school/Junior high

    e. Secondary/High school

27. Please specify the number of years you have been a teacher's aide for visually impaired students. _____

PARENT/CHILD SURVEY

(Please fill out as a family.)

For each potential program or service, please respond to the following questions:

1.   **Do you believe the program or service represents an educational need for visually impaired students, teachers, or parents?**

2.   **Would you use/request this program or service as part of your child's educational program or for your own benefit?** (Consider your child's needs and your needs, then indicate the likelihood of your requesting this program or service for your child or yourself.)

Program or Service Use/Request	Needed	Would

STUDENT'S EDUCATIONAL PROGRAMS

1. Provide a school year (180 day) residential program for those students who have IEP requirements that cannot be met in the local district.

   Yes No   Yes No

2. Provide a short-term (e.g., week, month, summer, semester), 24 hour living experience for visually impaired students in a residential atmosphere located on the North Dakota School for the Blind campus.

   Yes No   Yes No

3. Provide short-term specific training in one or more of the following areas for students who are progressing satisfactorily in most areas of the program of the local school, but are in need of skill development or enhancement in a specific outcome area.

   a. Ability to use low vision and blindness materials and techniques (e.g., closed circuit TV, talking calculators, abacus, computer with voice synthesizer).

      Yes No   Yes No

   b. Ability to use measurement tools and read/interpret adapted graphic maps, globes, gauges, graphs, diagrams, and charts using tactual low vision and blindness techniques.

      Yes No   Yes No

   c. Knowledge of personal vision loss (the eyes' functional capabilities).

      Yes No   Yes No

   d. Ability to read braille appropriate to age and functional ability.

      Yes No   Yes No

   e. Knowledge of services, agencies, and organizations that are available to people with visual impairments.

      Yes No   Yes No

   f. Ability to obtain materials, equipment, and personally useful services from these service agencies and organizations.

      Yes No   Yes No

   g. Ability in orientation and mobility appropriate to the student's age and functioning level.

      Yes No   Yes No

   h. Manage personal care (e.g., dressing, eating, table manners, grooming) using visual and tactual techniques.

      Yes No   Yes No

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Program or Service Use/Request	Needed	Would
i. Knowledge of their tactual (touch), kinesthetic (gestures, body movements), and auditory (hearing) development.	Yes No	Yes No
j. Knowledge of causes of blindness and visual impairment.	Yes No	Yes No
k. Knowledge of the prognosis of visual impairment.	Yes No	Yes No
l. Knowledge of the development of listening skills.	Yes No	Yes No
4. Provide a diagnostic and evaluation service for students who need a comprehensive evaluation regarding functional vision skills, academic skills, and traveling skills.	Yes No	Yes No
5. Evaluate pre-vocational and vocational aptitude and readiness for training or specific jobs.	Yes No	Yes No
6. Evaluate and provide recommendations and training for technology that may be utilized in unique ways appropriate to the visually impaired child.	Yes No	Yes No
7. Provide short-term personal management training (e.g., meal preparation, safety, money management, labeling clothes) for students who are doing satisfactorily in the academic program of the local school, but are in need of training in personal care.	Yes No	Yes No
8. Provide library service and materials service where staff, students, and parents can obtain books and other materials for instruction or student leisure use.	Yes No	Yes No
9. Provide a Resource Center for staff and parents where they could observe, try out, and borrow the "latest" in equipment and materials.	Yes No	Yes No
10. Provide a consultation/outreach service where North Dakota School for the Blind staff or contracted specialists provide in-district consultation to help local staff meet the needs of specific students.	Yes No	Yes No

Program or Service Use/Request	Needed	Would

PARENT TRAINING PROGRAMS

11. Provide a series of "How To" seminars for parents:

How to:

