Washington School for the Deaf:
Models of Education and Service Delivery

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EXECUTIVE SUMMARY

Background

The Washington School for the Deaf (WSD) in Vancouver has provided residential, educational, and support services to deaf and hard of hearing children since 1886. In the past five years, a number of issues have contributed to increased attention to WSD by state policymakers: declining enrollment, a major capital facilities plan, expansion of services, and concerns about student safety. These issues form the context for current legislative interest in exploring the role WSD plays in providing education and services for deaf and hard of hearing students in Washington State.

The 2001 Washington State Legislature directed the Washington State Institute for Public Policy (Institute) to "examine various educational delivery models for providing services and education for students through the Washington state school for the deaf."[1]

At the same time, the Legislature assigned the Joint Legislative Audit and Review Committee (JLARC) to "conduct a capacity planning study of the capital facilities of the state school for the deaf."[2] Both studies are required to be completed by September 30, 2002.

Overview: Education for Deaf and Hard of Hearing Students

The following issues influence how education is provided for deaf and hard of hearing students:

- Even small hearing losses can affect children's social development and acquisition of language skills (including vocabulary, grammar, and comprehension). Children with greater degrees of hearing loss can experience significant delays in language skills and the ability to communicate. Early acquisition of language is a strong predictor of later success in communication, literacy (the ability to read and write), and academics.

- Debate continues over whether oral or signed communication is most beneficial for deaf children. Signed communication occurs through American Sign Language (ASL), Signed English, or a hybrid called Pidgin Signed English (PSE). Parental preference creates demands for different modes of communication to be used in educational programs.

- Federal law requires students with disabilities to receive an appropriate education in the least restrictive environment. Some believe that a mainstream educational setting for deaf students does not always represent the least restrictive learning environment.

[1] ESSB 6153, Section 608, Chapter 7, Laws of 2001, Second Special Session.
[2] ESSB 6153, Section 103(2), Chapter 7, Laws of 2001, Second Special Session.

- Technological advances, such as computers and cochlear implants, also affect education. If cochlear implants are successful, children can become functionally hard of hearing rather than deaf, necessitating a different mode of communication and services.

- Some deaf individuals identify themselves as members of a Deaf community, with a unique Deaf culture based on shared language (ASL), customs, and history. Residential schools for the deaf have played an important role in Deaf culture.

- The majority (46) of states have a state school for the deaf. Two of these states offer only a day school; the remainder have at least one residential state school. Two states have closed their residential schools in the last five years due to declining enrollment. Several states have created regional programs, providing direct instruction and/or outreach services for deaf and hard of hearing students in public schools.

Deaf and Hard of Hearing Students in Washington State

- As of December 2001, 494 deaf and 1,029 hard of hearing students aged 3 to 21 attended public schools or WSD and received special education. Deaf students represent one out of every 2,045 Washington students, and hard of hearing students, one out of every 980. This does not include students with multiple disabilities, those with hearing losses but not in special education, or those attending private school.

- More than 90 percent of deaf and hard of hearing students attend public schools rather than WSD (compared with 67 percent 30 years ago). Because hearing loss is a low-incidence condition, more than 40 percent of school districts enroll no deaf or hard of hearing students, and another 46 percent report fewer than ten students.

- Enrollment at WSD has declined by 45 percent in the last 20 years to 113 students at the beginning of the 2001–02 school year. WSD students tend to be deaf (89 percent) rather than hard of hearing (11 percent). High school-aged students are more likely to attend WSD than younger students. Students tend to live either in the Vancouver area (42 percent) or in school districts serving fewer than ten deaf or hard of hearing students (41 percent). Two-thirds of WSD students live on-campus in the residential program during the week.

- WSD does not appear more likely than public schools to enroll students with multiple disabilities: 15 percent of WSD students have disabilities in addition to hearing loss compared with 44 percent reported by a sample of surveyed districts. However, it is difficult to accurately assess disabilities among deaf students.

- According to educators interviewed by the Institute, the primary reason students attend WSD is for social development, which includes the opportunity to communicate directly with teachers, staff, and other students using sign language.

Current Models of Education and Service Delivery

Description

There are five current models of education and service delivery for deaf and hard of hearing students in Washington:

A) WSD offers a **statewide residential program** for students aged 3 to 21 in Vancouver.

B) Eight **multi-district programs** are intended to draw students from surrounding areas in order to offer specialized services.

C) **Single district programs** are offered primarily for students living in the district. Nineteen districts have hired a specially trained teacher of the deaf. In two (soon to be three) Educational Service District (ESD) cooperatives, districts share an itinerant teacher. Other districts provide services through their special education program or send students to another district.

D) Three **private school programs** focus on a particular mode of communication.

E) **Outreach services** intended to supplement students' education are provided by a number of different entities, including WSD. Outreach includes early intervention, interpreter and teacher training, student assessment, and special learning opportunities.

Comparisons

The Institute compared the learning environments, effectiveness, and operating costs of the current education and service delivery models.

- **Learning Environment.** WSD offers a different learning environment than public school programs. All students receive direct instruction from a teacher of the deaf in classrooms with other deaf students. WSD also provides an ASL-intensive communication environment. Most deaf students in public schools spend at least part of the day in mainstream classrooms with hearing students, and modes of communication are more varied. Parental choice has a significant influence on a deaf student's mode of communication and the instructional setting believed to be most appropriate and least restrictive.

  WSD and a few public school programs have a critical mass of students and specialized staff with expertise in deaf education. However, the presence of specialized staff in public school programs is dependent on the size and type of program, and programs report difficulty in maintaining a critical mass of students. Because the high school enrolls fewer than 75 students, WSD has a more limited choice of elective courses than large public high schools.

- **Effectiveness.** The research literature provides no definitive evidence that a particular instructional setting or mode of communication is more academically beneficial or effective for deaf students. On average, deaf and hard of hearing students have lower

academic achievement than hearing students. This is largely due to delays in acquiring language, which affects literacy. Challenges of communication can affect deaf students' social development and participation in school, and this is often why students and parents choose schools for the deaf. Graduation rates for high school seniors at WSD and Washington public schools are similar, but information on post-high school transitions for deaf students is limited.

For outreach services to be more effective, WSD could work more closely with the Office of the Superintendent of Public Instruction (OSPI), public schools, ESDs, and other service providers to develop a comprehensive plan for coordinated delivery of outreach.

- **Operating Costs.** WSD is a state agency and is funded differently than public schools. WSD receives a biennial appropriation that does not fluctuate with the number of enrolled students. As a result, when enrollment declines, the per-student cost of services increases. For 2001–02, the per-student cost at WSD is $32,600 for a day student and $72,300 for a residential student (including the cost of day attendance). This is higher than the average cost of service in public schools.

  The average cost of providing services for deaf students in public schools can be $21,000 to $23,800, but costs vary widely according to student needs. Public schools received an average of $8,320 from state and federal funds for each special education student in 2000–2001. State funding to public schools is based on an average cost of service for all special education students; districts that can demonstrate a need for additional funds can apply for relief through the Special Education Safety Net.

Alternative Models of Education and Service Delivery

- The Institute examined four alternative models (a total of seven options) for WSD to provide education and services for deaf and hard of hearing students in Washington. WSD could continue to offer a comprehensive program (birth through high school, day and residential) or focus its mission and service delivery on a particular student population.

