This paper examines research and literature related to the education of Virginia students who are deaf or hearing impaired, blind or visually impaired, or multihandicapped. The paper discusses legal considerations such as least restrictive environment and other variables required to be considered when determining appropriate service delivery methods. For each type of disability, the paper examines historical trends in service delivery; current trends in service delivery, integration into public schools, residential programs, and curriculum; benefits of integrated programs and factors affecting successful programs; and benefits of residential programs. The paper concludes that the Virginia Board of Education has endorsed the concept of community-based education and recommended that multihandicapped students presently served in a separate residential facility be transitioned into the community. Local schools will be responsible for developing local options or sharing in the expense of residential services as deemed appropriate. The purpose of Virginia's two Schools for the Deaf and the Blind has been redefined to provide students with the necessary skills to function successfully in their home communities. (Approximately 80 references) (JDD)
Service Delivery Options and Considerations for Students Who Have Sensory or Multiple Disabilities
PREFACE

The Virginia Department of Education has developed this report to provide background information regarding service delivery options for children who have sensory or multiple disabilities.

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td>i</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>ii</td>
</tr>
<tr>
<td>Executive Summary</td>
<td>1</td>
</tr>
<tr>
<td>Introduction</td>
<td>2</td>
</tr>
<tr>
<td>Chapter 1</td>
<td>6</td>
</tr>
<tr>
<td>The Meaning of Least Restrictive Alternative</td>
<td></td>
</tr>
<tr>
<td>Chapter 2</td>
<td>10</td>
</tr>
<tr>
<td>Service Delivery Options for Children and</td>
<td></td>
</tr>
<tr>
<td>Youth Who are Blind or Visually Impaired</td>
<td></td>
</tr>
<tr>
<td>Chapter 3</td>
<td>18</td>
</tr>
<tr>
<td>Service Delivery Options for Children and</td>
<td></td>
</tr>
<tr>
<td>Youth Who are Deaf or Hearing Impaired</td>
<td></td>
</tr>
<tr>
<td>Chapter 4</td>
<td>26</td>
</tr>
<tr>
<td>Service Delivery Options for Children and</td>
<td></td>
</tr>
<tr>
<td>Youth Who Have Multihandicaps</td>
<td></td>
</tr>
<tr>
<td>Conclusion</td>
<td>33</td>
</tr>
<tr>
<td>Bibliography</td>
<td>34</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

The purpose of this paper is to examine relevant research and literature related to the education of students who are deaf or hearing impaired, blind or visually impaired, and multihandicapped. A number of students with these disabilities are currently educated at Virginia's Schools for the Deaf and the Blind. The two schools are located at Hampton and Staunton and are separate facilities providing both day and residential programs for the population of students previously identified. Decreasing enrollments at these schools and recent national trends in educating students with disabilities resulted in the recent recommendation by the Virginia Board of Education to transition multihandicapped children from one of the two schools into community based programs, to redefine the mission of the other school, and to change the fiscal responsibility so that the state and the local school system placing the student share the expenses of the placement.

Discussed in this document are legal considerations such as "least restrictive environment" (LRE), a concept included in the Individuals with Disabilities Education Act (IDEA), which is required to be a factor of consideration when determining appropriate service delivery methods for students with disabilities. Also discussed are other variables which are required by the law to be considered when decisions for placement are made. The major portion of this document addresses traditional and current trends in the education of students who are deaf or hearing impaired, blind or visually impaired, and multihandicapped.
INTRODUCTION

As goals for public education are redefined and efforts to restructure the public schools have made headlines in newspapers throughout the United States, alternative methods of educating students with disabilities have also received a great deal of attention. Criticism directed at current special education programs has included negative comments about the segregation of students with disabilities into separate classes and separate schools, both day and residential. This criticism is based on the belief that one cannot acquire useful skills to live in an integrated world through education in segregated settings (Wehman, Kregal & Seyfarth, 1985). Brown, et. al. (1983) stated, "...segregated schools produce graduates who have extremely limited chances of functioning in nonsegregated postschool environments" (p.19).

Gaining national support is a trend often referred to in the media and literature as the Regular Education Initiative (REI). Also referred to as inclusive schooling, the movement espouses the practice of educating all students, including those with disabilities, heterogeneously in general education classrooms in neighborhood schools (Stainback & Stainback, 1990). By definition, inclusive schooling would eliminate the need for special education classrooms and the need to label students or teachers by disability; instead, supports would be available to classroom teachers (including consultation, collaborative teaching teams, assistive technology, adapted materials, etc.) to enable students with disabilities to succeed in the general education environment (Sailer, Anderson, Halvorsen, Doering, Filler & Goetz, 1989). A body of research supports the use of inclusive schooling and indicates that superior results are achieved when students are educated appropriately in their communities and in general education environments (Lipsky & Gartner, 1989; Halverson & Sailor, 1989).

Although inclusive schooling would constitute a radical shift from the use of residential and segregated schools, an intermediary strategy that ensures the planned integration of all students with disabilities with their age-appropriate, non-disabled peers would be less difficult. This concept would encourage maximum use of integrated opportunities and allow some services to be provided separately. As Taylor (1988) states, "[a]s a policy direction, integration means the elimination of social, cultural, economic, and administrative barriers to community integration and the design of services and supports to encourage, rather than discourage, involvement in community life and to cultivate, rather than impede, relationships between people with developmental disabilities and nondisabled people" (p.51).
Concurrently, the concept of community-based instruction also is receiving a great deal of approval and is being advocated by a number of groups including individuals with disabilities, parents, and advocacy groups. This strategy makes use of community environments, which are viewed as more natural and meaningful learning environments, to facilitate the development and generalization of independent living and vocational skills (Sailer, Anderson, Halvorsen, Doering, Filler, & Goetz, 1989; Brown, Ford, Nisbet, Sweet, Donnellan & Grunewald, 1983; Larson & Lakin, 1991; Lipsky & Gartner, 1989). Curriculum that makes use of community-based instruction also results in integrating students with disabilities with those who are not disabled and achieves greater acceptance of these students by the community.

Because society has the responsibility for educating its youth and providing them with the skills they need to assume adult responsibilities, educators must constantly study the effectiveness of current practices. The desire for an integrated society in which all individuals are productive and valued members and the desire to provide the most effective education to all students have resulted in investigations designed to identify "best practices". The decisions made by the Board of Education reflect information suggesting the favorable results of educating students with disabilities in their home communities.
CHAPTER ONE
THE MEANING OF LEAST RESTRICTIVE ENVIRONMENT

What constitutes Least Restrictive Environment?

The Individuals with Disabilities Education Act (formerly the Education of the Handicapped Act) or IDEA requires that students with disabilities be educated in the "least restrictive environment". Although this concept has never been concretely defined and there has been much disagreement over its meaning, there are conditions attached to decisions regarding the education of these students. The statute states:

"...that to the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, [must be] educated with children who are not disabled, and that special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily..."[20 U.S.C., Section 1412 (5)(B)].

Also required by statute is the responsibility of the local education agency to make available "to the maximum extent practicable... the provision of special services to enable such children to participate in regular educational programs" [20 U.S.C., Section 1414(a)(1)(C)(iv)].

Regulations which govern the implementation of the Individuals with Disabilities Education Act (34 CFR 300) detail procedural requirements to ensure the use of appropriate programs for all students in need of special education and related services. Among these requirements is the availability of a continuum of alternative service delivery options to meet the unique needs of each child [Section 300.551(b)(1)]. This continuum is required to "[m]ake provision for supplementary services...to be provided in conjunction with regular class placement"[Section 300.551(b)(2)]. The prohibition of categorical placements (i.e., the automatic placement, based on a specific disability, of a child in a particular type of program such as self-contained class, special school, or residential facility) further increases the array of services that must be made available by each locality.