	Needed	Would
a. Support my child in learning appropriate orientation and mobility techniques.	Yes No	Yes No
b. Enhance my child's "daily living skills."	Yes No	Yes No
c. Enhance my child's ability to manage his/her personal care (e.g., dressing, eating, table manners, grooming).	Yes No	Yes No
d. Enhance my child's independence.	Yes No	Yes No
e. Understand the factors that may influence my attitude toward my child.	Yes No	Yes No
f. Help plan for my child's educational program (IEP).	Yes No	Yes No
g. Learn to use braille.	Yes No	Yes No
h. Understand my child's vision impairment.	Yes No	Yes No
i. Make home adaptations to assist my child.	Yes No	Yes No
j. Interpret eye reports.	Yes No	Yes No
k. Understand the development of my child's knowledge about the world (cognitive development).	Yes No	Yes No
l. Understand the development of my child's social skills and feelings (affective development).	Yes No	Yes No
m. Understand my child's tactual (touch), kinesthetic (gestures, body movements), and auditory (hearing) development.	Yes No	Yes No
n. Understand the cause of blindness and visual impairment.	Yes No	Yes No
o. Understand the prognosis of visual impairment.	Yes No	Yes No
p. Connect with other parents who have a visually impaired child.	Yes No	Yes No

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Program or Service Use/Request	Needed	Would

GROUP OUTREACH PROGRAMS

12. Provide a summer experience (one to two weeks) for students who are visually impaired. Yes No   Yes No

13. Provide experiences (e.g., goal-ball tournaments, summer campus, winter activities [skiing]) by collaborating with regional schools for the visually impaired and coordinating attendance, transportation, and supervision while at that activity/site. Yes No   Yes No

14. Provide a day activity support group (family retreat) in various locations in the state for parents and visually impaired students. Yes No   Yes No

15. Describe any other program or service that you think the state should provide which would be essential to you and your visually impaired child in meeting your or their current or future needs. Please provide a description below (add pages as necessary).

16. Please indicate your child's grade level: _____

17. Please specify who completed the survey (circle one).

    a. As a family

    b. Student only

    c. Mother only

    d. Father only

    e. Guardian only

    f. Foster parent only

    g. Other _____

18. Please specify how often the student in your family is seen by a certified vision consultant
    (circle one).

    a. Daily

    b. Once a week

    c. Twice a month

    d. Other (specify) _____

19. Does your child have a teacher's aide (paraprofessional) to assist in his or her educational program?

    a. Yes

    b. No

    If yes, how often? _____

20. Are you satisfied with your child's current educational program? (Circle one.)

    a. Somewhat satisfied

    b. Satisfied

    c. Very satisfied

    Explain:

APPENDIX C

Correspondence Sent and Received by Researcher to Michigan
to Gain Approval for and Use and Modification of Survey Instrument,
and to Obtain Information in Regard to the Instrument's Design

January 7, 1992

Richard Baldwin
Director of Special Education Services
Department of Education
P. O. 30008
Lansing, MI   48909

Dear Mr. Baldwin:

I currently am a doctoral student at the University of North Dakota
(UND), and using a revised edition of your survey instruments (Parts A
and B, and the Parent Survey) to collect data for my dissertation.

Per our telephone conversation of October 14, 1992, I asked and received
your permission to use the survey which Special Education Services had
developed and utilized to obtain statewide information on visual
impairment.

At my proposal meeting I stated I had received spoken approval for use
of the surveys, however, my committee recommended obtaining written
permission from your office to use your survey as a model.

Therefore, will you please provide your written permission as requested.
If you have information on who designed the surveys, and if reliability
and validity were established, then would you please include that
information also. Please send this information to: Anne Nielsen, 3601
9th Avenue North, Grand Forks, ND 58203. My phone numbers are: 701-
772-5852 (home) or 701-777-3189 (office).

If you would rather speak with me about this matter, then I am willing
to call at your convenience to discuss the above.

Thank you for your generosity in sharing these invaluable survey
materials.