- Each alternative presents educational and fiscal trade-offs for parents, students, educators, and policymakers:

  1) Under Model 1 (Comprehensive Program or Current), WSD could continue to provide a unique educational option for students of all ages. Because there is little reason to expect dramatic future increases in enrollment, the costs of this service are not expected to decline. The 2001–02 budget for WSD is $7.6 million for 113 students.

  2) At current enrollment levels, Model 2 (Focus on Day Students) would serve 27 elementary students but only 13 high school students. Model 2 is, in effect, an "elementary-only" model, which runs counter to enrollment trends. WSD could potentially operate satellite day programs, but there are few locations in the state where a critical mass of deaf students live who are not already served by either

WSD or a multi-district public school program. Model 2 could cost $4 million in state and federal dollars (including payments to school districts for students returning to public schools). A satellite program could cost $0.5 to $0.8 million for 25 students, depending on how instruction is provided.

3) Model 3 (Focus on Secondary Students) follows current enrollment trends in targeting on-campus academic and residential programs to older students. However, parents who wanted WSD's educational setting for their young children for linguistic or cultural reasons would have to move to Vancouver or not have this option within Washington. If elementary students attended as day-only, Model 3 could cost $6.5 million. If only secondary students were served on-campus, costs could be $6 million.

4) Model 4 (Focus on Outreach) could be pursued in combination with other models. WSD, OSPI, public schools, and others could create a comprehensive plan to provide outreach services to maximize effectiveness and efficiency across multiple providers, and/or expand outreach services for students who would not attend WSD under one of the other alternative models. Additional work would be needed to prioritize and calculate the costs of expanded outreach.

- Most alternatives could cost the state less than the current model because the per-student state allocations to public schools are considerably less than to WSD. However, the per-student costs at WSD would increase because enrollments under each alternative are reduced, and there are fixed costs associated with the Vancouver campus. The full educational and fiscal impacts of shifting students to public schools are not known.

- The Institute does not make a recommendation of one model over another because neither the research literature nor information collected for this report provide a single solution for providing education and services for deaf and hard of hearing students that is without drawbacks or limitations.

INTRODUCTION

Background

The Washington School for the Deaf (WSD) in Vancouver has provided residential, educational, and support services to deaf and hard of hearing children since 1886. Historically, most deaf and hard of hearing students in the United States attended separate state schools. Since the passage of the federal Education for All Handicapped Children Act in 1975,[3] an increasing proportion of deaf and hard of hearing students have attended local public schools. However, most states continue to operate residential schools for the deaf as part of a continuum of services for students.

Enrollment trends in Washington State reflect nationwide developments. During the 2001-02 school year, 81 percent of deaf and 99 percent of hard of hearing students identified as needing special education attended local public schools. Enrollment at WSD was 113 students compared with 204 students 20 years ago (1981–82). Approximately two-thirds of WSD students reside on campus during the week.

In the past five years, the following issues have contributed to increased attention to WSD by state policymakers:

- ***Capital Requests:*** WSD has requested more than $40 million to rebuild major portions of the aging Vancouver campus. Since 1997, three new residential cottages have been constructed and one major building has been renovated. A campus master plan calls for demolition and replacement of other older buildings.
- ***Expanded Services:*** In 2000, WSD initiated an outreach program to provide consultation, assessment, and referral services for deaf and hard of hearing students in public schools. The 2001 Legislature appropriated $136,000 to support the program. Although the Washington State School for the Blind has a long history of providing services in collaboration with public schools, outreach represents a new role for WSD.
- ***Student Safety:*** Beginning in 1999, concerns were raised about student safety and the adequacy of student supervision at WSD. The Legislature held hearings, and a "Blue Ribbon Committee" reviewed several aspects of WSD's operations. Legislation enacted in 2000 directed WSD to adopt certain policies and procedures and provide training to enhance student safety.[4] Additional concerns raised in 2001 led to further studies and monitoring during 2001 and 2002.

Together, these issues form the context for current legislative interest in exploring the role WSD plays in providing education and services for deaf and hard of hearing students in Washington State.

[3] This federal act has been retitled the Individuals with Disabilities Education Act (IDEA).
[4] Chapter 125, Laws of 2000 (Substitute Senate Bill 6361).

Study Purpose

The 2001 Legislature directed the Washington State Institute for Public Policy (Institute) to:

> *… examine various educational delivery models for providing services and education for students through the Washington state school for the deaf.*[5]

At the same time, the Legislature assigned the Joint Legislative Audit and Review Committee (JLARC) to "conduct a capacity planning study of the capital facilities of the state school for the deaf."[6] The 2001 Legislature further directed the Office of Financial Management to hold $1 million for design of the next phase of construction at WSD in reserve until the two studies were completed. The Governor vetoed this language, but the studies remained. Both studies are required to be completed by September 30, 2002.

The JLARC report reviews the assumptions underlying the WSD capital master plan, analyzes recent trends in student enrollment, and, because the two studies were intended to be conducted concurrently, examines the capital facilities implications of the educational delivery models presented in Chapter V of this report.[7]

During 2001 and 2002, a number of other state-directed studies and reviews of WSD were conducted. Three studies and a series of monitoring reports were directed by the Governor, and one was initiated by the Office of the Family and Children's Ombudsman.[8] Because these studies examined student safety, student conduct, operation of the residential program, and school governance, the Institute study does not address these issues. Instead, this report focuses on the following major questions:

- **How many deaf and hard of hearing students are there in Washington State, and where do they go to school?**
- **What are the current models of education and service delivery for deaf and hard of hearing students?**
- **How do the learning environments, effectiveness, and operating costs of the delivery models compare?**
- **What are possible alternative models of education and service delivery for WSD?**

[5] ESSB 6153, Section 608, Chapter 7, Laws of 2001, Second Special Session.
[6] ESSB 6153, Section 103, Chapter 7, Laws of 2001, Second Special Session.
[7] Copies of the JLARC report are available online at <http://jlarc.leg.wa.gov>.
[8] For a summary of the major topics covered by these studies, see Appendix A.

Study Methods

In completing this report, the Institute relied on interviews, site visits to WSD and case study programs, data collection and analysis, a review of national research literature on the education of deaf and hard of hearing students, and an examination of schools for the deaf in other states.

Student enrollment data were provided by the Office of the Superintendent of Public Instruction (OSPI) and WSD. The Institute developed a data collection instrument to gather information on student characteristics and classroom learning environments, which was completed by WSD and a sample of 46 public school programs serving deaf and hard of hearing students. Five public school districts and one private school program were selected as case studies to illustrate a range of the type, size, and geographic location of programs serving the deaf and hard of hearing.[9]

To assist with the literature review, the Institute contracted with a national expert in deaf education, Dr. Susan Easterbrooks of Georgia State University.[10]

A technical advisory committee composed of educators from public school programs and WSD assisted the Institute with developing data collection instruments and case study questions and reviewed drafts of this report.

[9] Institute staff visited the following school districts: Edmonds, Ephrata, Evergreen, Walla Walla, and Shoreline. A small private school located in Bothell, Listen and Talk, was also visited.