The federal regulations further detail a number of considerations and conditions to ensure that decisions, including the determination of services to be provided, are made on an
individual basis and are based on the unique needs of each child. The determination of service delivery must:

1. be based on each student's IEP and focused on the achievement of individualized goals and objectives [Section 300.552(a)(2)],
2. take into consideration the proximity of school(s) to the child's home, thus providing services "as close as possible to the child's home" [Section 300.552(a)(3)],
3. take into consideration the possibility of providing services "in the school which he or she would attend if not handicapped" [Section 300.552(b)],
4. take into consideration "any potential harmful effect on the child" for alternatives examined [Section 300.552(d)],
5. take into consideration "the quality of services which [the child] needs" [Section 300.552(d)], and
6. be "determined at least annually" [Section 300.552(a)(1)].

How is LRE interpreted?

It is clear that Congress intuitively recognized the advantages and benefits of integration and did not believe that "separate but equal" was the answer to educating individuals with disabilities. Taylor (1988) defines LRE as "...services for people with developmental disabilities [being] designed according to a range of program options varying in terms of restrictiveness, normalization, independence, and integration, with a presumption in favor of environments that are least restrictive and most normalized, independent, and integrated" (p. 45). The statute and its regulations make it clear that segregated services are acceptable only when the student's needs absolutely cannot be met with his/her non-disabled peers or when a student with a disability is so "disruptive in a regular classroom that the education of other students is significantly impaired..." [Federal Regulations, Section 300.552 - Comment 2]. Although these provisions have been in place for more than 15 years, practices indicate that different interpretations of least restrictive environment continue to exist.

The law provides little guidance for the appropriate use of different service delivery models included in the continuum. Instead, it essentially details procedures that must be followed and factors that must be considered in making decisions for providing a "free and appropriate public education" to students with disabilities in the "least restrictive environment". Decisions regarding appropriateness of programs are left to localities. The legal protection regarding appropriateness relies on parents exercising their due process rights.
Neither due process hearings nor the courts have provided much help with the interpretation of least restrictive environment. In fact, the Supreme Court, in Board of Education v. Rowley (1982) decided that the schools are required to provide only a "basic floor opportunity" rather than education which will result in maximizing each student's abilities. Although appropriateness of programs continues to be argued in both due process hearings and the courts, hearing officers and judges usually refer to Rowley and only try to determine if the required procedures are followed and if the student is benefitting from the placement. The Rowley decision has had an effect on the ability of hearing officers and judges to define the meaning of "least restrictive environment" as a quality of schooling concept. Therefore, when LRE is the point of contention in a case, the Rowley standard is usually applied to the circumstances specific to that case (including documented procedures followed as well as the child's individual needs). Thus, specific qualitative standards for interpreting LRE have not been provided either through the statute, the regulations, or legal action.

How is LRE implemented?

Education administrators have been left with the responsibility for implementing the concept of LRE. Both internal and external forces affect the way that the schools implement this concept locally.

Internal forces include financial considerations, public relations, and professional philosophies and beliefs. The law leaves it to local school systems to decide how best to allocate their resources as long as the legal requirements are met. The special education advisory committee is one example of a required internal mechanism designed to influence and encourage effective practices while ensuring that other agencies, parents, and interested individuals are represented. In addition, the teachers and other professionals employed by the schools have often been extremely vocal with their opinions regarding LRE through professional organizations.

External forces include professional research, advocacy groups, and, parents. Studies which attribute greater student achievement to different variables are often used to support local practices. Advocacy groups have been instrumental in publicizing research findings which support their positions and often have the power to influence local practices. Parents, both individually and as a group, often hold the greatest ability to affect change and to influence the practices and alternatives available.

Although many forces, both internal and external, currently support the use of integrated services, there remains some disagreement. The disagreement comes from both parent and professional groups. Parents who disagree obviously are fearful
that a change in philosophy and practice will not benefit their child. A number of factors may influence their reluctance including family needs, a lack of understanding, prior experiences which were not successful or positive, and/or different beliefs. Although some parents are hesitant about integrated settings, Larson & Lakin (1991) found that,

"...the overwhelming majority of parents become satisfied with community settings once their son or daughter has moved from the institution, despite general predispositions to the contrary. The primary implication that may be drawn is that professionals, policy makers, and advocacy groups still have much to do in implementing programs that will assist parents in developing as early as possible the positive, less stressful attitudes about deinstitutionalization and community living that eventually almost all parents come to feel" (p. 37).

Because parents usually influence local, state, and national politicians, the power of this alliance can drive local policy decisions, regardless of empirical data that may indicate the desirability of using a different practice. Naturally, the political climate is influenced by all those internal and external factors previously mentioned, but mostly by the groups with voting power.

Particularly for students with sensory disabilities, traditional practices have long histories. Perhaps it was the absence of cognitive impairments that led to the early financial support for programs for these students. Low incidence, limited financial resources, and lack of technology demanded programs that were efficient and effective; the development of residential schools serving children from a large geographic area - usually a state - was the result. For students who were deaf, the need for a community of individuals that used the same language system was considered necessary in order for those students to succeed both socially and academically. The development of residential schools, although based on a number of influences, justified educating children outside their communities. Advances in medical technology saved the lives of many children who had multiple disabilities and resulted in new demands on school divisions. The concept of residential care was developed to meet the needs of school divisions that lacked the support and technology necessary to provide adequate educational programs for these children.

As practices and innovations are identified which influence the interpretation of the "least restrictive environment" requirement, and as research and technology is available to support changes in the delivery of education to students with disabilities, educators at all levels have an obligation for being responsive to
the changing variables which may indicate better ways of educating these students.
CHAPTER TWO

SERVICE DELIVERY OPTIONS FOR CHILDREN AND YOUTH WHO ARE BLIND OR VISUALLY IMPAIRED

Who are children with visual impairments or blindness?

Visual impairments and blindness are considered to be low-incidence disability areas in that they constitute only a small portion of the total school population (an incidence rate of 1 in 1,000) and make up only 1% of the total population of students with disabilities (Scholl, 1987). A child is considered as visually impaired if he/she has 20/70 or less acuity in his/her best corrected eye, a child is considered legally blind if the acuity is 20/200 or less or if there is a 20° field of vision or less (Padula, 1983). Virginia special education regulations (1990) define visually impaired as follows "a visual impairment which, even with correction, adversely affects a child educational performance. The term includes both partially seeing and blind children" (p.9). (For the purposes of this review, reference will be made to students with visual disabilities.) More than 50% of children identified as having a visual disability also have additional physical or developmental disabilities (Padula, 1983).

In general, students with visual disabilities are more like than unlike sighted peers. They demonstrate the same heterogeneity that would be observed in sighted children, including a range of abilities, aptitudes, and interests as well as social-emotional development. The primary difference is the requirements for educational specialization to meet the unique problems to learning created by the visual disability (Hill, 1990; Scholl, 1987).

Visual disabilities can affect normal patterns of growth and development that impact on learning (Scholl, 1987). The degree of this impact will differ for each child depending on the nature of the visual disability as well as the developmental, environmental and personality factors affecting learning in all children.

What are the historical trends in service delivery for children and youth with visual disabilities?