In Gratitude,

Anne S. Nielsen
Doctoral Student

DEPARTMENT OF EDUCATION

P.O. Box 30008
Lansing, Michigan 48909

January 21, 1992

Ms. Anne Nielsen
3601 9th Avenue North
Grand Forks, North Dakota 58203

Dear Ms. Nielsen:

The purpose of this letter is to grant you permission to use the survey which is a part of the Outcome Indicator Project sponsored by the Michigan Department of Education.

Your question concerning who designed the surveys; and, if reliability and validity were established, should be addressed to Dr. Bill Frey. Dr. Frey's address is as follows:

> Disability Research Systems
> Center for Quality Special Education
> Hannah Technology & Research Center
> Suite 160
> 4700 S. Hagadorn
> East Lansing, Michigan 48823

I trust this information is helpful.

Sincerely,

Richard L. Baldwin, Director
Special Education Services

RLB:jh

cc: Bill Frey

April 12, 1992

Dr. Bill Frey
Disability Research Systems
Center for Quality Special Education
Hannah Technology and Research Center
4700 S. Hagadorn--Suite 160
East Lansing, MI 48823

Dear Dr. Frey:

I currently am a doctoral student at the University of North Dakota
(UND). I received permission from Richard Baldwin, the Director of
Special Education Services, to use the Michigan Department of Education
"Service Needs of Student Who Have Visual Impairments" surveys as models
to collect data for my study.

Mr. Baldwin advised me to write to you to obtain specific information
about how the surveys were designed, and if reliability and validity
were established. Please send this information to: Anne Nielsen, 3601
9th Avenue North, Grand Forks, ND 58203. My phone numbers are: 701-
772-5852 (home) or 701-777-3189 (office).

I am sending a copy of one of the surveys to acquaint you with those I
used. If you would rather directly speak with me about this matter,
then please call me at your convenience.

Thank you in advance for this information; it will add credibility to my
study.

Sincerely,

Anne S. Nielsen
Doctoral Student--UND

APPENDIX D

First Mailing Sent by Researcher to
Respondents, in Conjunction with Survey
Instruments Used to Collect Data

Date: February 20, 1992

To: Parents and Students
             Administrators
             General Education Teachers
             Vision Consultants
             Vision Paraprofessionals

From: Julie Frenz, Department of Public Instruction
             Betty Bender, North Dakota School for the Blind

Re: Letter of Support

Anne Nielsen has been given our encouragement and support in undertaking
a needs assessment of visually impaired general education (academic)
students in North Dakota (grades 1-12). The information received from
this study will be used by our agencies to develop future services for
visually impaired students, their families, and teaching personnel in
North Dakota.

Since her study population is small, yet the potential value of the
study significant, we sincerely hope you will participate in this
endeavor by completing the surveys provided. Thank you!

February 20, 1992

[Parents'/Child's Names]   [Principal's Name]   [Dir. of Special Ed.]
[Home Address]   [Title]   [Vision Consultant]
[City, State, ZIP]   [School Address]   [Vision Paraprofessional]
                           [City, State, ZIP]

Dear [Parents'/Child's Names]   [Principal's Name]

The aim of this study is to gather information about the educational needs
of general education (academic) visually impaired students in grades 1-12
in North Dakota (ND), and to determine programs and/or services, which
should be provided by the North Dakota School for the Blind (NDSB).

To gather this pertinent information, we are asking individuals who are
most knowledgeable to complete the enclosed survey. These individuals
include consumers, i.e., visually impaired children and their parents
(family survey), general education teachers, vision consultants, vision
paraprofessionals, and administrators--directors of special education and
building principals. We hope to learn your perceptions, so that the
information can be shared with decision makers, i.e., Department of Public
Instruction and NDSB, to assist them in planning programs, which will meet
the unique needs of visually impaired general education (academic)
students.