[10] Copies of the literature review are available by contacting the Institute at (360) 586-2677 or accessing the Institute's website <www.wsipp.wa.gov>: Susan Easterbrooks, "Modes of Communication and the Educational Placement of Children Who Are Deaf and Hard of Hearing: A Review of the Efficacy Literature," (April 1, 2002).

I. OVERVIEW: EDUCATION FOR DEAF AND HARD OF HEARING STUDENTS

The purpose of this section is to introduce issues that influence how education is provided for deaf and hard of hearing students and provide a context for later discussion of the models of education and service delivery in Washington.

Hearing Loss

Researchers agree that even small hearing losses can have educational impacts on students.[11] Children with slight or fluctuating hearing losses may not be able to hear everything happening in class and at home, which affects their social development and acquisition of language skills (including vocabulary, grammar, and comprehension). Children with greater degrees of hearing loss can experience significant delays in language skills and the ability to communicate.

Individuals with hearing loss are usually identified as either "hard of hearing" or "deaf." While there are audiological guidelines for distinguishing between the two based on degree of hearing loss, the distinction is also based on mode of communication and how individuals identify themselves. Deaf students have severe to profound hearing losses and tend to rely primarily on signed language for communication. Hard of hearing students have a wider range of hearing losses, from mild to moderately severe, and rely on a combination of spoken and signed communication, depending on individual needs.[12]

Language Acquisition

There is also a consensus among researchers that the critical years of language acquisition are between birth and five years of age.[13] During this time, particularly in the earlier years, rich and consistent communication in the home is necessary for children to acquire the vocabulary, structure, and understanding of language. According to Easterbrooks, "an early mastery of language may be the single best predictor of cognitive, academic, and social success during the school years, both in hearing and in deaf children."[14] However, most deaf children (90 percent) are born to hearing parents who have little or no experience in communicating with deaf people.

One of the clearest findings by researchers is that early identification of hearing losses, combined with early intervention to expand and enrich communication, leads to improved

[11] Susan Easterbrooks, "Improving Practices for Students with Hearing Impairments," *Exceptional Children* 65, no. 4 (1999): 546.
[12] National Association of the Deaf, "What is the Difference Between a Deaf and a Hard of Hearing Person?" <http://www.nad.org/infocenter/infotogo/dcc/difference.html>, March 15, 2002.
[13] Arlene Early Carney and Mary Pat Moeller, "Treatment Efficacy: Hearing Loss in Children," *Journal of Speech, Language, and Hearing Research* 41 (1998): S63.
[14] Susan Easterbrooks, "Modes of Communication," 14.

language acquisition and better academic and social outcomes for deaf and hard of hearing children later in life.[15] If deaf and hard of hearing children are provided with "complete access to language," they can develop at the same pace as most hearing children, particularly with regard to literacy (the ability to read and write).[16]

Mode of Communication

Debate over which approach to communication is most beneficial for deaf and hard of hearing students has persisted for centuries.[17] The crux of this highly charged and emotional debate centers around two general approaches: oral versus signed communication.

Proponents of oral approaches reason that deaf and hard of hearing children must learn to communicate using spoken English in order to function in a hearing world.[18] Advocates of sign language, such as American Sign Language (ASL), contend that sign is a natural mode of communication for visually-oriented deaf people and should be the first language for deaf and hard of hearing children.[19]

The initial choice of mode of communication is made by parents, although families and children tend to change modes over time.[20] Parent preference in the mode of communication creates demand for particular approaches to be used in educational programs. Educational programs for the deaf may try to specialize in particular modes of communication in order to develop staff expertise and serve small numbers of students efficiently. However, under federal law, deaf or hard of hearing students' Individual Education Plans (IEPs) dictate the mode of communication appropriate for each individual, as well as the educational support needed to implement that mode (such as speech teachers or sign language interpreters).[21] Even though parents have input into the IEP, the federal courts have generally deferred to school districts regarding the mode of communication used with students.[22]

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[15] See, for example, Mary Pat Moeller, "Early Intervention and Language Development in Children Who are Deaf and Hard of Hearing," *Pediatrics* 106 (2000); Christine Yoshinaga-Itano, "Language of Early- and Later-identified Children With Hearing Loss," *Pediatrics* 102 (1998); Christine Yoshinaga-Itano, *Factors Predictive of Successful Outcome of Deaf and Hard-of-Hearing Children of Hearing Parents*, <http://www.colorado.edu/slhs/mdnc/efficacy.html>, April 2002. As of 2000, 23 states (not including Washington) had enacted laws requiring hospitals to screen all newborn infants for hearing loss. Centers for Disease Control, "State Reported Data 2000: Estimated Number of Infants Screened," <http://www.cdc.gov/ncbddd/ehdi/2000_Data/index_Screen00.htm.>

[16] Eric Drasgow, "American Sign Language as a Pathway to Linguistic Competence," *Exceptional Children* 64 (1998), 333-337.

[17] Susan Easterbrooks, "Educating Children Who Are Deaf or Hard of Hearing: Overview," *ERIC Digest* 549, ED414667 (1997).

[18] Wendy Lynas, *Communication Options in the Education of Deaf Children* (London: Whurr Publishers Ltd., 1994), 12.

[19] C. Jonah Eleweke and Michael Rodda, "Factors Contributing to Parents' Selection of Communication Mode to Use With Their Deaf Children," *American Annals of the Deaf* 145 (2000): 376.

[20] Easterbrooks, "Modes of Communication," 10.

[21] 34 CFR 300.346

[22] Paula Pittman and Dixie Snow Huefner, "Will the Courts Go Bi-Bi? IDEA 1997, The Courts, and Deaf Education," *Exceptional Children* 67 (2001): 188

Modes of Communication for Deaf and Hard of Hearing Students

American Sign Language (ASL): *ASL is one of many signed languages of the world and has been the language of deaf people in the United States since the early 1800s. It is a visual-gestural language that follows complex grammatical rules just as spoken language does. It is not English, but a separate and distinct language.*

Signed English: *Signed English is not considered a true language but a way to reproduce the English language manually using vocabulary signs from ASL and other signs to represent English grammar and syntax. There are a variety of different signed English systems, but their common aim is to expose students to the structure of English in hopes of improving their reading and writing skills.*[23]

Oral: *Oral approaches to communication attempt to teach deaf and hard of hearing children to comprehend spoken English and speak it themselves. There are different approaches to oral communication, but they each emphasize the use of any residual hearing students may have (through hearing aids or other amplification devices) and intensive speech-language therapy in order to develop aural (hearing comprehension) and oral (speech production) skills.*[24]

Sign and Speech: *This mode (also called Simultaneous Communication) simply refers to the use of sign (ASL or Signed English) and spoken English simultaneously. When ASL is used simultaneously with spoken English, the practical result tends to be a hybrid called "Pidgin Signed English" or PSE. PSE is not a true sign language but a form of communication that has evolved as native English speakers attempt to communicate with native ASL signers: it contains elements of both.*[25]

Total Communication: *Technically, Total Communication (TC) is a philosophy rather than a mode of communication. TC refers to the practice of using a variety of methods, depending on the needs of the child, to communicate. This can include speech, ASL, Signed English, finger spelling, pantomime, lip reading, or any combination of these options. Educators often say they use "whatever mode works for the child at any given time."*[26]