Residential schools for children with visual disabilities have a long history. The first school for blind children was founded by Valentin Hauy in Paris, France, in 1784. The success of this school influenced the establishment of similar schools across Europe by the early 19th century (Heward & Orlansky, 1988). The first schools for children who were blind were opened in the United States in the 1830's in Boston, New York, and Philadelphia (Heward & Orlansky, 1988; Tuttle, 1988). Hatlen and Curry (1987) state,
"Once it was recognized that blind and visually impaired children were educable, residential schools developed academic programs to parallel those of the best public and private schools in the country" (p7).

Though segregated residential placement was the traditional approach used to educate children with visual disabilities, public school programs for this population also have a relatively long history. Samuel Howe, a founder of the Boston residential school, was an early advocate of community centered integrated educational options (Tuttle, 1988). The first American public school class for totally blind children opened in Chicago in 1900; the first class for low vision children began in Boston in 1913, and the first itinerant teaching program for children with visual impairments attending regular classes was opened in Oakland, California, in 1938 (Heward & Orlansky, 1988). These mark the beginning of a continuing debate regarding day school or public school and residential school placement for children with visual disabilities (Bina, 1987).

During the 1940s and 1950s, there was a significant increase in the number of children with visual disabilities due to retinopathy of prematurity. The result was a large increase in the number of students and a corresponding inability of the residential schools to accommodate them. In addition, an increasing number of families chose to keep their child with a visual disability at home rather than opt for a residential placement. Consequently, there was a demand for the establishment of public school programs (Heward & Orlansky, 1988). The positive outcome of this medical dilemma was an increase in educational opportunities for children and youth with visual disabilities. The percentage of children with visual disabilities participating in integrated public school programs jumped from 10% in the 1940s to 80% in the 1980s.

Integration into regular programs for children with visual disabilities was assisted by the development of the portable braillewriter, adaptation of materials used within the classroom, and the establishment of itinerant teachers for children with visual disabilities (Curry & Hatlen, 1988; Harrell & Curry, 1987). Before the early 1950s, little recognition was given to the specialized skills needed to teach children with visual disabilities (Hatlen & Curry, 1987).

At the same time, some philosophical shifts began occurring. The integration of students with visual disabilities into regular classrooms was encouraged, based on the belief that students who spent most of their time within the regular classroom would be better equipped as adults to deal with the realities of the sighted world.

The trends toward public school integration and community centered education programs were enhanced by the passage of P.L.
Many residential schools, experiencing a significant decline in enrollment, saw this trend as a threat to their existence (Bina, 1987). The reaction to this perceived threat has influenced significant changes in many programs in residential schools for children and youth with visual disabilities across the country.

What are the current trends in service delivery for children with visual disabilities?

Hatlen and Curry (1987) suggest that in order to address the potential deficits related to vision loss, the needs of students can be divided into the following three basic categories:

1) needs that can be met by adapting the curriculum, but do not require a change in methodology or objective;
2) needs that require a change in methodology, but not in the curriculum or the objective;
and,
3) needs that are a direct result of blindness or visual impairment and must be addressed because of the lack of incidental, casual visual learning (p.7).

These factors need to be considered regardless of the placement of the child with a visual disability.

There has recently been an increase in non-categorical special education programs with special educators who have cross-categorical training. There is concern on the part of the community of visual disability authorities that the generalist trend of the regular education initiative will result in decreased emphasis on the need for trained vision specialists to implement the specialized vision special education services of the visually impaired child's educational program. Authors reiterate the importance of trained vision education specialists as part of the instructional team and as direct service providers to children and youth with visual disabilities (Bishop, 1990; Curry & Hatlen, 1988; Gallagher, 1988; Harrell & Curry, 1987; Hatlen & Curry, 1987; Scholl; 1987; Tuttle, 1988). Gallagher (1988) identifies a specific need for specially trained professionals in the areas of:

a) education of children with visual disabilities;
b) rehabilitation teaching of individuals with visual disabilities;
c) orientation and mobility instruction; and
d) employment placement.

What are the current trends toward integration into public schools?
Most children with visual disabilities are presently being educated in public education regular class programs (Freiberg, 1990). The range of special education service delivery options in the public school may include:

1. **Self-contained** programs for children with visual disabilities with mainstreaming for certain classes (This option may be more prevalent in larger school divisions that may have enough students with visual disabilities within a chronological age range to constitute a class or classes.)

2. **Resource Room** programs for children with visual disabilities that remove the child from the general education program to receive small group or individualized instruction for a portion of the day.

3. **Itinerant vision teacher** programs that may provide direct services to the child on an itinerant basis and/or consultation services to the regular classroom teacher.

4. **Vision teacher consultant** programs that provide consultation and collaboration services to general education staff, but no ongoing direct services to the child. (Tuttle, 1988)

**What are the current trends in residential programs?**

Most states still operate a residential school for children with visual disabilities. Currently, there are 52 residential schools for children with visual disabilities in operation in most of the 50 states and the District of Columbia (Heward & Orlansky, 1988). Residential schools offer comprehensive total care settings as well as educational programs. However, fewer than 20% of children with visual disabilities attend residential schools. Heward & Orlansky (1988) cite figures from the 1985 census of the American Printing House for the Blind that show that slightly more than 10% of children with visual disabilities attend residential schools and another 16% participate in programs for children who are multihandicapped. In fact, Heward and Orlansky (1988) suggest that students with visual disabilities who are receiving services in residential schools have additional disabilities such as mental retardation, hearing impairment, or behavior or neurological disorders. Tuttle (1988) gives his opinion that the residential school may not be more restrictive for students whose educational needs are so complex.

In response to the decreased numbers of students with visual disabilities, the increase in complexity of the disabilities of students served in residential schools, and changes in philosophy in disability policy and service delivery, many residential schools have modified their programs and are offering innovative options. Heward and Orlansky (1988) interviewed the director of the Perkins
School for the Blind in Massachusetts who reported the following among some of the current offerings of community and outreach services now being offered:

1. Community living services
2. Infant/toddler services
3. Preschool services
4. Projects with industry program
5. Outreach services to public school students (e.g., teen weekends, summer school programs)
6. Diagnostic evaluation services
7. Regional center for deaf-blind services
8. Regional library for the blind
9. Teacher training program
10. Outreach services for professionals
11. Howe press (publications) (p.324)

What are the current trends in curriculum?

Heiden (1989) conducted a 10 year follow-up study of students who had attended the Wisconsin School for the Visually Handicapped during part or all of the education program. Only 31% of those surveyed responded resulting in a relatively small sample. Of those surveyed, 31% were enrolled in post-secondary education, 2% in college preparatory programs, and 44% were employed. Results of the National Longitudinal Transition Study of Special Education Students reveal that 24% of th with visual disabilities are employed within one to two years after leaving high school. Their average hourly wage was $3.12 (this wage was the lowest hourly wage reported for all disability areas categorized within the study). This study found that 42% of students with visual disabilities participated in some type of postsecondary education or training (Stanford Research Institute, 1990). From these data, one could interpret a potential 20-25% unemployment rate for young adults with visual disabilities. Transition planning and programming are now mandated under the Individual with Disabilities Education Act of 1990 (P.L. 101-476). The intent of this mandate is to address the transition service needs of all students receiving special education services.