Because this study population is small, (approximately 55 students with
visual impairments) it is imperative that as many surveys as possible be
returned. A follow-up survey or telephone call will follow if necessary.
Anonymity will be assured by sorting the surveys returned into the category
of the respondent (e.g., teacher, administrator), and any personal
identification of who or where the survey came from will be removed.

If you have any questions concerning any aspect of this study, then please
contact Anne Nielsen at the University of North Dakota (UND) Special
Education Department, (701) 777-2511, or at home, (701) 772-5852.

Filling out the survey implies your consent to be a participant in this
study. Your cooperation is essential! The apple magnets serve as a gift
to express our appreciation for your support. Please tape and return the
postage-paid survey within two weeks.

Gratefully yours,

Anne S. Nielsen   Dr. Myrna R. Olson
Graduate Student   Professor and Chair
Special Education   Special Education

Date: February 20, 1992

To: Principal's Name
Title

From: Anne S. Nielsen
Graduate Student, UND

Re: Distribution of Enclosed Surveys

Thank you for your assistance in both completing and distributing the surveys enclosed. To aid in this process, I am listing below the name(s) of the student(s) in your school who are visually impaired:

_____

student's name(s)
_____

_____

In addition, would you please distribute these surveys to the following members of your staff, only if checked:

_____ Case Manager of the visually impaired student

_____ Two general education elementary school teachers

_____ Four general education junior or senior high school teachers

When completed, the teachers and you can fold the survey and return it; the postage will be paid.

Without your assistance, this information would not be attainable, so again, thank you!

Enclosures

February 20, 1992

Dear Case Manager [General Education Teacher]:

The aim of this study is to gather information about the educational needs
of general education (academic) visually impaired students in grades 1-12
in North Dakota (ND), and to determine programs and/or services, which
should be provided by the North Dakota School for the Blind (NDSB).

To gather this pertinent information, we are asking individuals who are
most knowledgeable to complete the enclosed survey. These individuals
include consumers, i.e., visually impaired children and their parents
(family survey), general education teachers, vision consultants, vision
paraprofessionals, and administrators--directors of special education and
building principals. We hope to learn your perceptions, so that the
information can be shared with decision-makers, i.e., Department of Public
Instruction and NDSB, to assist them in planning programs, which will meet
the unique needs of visually impaired general education (academic)
students.

Because this study population is small, (approximately 55 students with
visual impairments) it is imperative that as many surveys as possible be
returned. A follow-up survey or telephone call will follow if necessary.
Anonymity will be assured by sorting the surveys returned into the category
of the respondent (e.g., family, teacher, administrator), and any personal
identification of who or where the survey came from will be removed.

If you have questions concerning any aspect of this study, then please
contact Anne Nielsen at the University of North Dakota (UND) Special
Education Department, (701) 777-2511, or at home (701) 772-5852.

Filling out the survey implies your consent to be a participant in this
study. Your cooperation is essential! The apple magnets serve as a gift
to express our appreciation for your support. Please tape and return the
postage-paid survey within two weeks.

Gratefully yours,

Anne S. Nielsen   Dr. Myrna R. Olson
Graduate Student   Professor and Chair
Special Education   Special Education

APPENDIX E

Postcard Reminders Sent by Researcher to Respondents

YOU ARE NEEDED TO MAKE THE DIFFERENCE

Dear Parent(s) and Student:

Please return the survey in regard to the education of visually impaired academic students as soon as possible. Parent/Child input is needed to determine the most appropriate programs and services!

NOTE: On the Parent/Child Survey, when rating the programs and services, which you think the North Dakota School for the Blind should provide, please make sure you rate the programs or services based upon your perception of the need it represents for all visually impaired academic students rather than just your son/daughter.

THANK YOU FOR RESPONDING!

Please call if you have questions or need another survey.
772-5852 (home) 777-2171 (office).