Educational Settings

Historically, most (over 80 percent) deaf and hard of hearing students across the country attended residential schools for the deaf, which were first established in the United States in the 1800s. Those who did not enroll in special schools for the deaf were usually educated in separate (often called "self-contained") classrooms within local schools, if they went to school at all.[27]

[23] Gerilee Gustason, "Educating Children Who Are Deaf or Hard of Hearing: English-Based Sign Systems," *ERIC Digest* 556, ED 414674 (1997).
[24] Patrick Stone, "Educating Children Who Are Deaf or Hard of Hearing: Auditory-Oral," *ERIC Digest* 551, ED 414669 (1997); Donald Goldberg, "Educating Children Who Are Deaf or Hard of Hearing: Auditory-Verbal," *ERIC Digest* 552, ED 414670 (1997).
[25] Peter Paul and Stephen Quigley, *Education and Deafness* (New York: Longmar Press, 1990), 161.
[26] Larry Hawkins and Judy Brawner, "Educating Children Who Are Deaf and Hard of Hearing: Total Communication," *ERIC Digest* 559, ED 414677 (1997); Easterbrooks, "Modes of Communication," 4.
[27] Richard Nowell and Joseph Innes, "Educating Children Who Are Deaf or Hard of Hearing: Inclusion," *ERIC Digest* 557, ED 414675 (1997).

The federal Education for All Handicapped Children Act (now known as the Individuals with Disabilities Education Act or IDEA) of 1975 reversed this trend. The IDEA stated that every child is entitled to a "free appropriate public education" (FAPE) in the "least restrictive environment" possible. This was interpreted to mean that, whenever possible, children with disabilities should attend mainstream classes in local public schools.[28] By 1995, over 60 percent of deaf children (and virtually all hard of hearing children) attended local public schools, though not all were fully mainstreamed with hearing children.[29]

For some educators, researchers, and parents, the expectation that deaf children should be educated with hearing children has been controversial. They believe that a mainstream educational setting where instruction is provided to deaf students through interpreters or other devices does not always represent the "least restrictive" learning environment. Rather, a student's need for direct access to communication with teachers and peers, as well as the opportunity for normal social and emotional development, should determine the most appropriate placement.[30]

In 1992, the federal Department of Education issued a notice of policy guidance to clarify the principle of least restrictive environment for deaf students. Factors that must be considered in determining the appropriate educational setting for these students include the following:

- The child's and family's preferred mode of communication;
- The child's linguistic development level;
- The child's degree of hearing loss;
- The child's grade or academic level; and
- The child's social, emotional, and cultural needs (including the need for a peer group).[31]

As with other disabilities, school districts must ensure that a continuum of educational placement options is available to deaf and hard of hearing students to meet their individual needs.[32] Sometimes, a residential school for the deaf is determined to be the appropriate placement. Again, the courts have generally deferred to school district choices of placement and instructional methods as long as the child is receiving some educational benefit.[33]

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[28] Oscar P. Cohen, "Introduction," in *Implications and Complications for Deaf Students of the Full Inclusion Movement,* Occasional Paper 94-2 (Gallaudet Research Institute, 1994), 2-3.
[29] Nowell and Innes, "Educating Children."
[30] Joseph Innes, "Full Inclusion and the Deaf Student: A Deaf Consumer's Review of the Issue," *American Annals of the Deaf* 139 (1994): 155.
[31] U.S. Department of Education, "Notice of Policy Guidance: Deaf Students Education Services," (FR Doc. 92026319, October 26, 1992); National Association of State Directors of Special Education, "Deaf and Hard of Hearing Students Educational Service Guidelines," (1994), 4-5.
[32] U.S. Department of Education, "Notice of Policy Guidance,"; 34 CFR § 300.551.
[33] Pittman and Huefner, "Will the Courts Go Bi-Bi?" 190.

Technology

Recent technological developments affect education for deaf and hard of hearing students by increasing the amount of residual hearing students can use and enhancing visual means of transferring information.

Advances in assistive listening devices, such as digital hearing aids and FM sound field systems, have improved the amplification of sound for deaf and hard of hearing students.[34] Cochlear implants are a related (though controversial) innovation intended to provide residual hearing for individuals with profound hearing loss and encourage development of oral language.

Cochlear Implants and Deaf Education

A cochlear implant is a surgically implanted electronic device that partially restores hearing for people with severe to profound hearing losses who do not benefit from traditional hearing aids. Because the procedure requires destruction of any remaining natural function of the inner ear (cochlea), people with lower levels of hearing loss or loss not associated with damage to the cochlea cannot receive an implant.

Before 1990, children were not eligible to receive cochlear implants except in clinical trials. Over the last decade, technology has improved and eligibility requirements have been relaxed. One recent estimate from Gallaudet University suggests 12 percent of deaf children may have a cochlear implant.[35]

The objective of cochlear implants in children is to restore enough hearing to be able to hear speech and therefore potentially develop oral skills.[36] However, success rates vary widely. Not all children who receive an implant develop oral skills, and those who do may still have language delays. Outcomes of cochlear implants are affected by the age of implantation (the younger, the better), level of family commitment to and participation in speech training, and the presence of additional disabilities.[37]

Cochlear implants affect education in several ways. When implants are successful, children who were deaf become functionally hard of hearing (i.e., they respond to auditory cues, use oral communication, and are more likely to attend mainstream classes).[38] Students with cochlear implants need specialized instruction focused on speech and language. They also require continuous follow-up to ensure the implant is functioning properly.

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[34] Alice E. Holmes et al., "Assistive Listening Devices and Systems: Amplification Technology for Consumers with Hearing Loss," *Journal of Rehabilitation* 66 (2000): 57.
[35] Gallaudet Research Institute, *State Summary Report of Data from the 1999-2000 Annual Survey of Deaf and Hard of Hearing Children & Youth* (Washington, D.C.: GRI, Gallaudet University, January 2001). Nearly 2,200 surveyed children had received a cochlear implant compared with nearly 19,000 listed with severe or profound hearing loss.
[36] Joan Laughton, "Educating Children Who Are Deaf or Hard of Hearing: Cochlear Implants," *ERIC Digest* 554, ED 414672 (1997).
[37] Lisa Samson-Fang et al., "Controversies in the Field of Hearing Impairment: Early Identification, Educational Methods, and Cochlear Implants," *Infants and Young Children* 12 (2000): 84-85.
[38] Howard W. Francis et al., "Trends in Educational Placement and Cost-Benefit Considerations in Children With Cochlear Implants," *Archives of Otolaryngology Head & Neck Surgery* 125 (1999): 503.

The expansion of classroom computers and educational software potentially benefits deaf and hard of hearing students even more than other students because they are primarily visual means of transferring information. E-mail systems and digital pagers provide deaf students new ways to communicate with one another and with hearing individuals both for personal and educational purposes. Computerized interpretation, such as using a real-time captioner or voice recognition software, is beginning to change the way some students receive information in class.[39] However, computerized interpretation requires students to have relatively advanced reading levels.