Increased attention is being given to the use of functional curriculum for children and youth with visual disabilities (Harrell & Curry, 1987). The functional curriculum for students with visual disabilities includes activities related to daily living, orientation and mobility, social skills, use of functional vision, and vocational skills. Authorities in the field of visual disabilities emphasize the importance of a trained vision specialist to facilitate the acquisition of functional skills by children and youth with visual disabilities. Harrell & Curry (1987) contend that there are two additional important curriculum components: the basic academic curricula, and those specialized
skills needed for the child with visual disabilities to participate in the regular academic curriculum. Curry and Hatlen (1987) refer to a dual curriculum practice for children with visual disabilities - instruction in traditional academic areas and instruction in disability-specific skills. They emphasize the importance of the individual student as the central figure in considering the intensity of instruction.

**What are the benefits of integrated programs and factors affecting successful programs?**

Tuttle (1988) cited the following advantages of mainstreaming visually impaired children into regular classrooms:

1. The child is able to remain in the family home and attend local schools with siblings and peers from the neighborhood.
2. Their variety of curricular and extracurricular offerings is often broader in public school.
3. There is greater opportunity for social interaction and competition between blind and sighted children and greater opportunity for sighted children to role-model appropriate or acceptable behavior.
4. There is an increase in self-reliance which is an important factor influencing successful post-secondary transition outcomes.
5. All children can benefit from many of the strategies used to assist the child with a visual disability.
6. Regular educators and school staff become more knowledgeable about, and more ready to accept, blind persons and they become more sensitive to the problems encountered by students with visual disabilities (p.352).

Tuttle (1988) cited a study by Hoben & Lindstrom (1980) that found mainstreamed visually disabled children to be socially isolated. Tuttle expressed the concern that a student with a visual disability may be the only blind or low vision child in the school and community. He argues that in such instances the opportunity to learn "self-attitudes, adaptive behaviors, and/or coping skills from other visually impaired persons" (p.376) may be very limited.

Erwin (1991) reviewed the research on integrating preschoolers with visual disabilities into regular pre-school programs. Based on his review, he made the following recommendations for successful mainstream programs for preschoolers with visual disabilities: a) mainstreaming must be more than mere placement within a regular classroom - a plan for integration needs to be developed; b) social interactions may not occur spontaneously and therefore must be carefully nurtured; c) a strong partnership between the regular teacher and the vision teacher is critical: therefore, teacher skill and cooperation are
important factors for consideration; d) a data-based approach to instruction must be used to continually evaluate program effectiveness; e) strong administrative support must be obtained from the school; f) family involvement is essential; and, g) service coordination within the school and the community may require a person to serve in a professional case management role. In addition, he advocated that professionals should receive specialized training in integration skills.

Bishop (1986) surveyed vision teachers, regular education teachers, parents, and students with visual disabilities to identify those components of success in mainstreaming. School factors, individual pupil factors, and family factors were identified. His findings were are followed:

(A) The most important school factors were:
- an accepting and flexible regular classroom teacher
- peer acceptance and interaction
- available support personnel
- adequate supplies and equipment

(B) The most important pupil variables were:
- social skills
- average or greater than average academic achievement
- positive self-image
- student self-motivation

(C) The most important family variable was:
- positive family attitudes

Hill (1990) interviewed 20 regular elementary and secondary teachers who instructed at least one mainstreamed student with a visual disability in their classes. [The majority of students mainstreamed were of at least average ability level.] She found that both elementary and secondary teachers reported that they attempted to modify some aspect of their classes to meet the needs of students with visual disabilities.

Educating students with visual disabilities in the regular classroom received increasing criticism and concern as post-secondary outcomes for this population were evaluated during the late 1970s and early 1980s. Some critics cite findings from the early 1980s reporting that many students with visual disabilities were not able to function successfully in their communities and consequently remained unemployed (Curry & Hatlen, 1990; Tuttle, 1986). In spite of adequate academic skills, many of these students had not acquired the functional or social skills they needed to be integrated into their community after they left public school. Tuttle cited a study by Corn & Bishop (1984) assessing the practical knowledge of 116 students with visual disabilities. Their study revealed that students with visual disabilities had lower than average skills and it also showed that students with low vision received lower scores than students who were legally blind.
Experts in the field of visual disability believe that specialized instruction, grounded in an understanding of visual disabilities is required to ensure that mainstreamed students acquire these adult transition skills (Bishop, 1990; Curry & Hatlen, 1988; Gallagher, 1988; Harrell & Curry, 1987; Hatlen & Curry, 1987; Scholl, 1987; Tuttle, 1988). In addition, they assert that such instruction requires the training and background skills found in professionals who are education vision specialists.

What are the benefits of residential programs and factors influencing current program success?

Tuttle (1988) cites the following advantages of residential schools for children with visual disabilities:

1. Residential schools are intended to offer specialized staff and generally extensive materials and equipment throughout the campus, whereas some local school districts simply find it impossible to provide this level of services required to appropriately serve some children with visual disabilities.
2. Residential schools are available for either short-term instruction or long-term instruction in a wide range of areas: academics, adaptive skills, orientation and mobility, independent living skills, recreation, technology and career education.
3. Residential schools have the capacity for a 24-hour-a-day treatment program for children who need a very controlled environment.

Some authorities in the field of visual disability believe that the additional time needed to build a strong foundation for academic learning for children with visual disabilities may require minimally short term instruction in segregated programs (Hatlen & Curry, 1987). In addition, proponents of residential programs assert that current trends toward integration ignore the "wealth of expert services the residential school has historically offered and competently delivered" (Miller, 1991, p.31). Current programs emphasize that residential placement need not be regarded as a permanent status for students with visual disabilities.

Heward and Orlansky (1988) cite a study by Livingston-White, Utter, & Woodard (1985) that surveyed parents, students, and local education agencies regarding students that attended a state school for the blind. In general, consumer satisfaction was high. This study did not evaluate student outcomes or program effectiveness.

What are the conclusions that can be made about educational services to students who are blind or visually impaired?
During the past four decades, students with visual disabilities have increasingly participated in mainstreamed educational programs. Residential programs have noted the resultant changes in the population served. Many residential programs have changed their mission and the focus of services being delivered.

There is a lack of empirical research that evaluates the effectiveness of service delivery options, from integration to residential placement, for children and youth with visual disabilities (Bishop, 1986; Erwin, 1991; Gallagher, 1988). Consequently, philosophical beliefs and professional opinion are the primary factors influencing the individual positions held regarding service delivery options for children and youth with visual disabilities. At times, discussions affecting the placement of students have been influenced more by philosophy and opinion than by student needs.

There is a continuing trend toward integrated placement options in the education of children and youth with visual disabilities. This trend is historical and few authorities question the validity of community-centered educational programming. At the same time, authorities in the field of visual disabilities are very vocal in emphasizing the unique impact on learning that occurs as a result of a visual disability and the need for specialized expertise to help students master the skills needed to access the regular curriculum of education and to succeed in adult life. The service delivery option chosen for teaching these skills should be student-centered and shall take into account all the interacting factors of the child, his/her environment, and the available instructional expertise matched to his/her learning needs.
CHAPTER THREE

SERVICE DELIVERY OPTIONS FOR CHILDREN AND YOUTH WHO ARE DEAF AND HEARING IMPAIRED

Who are children and youth with hearing impairments?

The hallmark of children with hearing impairments is their heterogeneity. The term hearing impaired covers the entire range of auditory impairment. The Regulations Governing Special Education Programs for Handicapped Children and Youth in Virginia define hearing impairment as: (a) "Deaf" means a hearing impairment which is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification, which adversely affects educational performance and (b) Hard of Hearing means a hearing impairment, whether permanent or fluctuating, which adversely affects a child's educational performance but which is not included under the definition of "deaf". The heterogenic make-up of the population of children with hearing impairments also includes those with so-called minimal hearing loss due to recurrent otitis media, and those with a unilateral loss. Audiologically and educationally, the general practice is to state that individuals with 70 decibel (dB.) of hearing loss and above are "deaf" and those with less than 70 dB. are hard of hearing.