YOU ARE NEEDED TO MAKE THE DIFFERENCE

Attention Director of Special Education, Principals, General Education Teachers, Case Managers, Vision Consultants, and Vision Paraprofessionals:

Please return the survey in regard to the education of visually impaired academic students as soon as possible. Your perspective is needed to determine the most viable programs and services!

NOTE: On the Part II Survey, when rating the programs and services, which you think the North Dakota School for the Blind should provide, please make sure you rate the programs or services based upon your perception of the need it represents for all visually impaired academic students rather than by the individual student(s) whom you serve.

THANK YOU FOR RESPONDING!

Please call if you have questions or need another survey.
772-5852 (home) 777-2171 (office).

APPENDIX F

Second Mailing Sent by Researcher to
the Respondents in Conjunction with
Survey Instruments Used to Collect Data

March 20, 1992

Principal's Name
Position
School Address
City, State, ZIP Code

Dear [Principal's Name]:

Thank you for your cooperation in collecting information about the educational needs of visually impaired academic students in North Dakota. Without your support, the information could not have been gathered.

I am sending out my final mailing of surveys to the educators participating in this study who previously have not responded. As I mentioned in my initial letter, the population for this study is small, and every response is needed to accurate represent the perceived needs of these students, parents, and teachers. The information gained from this survey should be significant!

Would you please advise the respondents of the Part II Survey, to make certain they rate the programs or services based upon their perception of the need it represents for all visually impaired academic students, rather than by the individual student(s) whom they serve.

Please distribute these questionnaires to the educators on your staff who have not responded. I have recorded the number of surveys received from your school, and am only sending you enough surveys to cover the number of participants who did not respond.

If you would like to know the results of this study, then inform me and I will send you a summary of the findings. Hopefully, this study will enable visually impaired students to receive an even higher quality of education.

Thank you for your assistance! Please call if you have questions or concerns; my home number is 772-5852 and my office number is 777-3189.

Sincerely,

Anne S. Nielsen

Enclosure

(Attached to respondents' surveys)

Your response is needed to make the difference! As I mentioned in my initial letter, the population for this study is small, and every response is needed to accurately represent the perceived needs of educators who work with students who are visually impaired.

When responding to the Part II Survey, please make sure that you rate the programs or services based upon your perception of the need it represents for all visually impaired academic students, rather than by the individual student(s) whom you serve.

Thank you for your assistance! Please call if you have any questions or concerns; my home number is 772-5852 and my office number is 777-3189.

REFERENCES

Act to Promote Education of the Blind, 1879, C. 186, 20 Stat. 467, Chapter 186.

Alonso, L. (1989). Overview of the unique needs of learners with visual impairments. In Special Education Program Outcomes Guide: Visual Impairment. East Lansing, MI: Center for Quality Special Education (Disability Research Systems, Inc.).

American Optometric Association. (1985). Vision Therapy News Backgrounder. St. Louis: Communication Division.

American Printing House for the Blind. (1987). 119th Annual Report. Louisville, KY: American Printing House for the Blind, Inc.

American Printing House for the Blind. (1991). 123rd Annual Report. July 1, 1990 to June 30, 1991. Louisville, Kentucky: American Printing House for the Blind, Inc.

American Printing House for the Blind. (1990). Vision Measurements and Reporting Codes. Louisville, KY: American Printing House for the Blind, Inc.

Bina, M. J. (1990). The editor talks . . . swimming, LRE, and scrapbooks. RE:view, 22(2), 51-54.

Bina, M. J. (1991). Overcoming current obstacles to our hopes for the future--lessons from our pioneer ancestors. Journal of Visual Impairment and Blindness, 85(1), 4-10.

Bishop, V. E. (1990). Educational placement decision-making: An ecological model. _Journal of Visual Impairment and Blindness_, _84_(7), 350-353.

Cronin, P. J. (1992). A direct service program for mainstreamed students by a residential school. _Journal of Visual Impairment and Blindness_, _86_(2), 101-104.