Deaf Culture

Some deaf individuals identify themselves as members of a Deaf culture (usually signified by a capital "D") with a distinct "heritage, language, and a set of customs and values shared by its members and transmitted from one generation to the next."[40] Members of the Deaf community view deafness not as a disability but rather as creating a language minority within an English-speaking society. Many people who identify themselves as Deaf in the United States attended a residential school for the deaf and primarily socialize with other members of the Deaf community. They consider ASL the natural native language of the Deaf.[41]

Residential schools for the deaf have played an important role in Deaf culture. Schools for the deaf are often described as providing socialization into Deaf culture, as well as a "fully-accessible language environment" for students who use ASL.[42] Consequently, many Deaf parents send their deaf or hard of hearing children to schools for the deaf to maintain ties to their native language and to the Deaf community.[43]

Schools for the Deaf in Other States

Nearly all states (46) operate a state school for the deaf. Most states (44) operate at least one school for the deaf that includes a residential program, similar to WSD. Two states (Rhode Island and Massachusetts) only have a day school for the deaf. Of the four states that do not currently operate a state school for the deaf, two (Nebraska and Wyoming) closed their residential schools within the last five years due to diminishing enrollment. New Hampshire and Nevada have never operated schools for the deaf.

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[39] A real-time captioner is a stenographer who transcribes class lectures and discussions as they occur, and the text is displayed on the student's laptop. Voice recognition software allows teachers to speak into a microphone, and the text appears on the student's laptop, though this method only captures the teacher's speech.

[40] Judith Gilliam and Susan Easterbrooks, "Educating Children Who Are Deaf or Hard of Hearing: Residential Life, ASL, and Deaf Culture," *ERIC Digest* 558, ED 414676 (1997).

[41] Harlan Lane etal., *A Journey Into the Deaf World* (San Diego: Dawn Sign Press, 1996), 124-125.

[42] Michael Stinson and Kathleen Whitmire, "Adolescents Who Are Deaf or Hard of Hearing: A Communication Perspective on Educational Placement," *Topics in Language Disorders* 20 (2000): 60.

[43] Carol Padden and Tom Humphries, *Deaf in America: Voices From a Culture* (Cambridge: Harvard University Press, 1988), 6.

Some states have created regional programs for deaf and hard of hearing students who attend local public schools. There are two models of regional programs: those that provide direct instruction for students, and those that primarily offer technical support to schools and early intervention services for families. Additional information on schools for the deaf in other states, including a description of regional programs in four states, is included in Appendix B.

Summary: Overview of Education for Deaf and Hard of Hearing Students

- Even **small amounts of hearing loss can have an impact on language development and educational outcomes. Deaf** students have severe to profound hearing losses and usually use sign language to communicate. **Hard of hearing** students have mild to moderately severe hearing losses and may rely on spoken communication at least part of the time.

- **Early acquisition of language is a strong predictor of later success** in communication, literacy, and academics. If they receive **early and comprehensive intervention services,** deaf and hard of hearing children can develop language at the same pace as most hearing children.

- There continues to be **debate over whether oral or signed communication is most beneficial** for deaf children. **Parental preference creates demands** for different modes of communication to be used in educational programs.

- Some believe that a **mainstream educational setting for deaf students does not always represent the least restrictive** learning environment required under federal law. Since 1992, factors such as the child's **preferred mode of communication and social, emotional, and cultural needs** (including need for a peer group) must be considered in determining the appropriate educational setting for deaf students.

- Increased use of **computers enhances visual transfer** of information for deaf students. **If cochlear implants are successful, children can become functionally hard of hearing rather than deaf**, necessitating a different mode of communication and educational services.

- Some deaf individuals identify themselves as members of a Deaf community with a **unique Deaf culture based on shared language (ASL), customs, and history**. Residential schools for the deaf have played an important role in Deaf culture.

- The **majority (46) of states have a state school for the deaf**. Two of these states offer only a day school; the remainder have at least one residential state school. **Several states have created regional programs**, providing direct instruction and/or outreach services for deaf and hard of hearing students in public schools.

II. DEAF AND HARD OF HEARING STUDENTS IN WASHINGTON STATE

This section describes the number and characteristics of deaf and hard of hearing students in Washington, including where they go to school. Additional detail is provided about students attending WSD.

How Many Deaf and Hard of Hearing Students Are There?

Deaf and Hard of Hearing Students in Special Education

As of December 2001, 1,523 deaf and hard of hearing children aged three to 21 attended public schools or WSD and received special education.[44] The majority of these students (68 percent) are hard of hearing. There are also 32 deaf-blind students. Deaf students represent one out of every 2,045 Washington students, and hard of hearing students represent one out of every 980 students. Combined, deaf and hard of hearing students make up less than one-fourth of 1 percent of all students in Washington's public schools (see Exhibit 1).

Exhibit 1
Deaf and Hard of Hearing Students in Special Education: Public Schools and WSD (2001)

	Number of Students	Percent of Special Education Students	Percent of K–12 Students*
Deaf	494	0.45%	0.05%
Hard of Hearing	1,029	0.94%	0.10%
Deaf and Hard of Hearing	1,523	1.40%	0.15%

*OSPI IDEA-B Headcount, December 2001. *OSPI, School Enrollment Summary: Washington State School Districts, School Year 2001–2002, January 2002.*

Nationally, it is estimated that 1.3 percent of special education students have hearing losses.[45]

Limitations of Available Data

In Washington, the only comprehensive source of data on children with hearing losses comes from annual headcounts of students receiving special education services in public

[44] OSPI IDEA-B Headcount, December 2001. Under federal law, students requiring special education are eligible for public school services beginning at age three, and they have the option to continue receiving services until they are 21.
[45] U.S. Department of Education, *Twenty-third Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act,* (Washington, D.C., 2001), A-31.

schools. However, using special education data undercounts the true number of students with a hearing loss in three significant ways:

1) ***Some Students Are Not in Special Education.*** Some students have hearing losses but do not require individually tailored instruction that qualifies as special education.[46] A survey prepared by the Office of the Superintendent of Public Instruction (OSPI) in 1999 identified potentially 30 percent more hard of hearing students beyond those counted in special education.[47]

2) ***Some Students Have Multiple Disabilities.*** The annual headcount groups all students with more than one type of disability into the category "multiple disabilities." National research and a survey conducted by the Institute suggest that between 30 and 40 percent of deaf and hard of hearing students may have additional disabilities.[48]

3) ***Some Students Attend Private Schools.*** The annual headcount does not include deaf and hard of hearing students enrolled in private schools.

For purposes of this study, all references to numbers of deaf and hard of hearing students are based only on students receiving special education services in public schools or WSD. Data from the Institute's survey includes students with multiple disabilities.

Where Do Deaf and Hard of Hearing Students Attend School?

History

After the Washington School for the Deaf opened in 1886 and for many subsequent decades, virtually all of Washington State's deaf and hard of hearing students attended WSD. In the mid-1900s, some deaf and hard of hearing students enrolled in local public schools, in part due to the increasing availability of deaf and hard of hearing programs. Around 1945, WSD enrolled approximately 125 students.[49]

Enrollment began to increase after World War II, reaching a high point of 355 students in the late 1960s. The dramatic growth in enrollment was due to general population growth in the state and the rubella epidemic of 1964–65, which caused a temporary increase in the number of children with hearing loss across the nation.[50]

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[46] Students with hearing losses may receive assistance such as sound amplification or note-taking under the terms of Section 504 of the Rehabilitation Act (Section 504, 29 U.S.C. 794). Section 504 is intended to eliminate barriers to full participation in school and other federally financed activities for persons with disabilities. S. James Rosenfeld, "Section 504 and IDEA," *LD On-Line Newsletter* (April 26, 2002), <http://www.ldonline.org/ld_indepth/legal_legislative/edlaw504.html>.