For the educator, difficulties in defining and categorizing a hearing loss are complicated by issues of age of onset and identification, age when fitted with hearing aids, etiology, and neurological integrity. Over the last decade prevalence of multiple handicaps among the hearing impaired has increased (Bess, 1988). The Office of Demographic Studies reports that at least 30% of children with sensorineural hearing impairment have an additional developmental disability (Bess, 1988, p. 108). All of these factors have traditionally influenced and continue to influence the educational programming for these students.

The Virginia Schools for the Deaf and the Blind at Hampton and Staunton reported on the 1989-1990 survey by the Office of Demographic Studies 91 students at Hampton and 82 students at Staunton were considered to be "deaf" and six students at Hampton and 8 students at Staunton are considered to be "hard of hearing" as defined in the Regulations Governing Special Education Programs for Handicapped Children and Youth in Virginia. Hearing impairment is a term that encompasses all levels of hearing disabilities. All deaf people are hearing impaired. However not all individuals with hearing impairment are deaf. For purposes of this paper, the term hearing impaired is used to include all individuals with hearing problems who are identified as needing special education services in Virginia.
What are the historical trends in service delivery for children and youth with hearing impairments?

Educators of hearing impaired students have traditionally supported the notion that the hearing impaired child benefits by living at home. In 1880, J. Noyes, Superintendent of the Minnesota Institute for the Deaf and Dumb and Blind, reported to the governor that "local departments should be opened for the education of the hearing impaired, articulation the sole medium of instruction and the deaf made to mingle freely with other children..."(Schildroth and Karchmer, 1986). The first residential schools in the U.S. were established originally as day schools. The majority of hearing impaired children attending residential schools during the first half-century of the education of the hearing impaired in America (up to the Civil War) were enrolled in schools in large metropolitan areas with the residential students coming from farms and villages.

Programs emphasizing residential care for students with other handicaps developed in the early part of the 19th century. These were established to provide humane treatment to the handicapped and to prepare students for society at large. This situation changed during the late nineteenth and early 20th centuries. Expansion of residential facilities was costly and became more custodial than educational. Although this was not the emphasis in residential schools for the deaf this trend influenced these schools. (Moore and Kluwin, 1986, p. 106).

Following World War II, a clear trend emerged toward increasing the placement of hearing impaired children in public school settings. The rubella epidemic of 1963-1965 caused a significant increase in the numbers of children with hearing impairments and other handicaps. This put heavy unexpected demands on local educational agencies and residential schools at a time when enrollments were declining in regular elementary schools. The trend for placing hearing impaired children in regular public school classrooms was accelerated by the passage of U.S. Public Law 94-142 in 1975 (EHA) as a means of meeting "the least restrictive environment" requirements. The combination of this trend and the graduation or exiting of students who were part of the "rubella bulge" resulted in a decline of enrollment of residential school placement by 22% nationwide between 1978-1986. (A Report to the President and the Congress of the United States--The Commission on Education of the Deaf, 1988).

Educators of hearing impaired children have continued to develop programs in areas where a large population base existed. These programs have ranged from a residential facility, self-contained classrooms, a resource room model, to provision of
services for mainstreamed students on an itinerant basis. The belief that a "critical mass," a large number of hearing impaired students in a central location, was needed in order to provide comprehensive services was shared by most educators. It was felt that school districts with limited populations potentially had greater difficulty providing trained personnel and resources necessary for appropriate instruction, parent counseling, sound-treatment of rooms, speech therapy, and curriculum modification (Moore and Kluwin, 1986, p. 122). A search of the literature however, does not provide guidance with empirical research data to support this belief. Moore, however, states that "it is often clear that local educational systems may not be able to meet the complex social and emotional needs of a family's deaf child," (p. 122).

Decisions affecting the placement of children with hearing impairments were not the only critical issue confronting educators serving these students. The critical issue of communication mode has been, and continues to be, significant in developing and implementing educational programs to meet the needs of the hearing impaired individual. A review of the history of education of hearing impaired students reveals that all of the significant efforts in teaching prior to the mid-1700s were oral; fingerspelling and writing were supplementary aids. Abbe de l'Epee developed the manual alphabet and a sign language system that he felt formed the basis of a "mother tongue" for deaf people. It was a medium to facilitate social and instructional communication. This was the beginning of a long historical controversy over the of education of the hearing impaired that continues today (Scouten, 1984).

Philosophies of teaching children with hearing impairments used in educational settings today include: auditory-verbal, auditory-oral, oral, Cued Speech, total communication, and manual communication. Many settings use a combination of these, depending on the communication needs of the child.

The auditory approaches, whether auditory-verbal or auditory-oral use hearing to learn the spoken language. The auditory-verbal stresses one-on-one therapy sessions as well as complete integration into a mainstreamed educational environment. The auditory-oral approach relies on aided hearing to develop speech and language. It is usually presented with a small class of children with hearing impairments and is geared towards those who need additional speechreading information to learn language.

The oral approach places less value on aided hearing. Specific auditory lessons are presented in a classroom setting with children with hearing impairments. Special importance is placed on the use of visual clues including speechreading and the printed word to develop language and speech.
Cued Speedh is a phonetically-based speechreading system that uses eight handshapes representing groups of consonant sounds and four locations about the face representing groups of vowel sounds. Combinations of these hand configurations and placements synchronized with natural speech movements make spoken language visible to the Cued Speech recipient.

Total communication is a combination of the oral method, plus the use of signs (usually Signed English) and fingerspelling. It emphasizes that the child with a hearing impairment has available a variety of methods of communication including speechreading, fingerspelling, sign language, and speech. Use of residual hearing is also stressed.

Manual communication is a commitment to the use of sign language (usually American Sign Language). Spoken language is not considered to be a necessary component for communication. The use of residual hearing is optional. (Moores, 1987, p. 11).

What are the current trends in service delivery for children with hearing impairments?

The greatest problem facing students with a hearing impairment is that of "barrier free access to communication." This issue must be considered in designing the most appropriate educational placement for the hearing impaired students.

Another major issue is the wide gap in the acquisition of reading and writing skills that demonstrate linguistic competency (Report to Congress by Commission of Education of the Deaf, 1988). Research indicates that the majority of students with hearing impairments read at a level below 6th grade. In 1977, Trybus and Karchmer reported that only 5 percent of the population in special schools or classes read at a tenth grade level or better at age 16.

"More recent investigative research has focused on functional reading ability versus standardized achievement tests. Results indicate that students with hearing impairments seem to be able to employ their intact cognitive abilities and knowledge of the world to compensate for grammatical difficulties", (Moore, 1987, p.286.)

The educational community is responsible for providing opportunities in the language acquisition process for students with hearing impairments. "To do so requires highly trained specialists who understand the fundamental principles of developmental psycholinguistics", and also requires that these principles be reinforced throughout the student's day. (Report to Congress by Commission on Education of the Deaf, 1988).

The Commission on Education of the Deaf in 1988 strongly recommended "that exemplary practices, programs, materials and assessment instruments be developed based on research findings from
the fields of deaf education, psycholinguistics, human cognition, reading and second language acquisition in order for the education of deaf students to acquire language and become linguistically competent." (Report to Congress by Commission on Education of the Deaf, 1988).