Curry, S. A., & Hatlen, P. H. (1988). Meeting the unique educational needs of visually impaired pupils through appropriate placement. _Journal of Visual Impairment and Blindness_, _82_(10), 417-424.

Deitz, S. J. (1977). Residential schools: A new role in serving mainstreamed blind children. _Journal of Visual Impairment and Blindness_, _71_(1), 39-41.

Deno, E. (1970). Special education as developmental capital. _Exceptional Children_, _37_(3), 229-237.

Education for All Handicapped Children Act of 1975, 33 U. S. C., Section 1400 et seq.

Fewell, R. R. (1983). Working with sensorily impaired children. In S. G. Garwood (Ed.), _Educating young handicapped children: A developmental approach_. (2nd ed.). Rockville: Aspen Publication.

Frampton, M. E., & Kerney, E. (1953). _The residential school_. New York: New York Institute for the Education of the Blind.

Gallagher, W. R. (1988). Categorical services in the age of integration: Paradox or contradiction? _Journal of Visual Impairment and Blindness_, _82_(6), 226-229.

Harley, R. K., & English, W. H. (1989). Support services for visually impaired children in local day schools: Residential schools as a

resource. Journal of Visual Impairment and Blindness, 83(8), 403-
406.

Hatlen, P. H. (1990). Meeting the unique needs of pupils with visual
impairments. RE:view, 22(2), 79-82.

Hatlen, P. H., & Curry, S. A. (1987). In support of specialized programs
for blind and visually impaired children: The impact of vision loss
on learning. Journal of Visual Impairment and Blindness, 81(1),7-13.

Hazekamp, K., & Huebner, M. (Eds.). (1989). Program planning and
evaluation for blind and visually impaired students: National
guidelines for educational excellence. New York: American Foundation
for the Blind.

Helge, D. (1983). Models for serving children with low-incidence
handicapping conditions. (Report No. RC-014-596). Murray, KY:
Murray State University, National Rural Research Project. (ERIC
Document Reproductions Service No. ED 241 200)

Helge, D. (1989). Rural family community partnerships: Resources,
strategies, and models. (Report No. RC-017-587). Murray State
University, National Rural Research Project. (ERIC Document
Reproductions Service No. ED 320 736)

Heward, W. L., & Orlansky, M. D. (1992). Exceptional children (4th ed.).
New York: Merrill-Macmillan Publishing Company.

Huebner, K. M. (1989). Shaping educational intervention for blind and
visually impaired learners in response to social change. RE:view,
21(3), 137-144.

Huebner, K. M., & Koenig, A. J. (1991). Student-centered educational
placement decisions: The meaning, interpretation, and application

of least restrictive environment. In <u>Statement of Position:</u>
<u>Division for the Visually Handicapped Handicapped</u> (pp. 12-15).
Reston, VA: Council for Exceptional Children.

Huebner, K., & Ferrell, K. (1989). Ethical practice in the provision of
services to blind and visually impaired infants, children, and
youth. In J. Hazekamp and M. Huebner (Eds.), <u>Program planning and</u>
<u>evaluation for blind and visually impaired students</u>. New York:
American Foundation for the Blind.

Individuals with Disabilities Education Act of 1990, 33 U. S. C.,
Section 1400 et seq.

Langley, M. B. (1978). Hierarchy of visual function. Langley Assessment
Compilation. Unpublished paper, Nina Harris School, St. Petersburg,
FL.

Livingston-White, D., Utter, C., & Woodward, E. Q. (1985). Follow-up
study of visually impaired students of the Michigan School for the
Blind. <u>Journal of Visual Impairment and Blindness</u>, <u>79</u>(4), 150-153.

Lowenfeld, B. (1975). <u>The changing status of the blind: From separation</u>
<u>to integration</u>. New York: American Foundation for the Blind, Inc.