[47] OSPI and Washington Sensory Disabilities Services, *Needs Survey and Census Collection: Students Who Are Deaf/Hard of Hearing* (Olympia, WA, November 16, 1998).

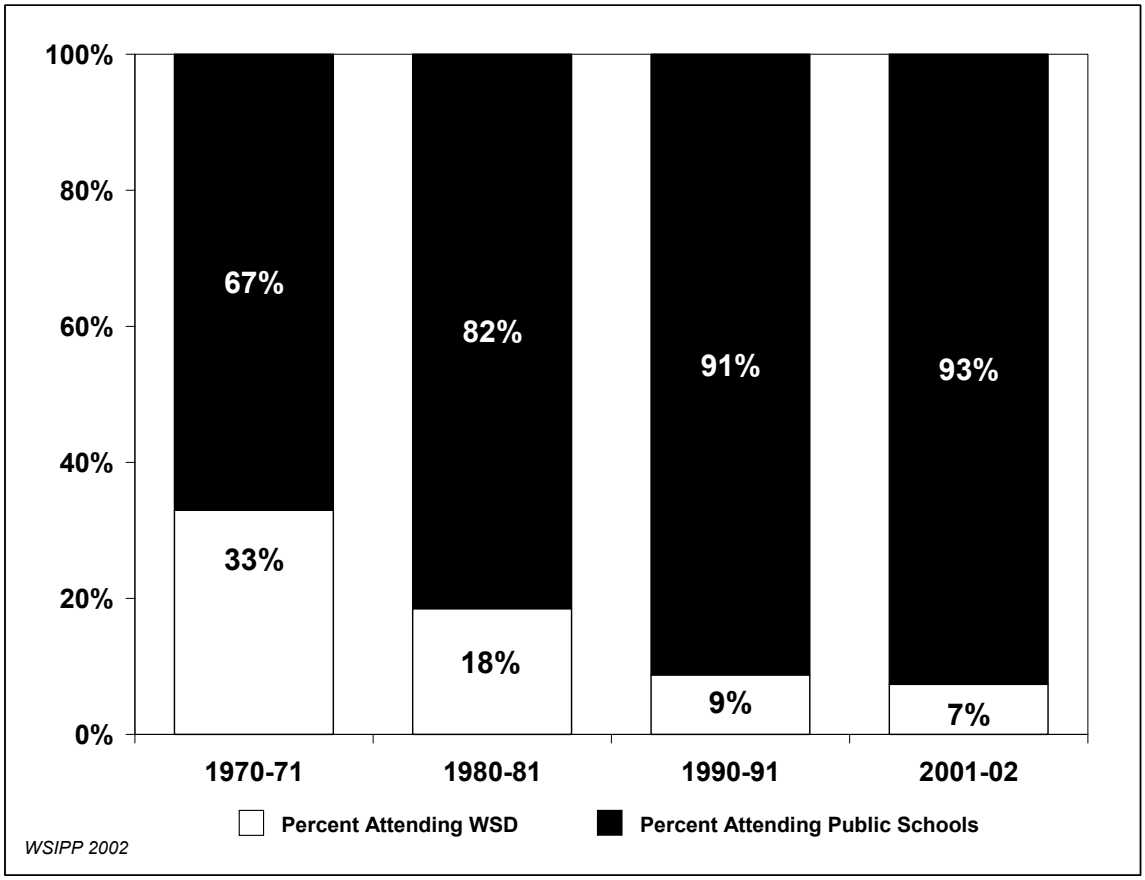
[48] B. J. Pollack, "Educating Children Who Are Deaf or Hard of Hearing: Additional Learning Problems," *ERIC Digest* 548, ED 414666 (1997).

[49] William H. Brelje and Virginia M. Tibbs, "The Washington State School for the Deaf: The First Hundred Years 1886–1986," (Washington School for the Deaf, 1986), 32.

[50] Ibid., 50.

The passage of the federal IDEA in 1975 had a strong influence on deaf and hard of hearing student enrollment in Washington State. The overall proportion of deaf and hard of hearing students educated at WSD has steadily decreased from 33 percent in 1970 to approximately 7 percent during the 2001–02 school year (see Exhibit 2).[51]

Exhibit 2
Deaf and Hard of Hearing Students in Washington: 30 Years of Enrollment Trends