Garretson, in "The Deaf Child and the Unwritten Curriculum," states that the "whole child" is critical in programming for the student with a hearing impairment. Ninety-two percent of a student's learning takes place outside of the formal instruction of a classroom. The educational program must be concerned with the broad learning community including the classroom, the playground, extracurricular activities, the home, the neighborhood and city/area in which the child resides. Thus, the need for a full continuum of services and placements is evident.

What are current trends toward integration into public schools?

Wolk, Karchmer, and Schildroth (1982) stated that the type of educational program in which a hearing impaired student is enrolled is an important factor both in the integration (mainstreaming) that the student will experience and in the type of experience provided. Libbey and Pronovost (1980) surveyed 557 hearing impaired adolescents in 32 school programs in 18 states. Twenty-seven percent of their sample was not academically integrated at all, and an additional 18 percent was integrated only in a single academic class. While VSDB-S and VSDB-H report an increasing commitment to integrative environments, data reported to the Office of Demographic Studies of Gallaudet University by these schools for 1986-1990 reveal that one hearing impaired student was integrated with nonhandicapped peers. This compares with data reported by LEAs in Virginia indicating that 1,845 students with hearing impairment were integrated with nonhandicapped students (Annual Survey of Hearing Impaired Children and Youth, 1986-1990).

Empirical data and experience show considerable success in the educational outcomes of students with hearing impairments when they are appropriately placed and taught. Public education of the deaf began 174 years ago with graduates entering a wide variety of work settings. In the mid-1960s, more than 85% of employed deaf adults were working in unskilled or semiskilled occupations, which is no longer the case today, according to Dr. Frisina of the National Technical Institute for the Deaf. There are many more options available for post-secondary training through community colleges, technical centers, state and private colleges and universities. Employment today requires even greater skill, education, communication, and personal/social interactions. Stability and predictability in educational opportunities and options must continue to be available (Frisina, 1990, p. 150).
Model programs have been established to provide stability and predictability in educational opportunities. Experiments and studies conducted to support mainstreaming efforts include partial mainstreaming of students from residential schools for the hearing impaired (Craig & Salem, 1975; Salem, 1971), preparation of students in a school for the hearing impaired before they are fully mainstreamed into a regular school (Bitter & Mears, 1973), and surveys of mainstreamed children with hearing impairments in various school placements (Karchmer & Trybus, 1977; Libby and Pronovost, 1980; Rister, 1975). Studies also include the continuation of mainstreaming at the college level (Belvilacqua & Osterlink, 1979; Nabor and Nabor & Murphy, 1980). Dr. Grant Bitter pointed out that mainstreaming has the ability to empower children with hearing impairment. At home, they are part of the family sharing the fun, heartaches, pleasures, conversations, responsibilities, and give-and-take of family life. In the community, they have the opportunity to participate in a wide variety of activities.

The American Association for the Advancement of Science and the Alexander Graham Bell Association for the Deaf conducted a nationwide survey of families with children with hearing impairments in 1987. The objective was to determine the amount and variety of participation by these children in activities within communities. The survey brought responses from 451 families. The preliminary report (to be published in 1992) indicated participation in activities such as music, scouting, science, sports, church, art, and dance. These studies and reports document the benefits of having the opportunity to participate within the school and community in which students with hearing impairments live.

What are current trends in residential programs?

Many studies and reports support the need for and benefits of a residential school placement. These include the ability of the student with a hearing impairment to interact fully in social contacts throughout the day and evening since all adults and peers within the residential environment share the same mode of communication. The opportunity readily exists for the student with a hearing impairment to be an active participant within the school environment including sports, student council, and clubs. Exposure to deaf role models is more prominent within the residential school for the deaf than in regular school placements. This exposure facilitates the self-image and self-esteem of the student with a hearing impairment. The concentration of special instruction, staff, equipment, and services is readily available in the residential school for the deaf because there is a "critical mass" to be served versus only one or two students in each local program (Report to Congress by the Commission on Education of the Deaf, 1988).
Mainstreaming of students with a hearing impairment into classrooms serving nonhandicapped students is not a popular belief or practice with educators affiliated with state residential schools (Scouton, 1984). Dr. Larry Stewart, former Superintendent of the Illinois School for the Deaf, stated at the conference on Reclaiming the Future. Life after LRE, that "public and private residential and day school programs for deaf students have been seriously affected by one-sided, unfair, and heavy-handed interpretations and policies concerning least restrictive environment issues advocated and promoted by the federal Department of Education and adopted in turn by state education agencies and local education agencies. It is probable that if current LRE initiatives are allowed to continue another two to five years, the evidence is that few traditional deaf education schools and programs will remain". Dr. Stewart also reported that over 80% of hearing impaired students attend public school programs and only 10-20% attend state residential schools for the deaf. (Stewart, 1990, p. 115).

Advocates of residential schools indicate that the greatest barrier in educational programming for the student with hearing impairment is that of communication. Communication with teachers, peers, school personnel, community persons, and family is the most critical problem for these students. IEP teams must address this issue as they deliberate the most appropriate educational placement.

Another equally important issue, is that of the social cultural needs of the student with a hearing impairment. The desire or need to be a part of the Deaf culture can be most effectively met by participating fully within a setting that fosters this culture, the residential school setting. This is offset by the student's need to be educated with nonhandicapped age appropriate peers. This issue confuses parents and the student when professionals do not appropriately consider the total needs of the student. Cooperation and collaboration between the state residential schools and the local educational agencies is clearly needed. This decision-making process should not be clouded by issues of administrative convenience or maintaining enrollment figures.

The Honorable Benjamin Civiletti, former United States Attorney General, in his presentation on "Least Restrictive Environments: Legal and Constitutional Implications for Education of the Deaf" at the conference entitled Reclaiming the Future -- Life after LRE strongly suggested the following as a means of achieving the goal of appropriate education for hearing impaired students:

(1) Emphasis should be placed on evaluating the unique needs of the hearing impaired student and appropriateness of a given placement and should include severity of hearing loss, academic level, learning style, communicative
needs, preferred mode of communication, linguistic, cultural, social and emotional needs, placement preference, individual motivation and family support,

(2) Consideration by the LEA of the "fit" of the placement with the child's unique needs,

(3) Consideration of any "harmful" effects that could result in a given placement, and

(4) Consistently informing parents of the full continuum of available placements.

Civiletti also suggested that state residential schools need to reexamine their missions and look at establishing links with local public schools for potential interaction between handicapped and nonhandicapped students. He said movement of students back and forth between state residential schools and local educational agencies should be promoted for the experience of Deaf culture. The residential school, he stated, could serve as a "base" for itinerant teachers for local educational agencies that are too small to have such a staff persons assigned to work with students with hearing impairments. He also suggested that an evaluation of the student that is "difficult" to test could be completed by a team connected to the state residential school. By reaching out into nontraditional roles, he pointed out, the state residential facility can become a part of the total educational environment of the state (Civiletti, 1990, pp. 39-40).

What conclusions can be made about the delivery of educational services to students who are hearing impaired?

A substantial amount of literature is related to the history, trends, programming issues, LRE and needs involved in improving education for students with a hearing impairment. Research is lacking in many areas to support beliefs or trends in educational programming. It is unknown at this time what impact the tremendous increase in use of educational interpreters will have on the academic achievement of hearing impaired students who are in the mainstream. The Center for Assessment and Demographic Studies of Gallaudet University conducts surveys yearly of students in programs serving the hearing impaired. Students who are fully mainstreamed without any contacts with teachers of the hearing impaired are included in the data base. Thus, the success or failure of these students is not reported.