Lowenfeld, B. (1981). <u>Berthold Lowenfeld on blindness and blind people</u>.
New York, NY: American Foundation for the Blind, Inc.

McIntire, J. (1985). The future role of residential schools for visually
impaired students. <u>Journal of Visual Impairment and Blindness</u>,
79(4), 161-163.

Michigan Department of Education. (1989). Special Education Program
Outcomes Guide: Visual Impairment. East Lansing, MI: Center for
Quality Special Education (Disability Research Systems, Inc.).

Miller, W. H. (1985). The role of residential schools for the blind in educating visually impaired students. <u>Journal of Visual Impairment and Blindness</u>, <u>79</u>(4), 160.

Miller, W. H. (1991). An array concept and the residential school: A viable, child-centered option. <u>RE:view</u>, <u>23</u>(1), 29-32.

North Dakota School for the Blind. (1908-1992). <u>Biennial reports</u>. Grand Forks, ND: North Dakota School for the Blind.

Neal, O. (1983). History of the North Dakota School for the Blind. (Paper written for the North Dakota School for the Blind's 75th anniversary), Grand Forks, ND.

Nielsen, A. (1991). A descriptive study of the visually impaired in North Dakota. Paper submitted for graduate coursework, University of North Dakota, Grand Forks, ND.

Olson, M. (1987). Early intervention for children with visual impairments. In M. Guralnick and F. Bennett (Eds.), <u>The effectiveness of early intervention for at-risk and handicapped children</u>. Orlando: Academic Press.

Olson, M. (1992). Visual Disorders. In J. Heflin and L. Bullock (Eds.), <u>Exceptionalities in children and youth</u>. Boston: Allyn and Bacon.

Reynolds, M. (1962). A framework for considering some issues in special education. <u>Exceptional Children</u>, <u>28</u>(6), 367-370.

Roberts, F. K. (1986). Education for the visually handicapped: A social and educational history. In G. T. Scholl (Ed.), <u>Foundations of Education for Blind and Visually Handicapped Children and Youth: Theory and Practice</u>. New York: American Foundation for the Blind.

Rogow, S. M. (1988). Helping the visually impaired child with developmental problems: Effective practice in home, school, and community. New York: Teachers College Press.

Silverstein, R. (1985). The legal necessity for residential schools serving deaf, blind, and multiply impaired children. Journal of Visual Impairment and Blindness, 79(4), 145-149.

Spungin, S. J. (1982). The future role of residential schools for visually impaired children. Journal of Visual Impairment and Blindness, 76, 229-233.

Syverson, R. (1988). Vocational and post graduate planning for graduates of the North Dakota School for the Blind. Unpublished master's thesis, North Dakota State University, Fargo, ND.

Taylor, S. J. (1988). Caught in the continuum: A critical analysis of the principle of the least restrictive environment. Journal of the Association for Persons with Severe Handicaps, 13(1), 41-53.

Turnbull, R., Ellis, J. W., Boggs, E. M., Brookes, P. O., & Biklen, D. P. (Eds.). 1981. Least restrictive alternatives: Principles and practices. Washington, D. C.: American Association on Mental Deficiency.

Tuttle, D. W. (1986). Educational programming. In G. T. Scholl (Ed.), Foundations of education for blind and visually handicapped children and youth: Theory and practice. New York: American Foundation for the Blind.

Van Hasselt, V. B., & Hersen, M. (1981). Applications of single case designs to research with visually impaired individuals. Journal of Visual Impairment and Blindness, 75(9), 359-362.

Vergason, G. (1990). <u>Dictionary of special education and rehabilitation</u>.
  (3rd Ed). Denver: Love Publishing Company.

Zanecchia, M. D. (1984). Utilizing q-sort for needs assessment of
  adolescent prenatal clients. In <u>Nursing care models for adolescent</u>
  <u>families</u> (ANA Publication, No. MCH-142M, 3, pp. 42-44). Kansas City,
  MO: American Nurses Association.