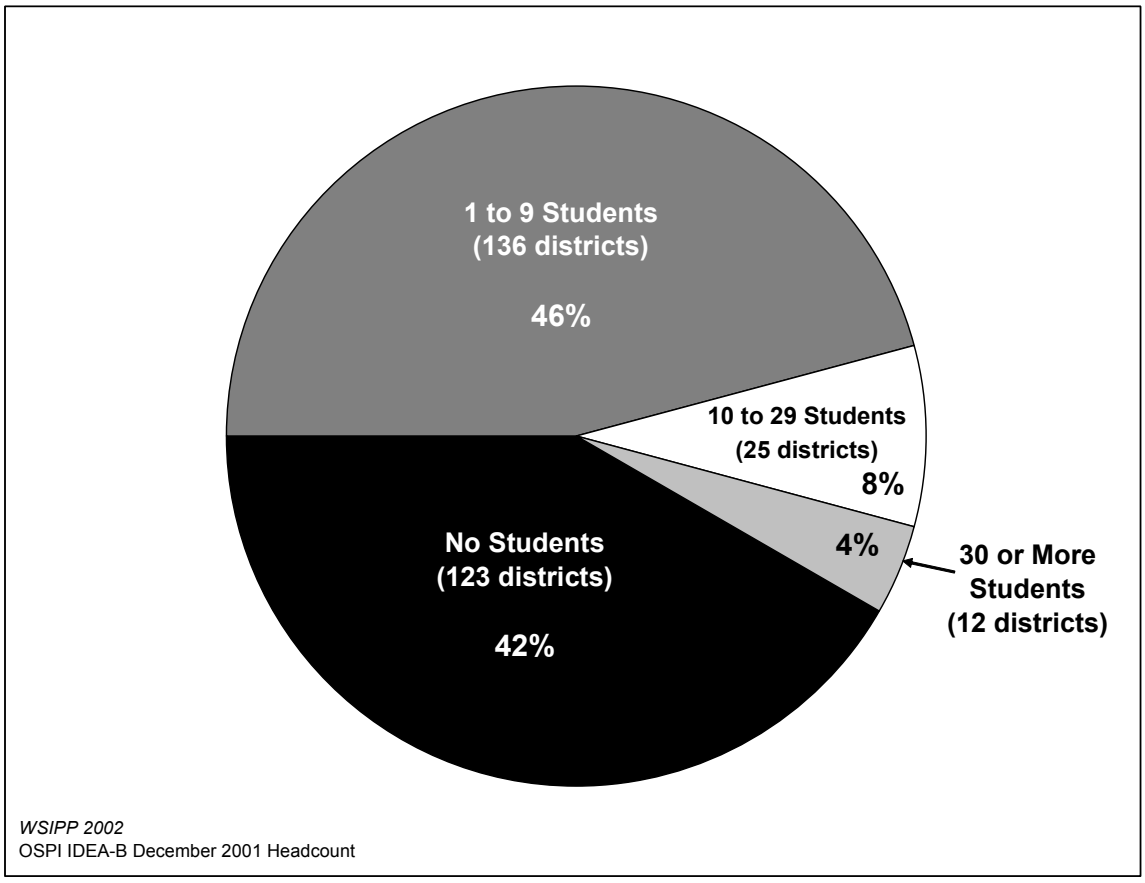


[51] Sources: **1970–71 Data:** Louis Bruno, "The Education of the Hearing Impaired in Washington's Public Schools" (State Superintendent of Public Instruction, prepared for the Legislative Council on the School for the Deaf, May 29, 1970); Brelje and Tibbs, "Washington School for the Deaf," 50. **1980–81 Data:** WSD data collection and Dennis McCrea et al., "An Examination of Educational Programs and Services for the Sensory-Impaired in the State of Washington," (Program Research and Evaluation Section, Office of Research and Data Analysis, Division of Administration, Department of Social and Health Services, December 1981). **1990–91 Data:** WSD data collection and Terry Bergeson et al., "Ninth Annual Report of Special Education Services in Washington State" (Department of Special Education, Office of the Superintendent of Public Instruction, October 2001). **2001–02 Data:** WSD data collection and OSPI IDEA-B December 2001 Headcount.

Distribution of Public School Students

Many students are one of few deaf or hard of hearing students living in their school district. As Exhibit 3 shows, 46 percent of school districts have fewer than ten deaf or hard of hearing students (half of these districts enroll only one or two deaf or hard of hearing students). Only 4 percent of districts (12 total) have 30 or more students. Most of these districts are in the Puget Sound area or southwest Washington. Almost half (42 percent) of school districts report no deaf and hard of hearing students in special education in 2001.

Exhibit 3
Public School Districts, by Number of Deaf and Hard of Hearing Students in Special Education (2001)

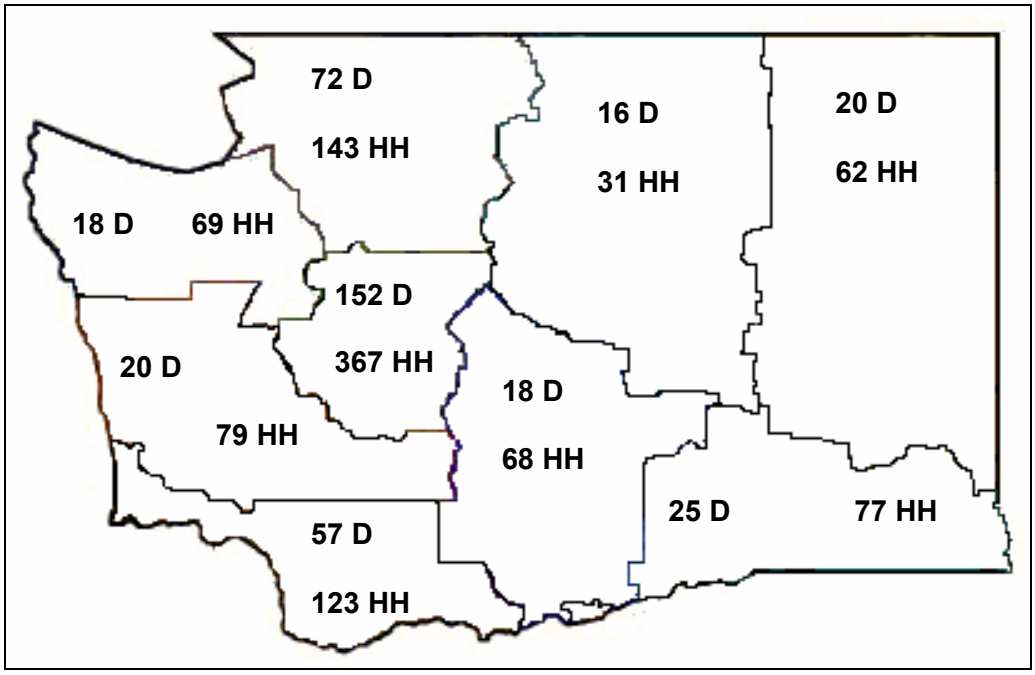


WSIPP 2002
OSPI IDEA-B December 2001 Headcount

Deaf and hard of hearing students in public schools are evenly distributed among school districts in each of the enrollment categories shown in Exhibit 3. One-third of students live in districts with between one and nine deaf and hard of hearing students. Another third are in districts with ten to 29 students, and the final third are in districts with 30 or more students.

As with the general population, most deaf and hard of hearing students live on the western side of the state (see Exhibit 4).

Exhibit 4
Deaf and Hard of Hearing Students in Special Education Attending Public Schools, by Educational Service District (2001)