However, the literature and data are clear that no one placement is appropriate for each and every student with a hearing impairment. The unique needs of each student must be considered in designing appropriate educational placement and program.
CHAPTER FOUR
SERVICE DELIVERY OPTIONS FOR CHILDREN AND YOUTH
WHO HAVE MULTIHANDICAPS

Who are the students who are multihandicapped?

During the past 15 years, public schools in Virginia have identified a group of children who require additional services and resources than are provided for the majority of special education students. Children included in this relatively small population of children often have severe handicapping conditions. The incidence of this population is low, and the expertise to identify and educate these students is limited. These students are identified as, "multihandicapped." Regulations define multihandicapped as, "concomitant impairments (such as mentally retarded - blind, mentally retarded - orthopedically impaired, etc), the combination of which causes such severe educational problems that they cannot be accommodated in special education programs solely for one of the impairments. The term does not include deaf-blind children."

What are the historical trends in service delivery for children and youth who are multihandicapped?

As recently as 1972, some children with multiple disabilities were served in institutions. Since the inception of P.L. 94-142 and the emphasis it places on educating children with disabilities in the least restrictive environment, there has been a significant increase in the numbers of such students served by local school divisions and their communities.

To provide adequate funding to help school divisions develop and implement appropriate services for this population, the Department of Education established a rate of reimbursement for children identified as having two or more major handicapping conditions. The term used for reimbursement purposes was "multihandicapped."

After identifying and serving this population of students for several years, it became obvious that students other than those with multiple disabilities were being included in these classrooms. One handicapping condition that affects many children previously reported as "multihandicapped" is a severe cognitive impairment. The more appropriate term for the identification and instruction of these students is "severely and profoundly handicapped." This population has emerged as a large subgroup of students.

Other groups of students who were reported as "multihandicapped" but do not reflect the characteristics associated with this handicapping condition as stated in the
Virginia regulations governing special education, are "autism", "deaf-blind", "orthopedically impaired", and "other health impaired". The aforementioned populations are referred to in the literature as "students with severe disabilities", those who have moderate or severe retardation, autism, deaf-blindness, multihandicaps, severe chronic health impairments, or severe physical disabilities.

What are the current trends in service delivery for children and youth with severe disabilities?

Generally, several ingredients are necessary to provide quality education for these students. Some of these ingredients include education in integrated environments, systematic instruction, supported work models, smooth transition from school to the world of work, and use of technology.

What are current trends toward integration into public schools?

Students with severe disabilities often are at higher risk for institutionalization than students with mild disabilities. Wagner and Shaver (1989) collected information during a national study supported by the federal government. They found that 41% of all students with multiple impairments and 94% of all deaf-blind students attended a separate special education program, compared to 8% of the special education population overall.

Several states have plans, mission statements, and guidelines to help integrate students with severe disabilities into programs with their age-appropriate, nondisabled peers. Iowa (1984) was one of the first states to be involved in a statewide system of change by identifying a rationale for integrating students with severe disabilities into public schools. Vermont (1987) followed shortly by developing guidelines to provide support to local school divisions as they implemented state policy. In 1988, Delaware began an initiative to integrate students with severe disabilities into the mainstream (Delaware Department of Education, 1988). A strategic plan was developed by Maryland in 1991 (Maryland Department of Education, 1991).

Interestingly, Virginia began to explore the concept of least restrictive environment earlier than the aforementioned states. In a superintendent's memorandum, dated October 13, 1982, guidelines in draft form were distributed to school divisions for comment (Virginia Department of Education, 1982).

In 1987, the Virginia Department of Education, in cooperation with George Mason University, the University of Virginia, and Virginia Commonwealth University, began a five-year effort to implement a statewide systems change project. Approximately 4,876
students who are moderately retarded, severely and profoundly handicapped, multihandicapped, autistic, deaf-blind, orthopedically impaired, or who have other health impairments were receiving educational services in segregated environments is Virginia. The mission of the project, therefore, was to change significantly the delivery of services for children and youth with severe disabilities from segregated to integrated environments. This is being accomplished through activities designed to achieve the following objectives: (1) to significantly increase the number of students with severe disabilities who are educated alongside their nondisabled peers in participating local education agencies (LEAs); (2) to significantly improve the quality of educational programming and social integration; (3) to develop at least six exemplary integrated programs for students with severe disabilities; (4) to formulate and disseminate recommendations for state and local policies and procedures to coordinate the services provided to students with severe disabilities; (5) to evaluate project procedures, products, and outcomes; and (6) to develop and disseminate products and information from project activities at the local, state, and national levels. The Virginia Statewide Systems Change Project is in its fifth and final year (Virginia Department of Education, 1991).

What are the key elements to successfully shifting programmatic focus from segregated to integrated settings?

Several key elements appeared to be important in efforts to integrate students with severe disabilities into the public school environment. First, there must be a strong commitment to the concept of integration. Authors (Harme-Nietupski, Nietupski, and Maurer, 1990; Berres and Knoblock, 1987) attest to the need for state education agencies and local education agencies to be committed to integration as a key component of quality education, and be willing to formulate state level integration policies to support change efforts.

A study (Janney and Meyer, 1990) revealed that the most salient variable related to student outcomes was the degree of administrative and staff commitment to the student and that student's right to attend school in proximity to nondisabled peers. A consultation model was explored as a means to deliver technical assistance to achieve that objective. When the vital component of commitment was missing or not sufficiently strong, students continued to be placed in restrictive educational environments rather than normalized environments.

Research indicates that a majority of superintendents in Virginia agree that students with severe disabilities should be integrated into the regular classroom environment. In a study of 133 school superintendents in Virginia, with a return rate of 92%,
50.5% of all superintendents agree with integration, 34% are uncertain, and 15.5% have negative attitudes about integrating students with severe disabilities into public school settings (Stainback, Stainback, and Stainback, 1988).

A second element of importance when educating students with severe disabilities in public schools is administrative support. Crisci (1981) considers the administrator to be the key to effective mainstreaming and effective programming. Other authorities agree and are of the opinion that the principal's power to change a system is enhanced by having the flexibility to seek out information for self-education, by having the authority to encourage accommodation in the educational program to meet the needs of individual students, by providing staff development, by designing evaluation systems and recording change, and by fostering attitudes of staff. (Biklen, Bodgan, Ferguson, Searl, and Taylor, 1985).

In a recent study to gather information about strategies needed to integrate students with severe disabilities, 15 building principals were asked in a questionnaire to share their perceptions about what makes integration work (Sailor, 1989). The respondents ranked as most important for integration the existence of a clear philosophy, the presence of proactive visible committed leadership, stable school environment, strong administrative support, parent involvement, preparation and planning, and teaming/collaboration. All of the components mentioned may be strengthened by the presence of a principal committed to integrated environments in the public school.

Strong leadership and commitment are not sufficient without a third element to facilitate the development and implementation of quality programs for students with disabilities. That element is systematic planning and forethought. Taylor (1982) recognized the need for careful planning and preparation, the creation of specialized support positions, and the development of facilitative policies. Other authorities such as Namre-Nietupski and Nietupski, 1981, have developed a list of systematic efforts that can be implemented by faculty members and students. Other states (Iowa, 1984; Vermont, 1987; Delaware, 1988; and Maryland, 1991) have examples of plans and guidelines. Virginia has developed a system of technical assistance to support planning efforts by local school divisions (Virginia Statewide Systems Change Project, 1991). Personnel at the Virginia Department of Education currently are working to develop a statewide program to plan for and provide the least restrictive environment for all special education children and youth in Virginia's public schools (see RFP# 91-54, 1991).

The fourth element considered necessary to educate students with severe disabilities is a positive attitude. This element can be intensified through training and experience. Thirty-one undergraduate students received a week of training during their
coursework to become elementary school teachers. After the week of training, the attitudes of the prospective teachers were significantly influenced to a positive acceptance of integrating students with severe disabilities (Stainback and Stainback, 1982).

In a study to discover the willingness of regular and special educators to teach students with disabilities, 128 regular and 133 special educators were surveyed. Their responses indicated that their willingness to teach students with disabilities depended on their attitudes regarding the number of disabilities, not on how strong their attitudes were about teaching children with disabilities. (Gans, 1987). One conclusion from this investigation is that educators may be willing to teach certain types of children with disabilities, but consider themselves unprepared to teach more severely disabled students.

Many researchers have found less than positive attitudes toward students with severe disabilities. One study of 40 fifth graders in Iowa City public schools found that nondisabled students have less negative perceptions of nondisabled peers than they have for peers with severe disabilities. (Stainback and Stainback, 1982). This would indicate that one cannot assume positive attitudes exist prior to integration, and that working with the non-disabled student body would be prerequisite to integrating students with severe disabilities into public school settings.

What are the current trends in curriculum and program development for children and youth with severe disabilities?

Several authorities have considered strategies necessary for educating students with severe disabilities (Sailor, Anderson, Halvorsen, Doering, Filler, and Goetz, 1989). All agreed that strategies should be delivered in a community-based setting where the goal of a smooth transition from school to the world of work is ensured. To accomplish this goal, a guide to education and living in the community has been developed (Ford, Schnorr, Meyer, and Davern, 1989).

The literature discloses many strategies for successfully integrated programs. They include: (1) self-advocacy, (2) socialization, (3) classroom management, and (4) technology. First, self-advocacy can increase the chances for disabled students to be educated with nondisabled peers (Gaylord, 1989). To assist students with disabilities as they advocate for themselves to be educated and live in their communities, other systems need to be developed. Taylor, Douglas, and Knoll (1987) propose that community integration for people with severe disabilities can be supported by consumer monitoring, external review committees, and self-evaluation of service providers.

Social integration is recognized as being necessary to implement strategies for integration (Certo, Haring, and York,
A second strategy for integrating students with severe disabilities into public schools is to use nondisabled peers for partially educating students with severe disabilities (Stainback and Stainback, 1985). Other educators (Perske and Perske, 1988) have developed strategies for circles of friends to help with the education and socialization of students with severe disabilities.

Finally, several authorities have identified the components necessary for successful strategies to be implemented. Some of these components are classroom organization, curricular adaptions, assessment procedures, adaptive instruction, and family and community support systems (Stainback, Stainback, and Forest, 1989). Additional components are teaching teams, technology, administrative support, peers, and families (Stainback and Stainback, 1990).

Recently, a study was made of the amount of time students with disabilities should be in regular classrooms (Brown, Schwarz, Udvari-Solner, Kamposchroer, Johnson, Jorgensen, and Gruenewald, 1991). These authorities found that the amount of time for strategies to be implemented in the regular education classroom varied depending on the student's chronological age, related services, number of environments in which a student functions, personnel qualities, effects of social relationships, parent/guardian/student priorities, probability of acquisition, functionality, and preparation for post-school life.

Technology in recent years has contributed to the degree of effectiveness in teaching students with severe disabilities. Computers and adaptive switching devices are being used in the classroom. Computers can gather, store, and analyze data according to a prescriptive program and send the data or instructions to peripheral devices. There are four major reasons for using computers to assist students with severe disabilities. First, computers can gather, store, analyze, and display information automatically. Second, computers can be a component in a system for alternative communication. Third, computers can control environments. Finally, computers can help to manage and modify behavior by applying appropriate prearranged contingencies.

What are the benefits of integrated programs?

When students with disabilities have opportunities to attend age-appropriate regular schools, service providers and parents benefit from interactions by discovering enhanced self-concept and the chance to exercise mature behavior (Brown, Ford, Nisbet, and Sweet, 1983). In a study, 21 nondisabled high school students were surveyed to determine the benefits they had experienced by developing relationships with peers who had moderate or severe disabilities. These benefits were improvements in self-concept, growth in social development, increased tolerance for other people,
reduced fear of human differences, development of personal principles, and interpersonal acceptance and friendships (Peck, Donaldson, and Pezzoli, 1990).

Students with severe disabilities retain instruction better when educated in community-based settings. In public school settings, they have an opportunity to interact with their non-disabled peers. In addition, they benefit from the interaction of many professionals, including regular education and vocational education teachers. The delivery of educational services is immediately functional and close to the community.

What are conclusions which can be drawn regarding educational services to students with multihandicaps?

Research strongly supports integrated, community-based education for this population of students. To insure success in developing these programs, state education agencies and local public schools must demonstrate a strong commitment to this concept. Several states, including Virginia, have progressed toward this goal.

Several key elements are required to educate students with severe disabilities in public schools. These include strong commitment, adequate administrative support, effective planning and evaluation, and positive attitudes. Strategies must be identified and developed locally including self-advocacy and external advocacy skills, positive peer relationships, and alternative instructional methods. The benefits realized by nondisabled peers include increased awareness and experience.
CONCLUSION

The Virginia Board of Education has endorsed the concept of community-based education and recommended that multihandicapped students presently served in a separate residential facility be transitioned into the community. The local schools will be responsible for developing local options or sharing in the expense of residential services if residential services are determined appropriate by the IEP committee. The availability of technical and financial assistance by the state should promote the development of local and regional community-based, integrated programs for students identified as multihandicapped.

The redefined purpose of the Schools for the Deaf and the Blind is to provide students who have sensory disabilities with the necessary skills to function successfully in their home communities. Local school systems will be required to share in the expense of services provided at the Schools for the Deaf and the Blind, which have always been paid for by the state of Virginia. This shift in fiscal responsibility was designed to create equity in the funding structure for all students with disabilities and to insure that local schools consider all options in the continuum for providing the required services. Where adequate programs do not currently exist, the Board's recommendations should result in the development of local options for such services.

While the Board of Education may not dictate the services to be provided any population of students with disabilities, it can provide supports and mechanisms that encourage the development of additional options that it considers "best practices". It is clear that the Board of Education supports the concept of community-based instruction and integrated service delivery. Their action is supported by Brown, Ford, Nisbet, Sweet, Donnellan & Grunewald (1983) who state that

"...any environment that can be reasonably considered least restrictive or most habilitative must include opportunities for longitudinal and comprehensive interactions with nonhandicapped age peers and others; must provide the extensive range of experiences necessary to prepare for functioning in a wide variety of heterogeneous nonschool and postschool environments; must allow for constructive participation; and must offer the rich variety of sights, sounds, smells, spontaneous happenings, and general unpredictability that characterize heterogeneous environments and that are so important for maximal development and functioning" (p.17).
If one of our goals for public education is to provide equal educational opportunity for all students to achieve the skills necessary to become self-sufficient, independent citizens capable of contributing to local communities and to our society, then it is crucial to examine and thus develop programs for students with disabilities that will give them the opportunities to achieve that same goal.
BIBLIOGRAPHY


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