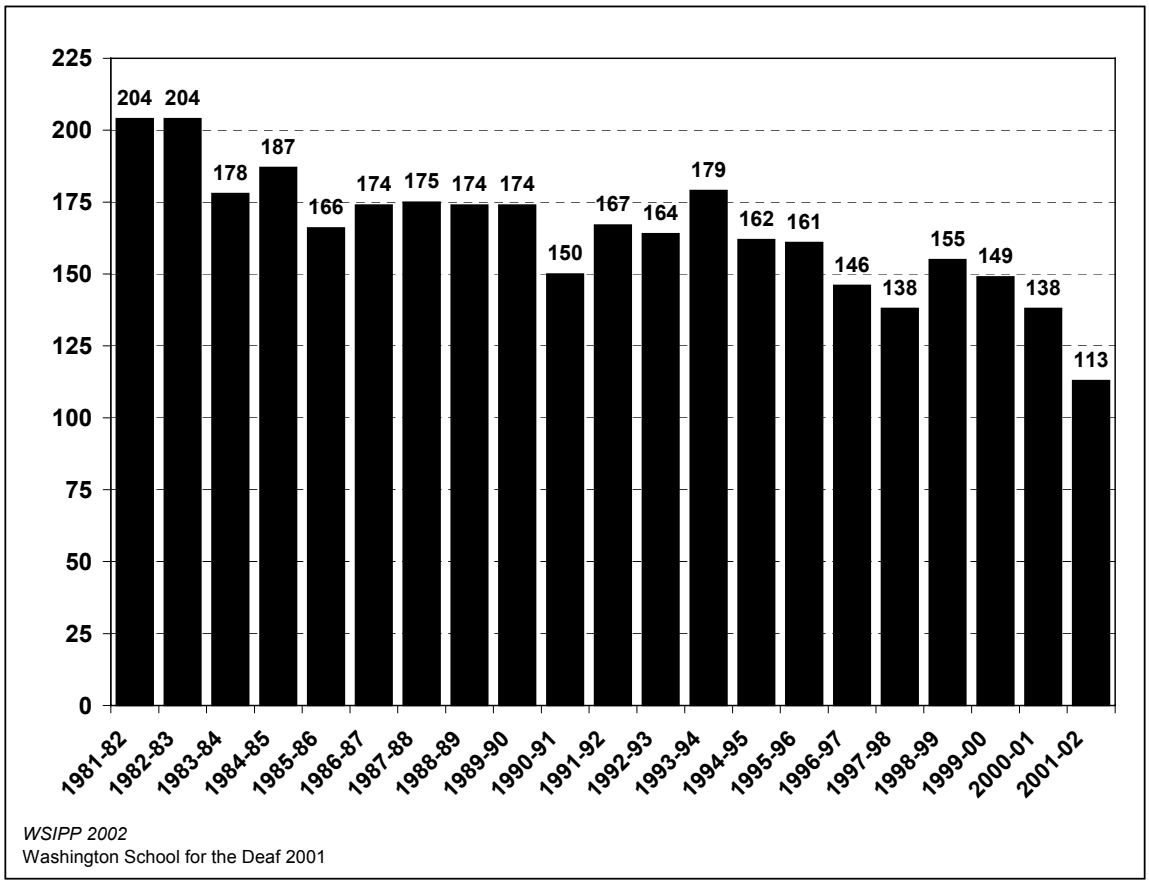


Which Students Attend WSD?

Overall Enrollment

Over the last two decades, student enrollment at WSD has gradually declined by 45 percent, from 204 students in 1981–82 to 113 students at the beginning of the 2001–02 school year (see Exhibit 5). In the last ten years, enrollment has averaged approximately 150 students.

Exhibit 5
Students Enrolled at WSD: 1981–2001



WSIPP 2002
Washington School for the Deaf 2001

Residential Versus Day Enrollment

Two-thirds of WSD students reside on campus during the week. The proportion of WSD students who are in the residential program has increased over the last five years, from 56 percent in the 1997–98 school year to 66 percent in the 2001–02 school year.

Most of the residential students are in high school (67 percent). High school students are more likely than younger students to live on campus: 79 percent of high school students are residential compared with 50 percent of elementary and middle school students.

Other Characteristics of WSD Students

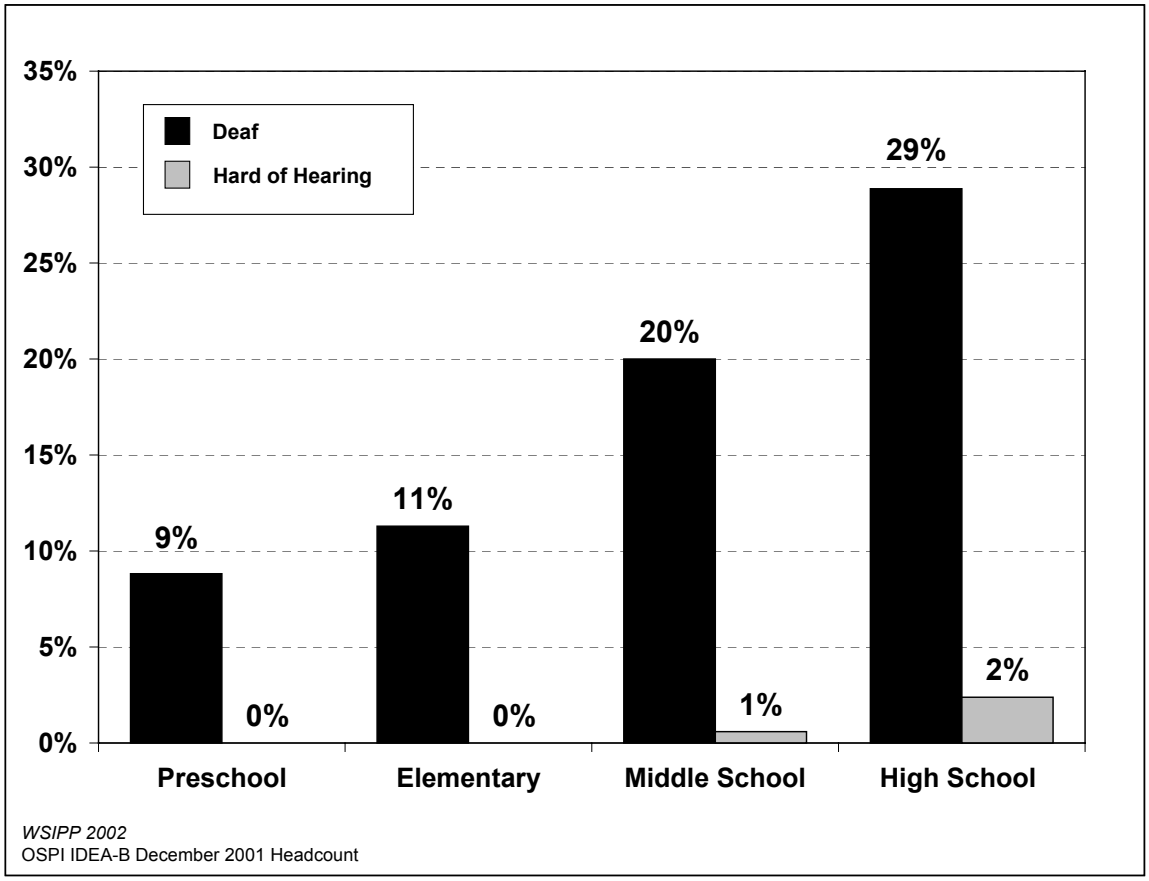
Other factors also appear to influence where students attend school:

- **Degree of Hearing Loss.** The majority (89 percent) of WSD students are deaf even though, statewide, hard of hearing students outnumber deaf students two to one. Currently, nearly 20 percent of deaf students in the state attend WSD compared with 1

percent of hard of hearing students. This is a common enrollment pattern among schools for the deaf across the country.[52]

- **Student Age.** Older students are more likely to attend WSD than younger students. As Exhibit 6 shows, 29 percent of deaf high school students in the state attend WSD compared with only 11 percent in elementary and 20 percent in middle school. This also holds true nationwide: high school students are most likely to attend schools for the deaf.[53]

Exhibit 6
Deaf and Hard of Hearing Students Attending WSD, by Grade Level and Degree of Hearing Loss (2001)



WSIPP 2002
OSPI IDEA-B December 2001 Headcount

More than half (54 percent) of WSD students are high school age. According to WSD staff, most students enroll in WSD during middle or high school, and students who first enroll in WSD when they are in secondary school usually remain until they graduate. Review of recent enrollment data from the school shows that students currently attending WSD have been enrolled there for an average three and one-half years.

[52]Lisa Holden-Pitt, "A Look at Residential School Placement Patterns for Students from Deaf- and Hearing-Parented Families: A Ten-Year Perspective," *American Annals of the Deaf* 142 (1997): 110.
[53] Ibid., 111.

- **Where Students Live.** Forty-two percent of WSD students live in ESD 112 (Vancouver) where WSD is located. According to WSD staff, some families move to the Vancouver area so their students can attend WSD while living at home, but the extent of this relocation is not known.

  Forty-one percent of WSD students come from districts where they would have been one of fewer than ten deaf or hard of hearing students in the district.

Multiple Handicapping Conditions

National Research. National research indicates that 30 to 40 percent of deaf and hard of hearing children have multiple disabilities. This estimate is three times higher than estimates for the overall school-age population[54] and may be related to the causes of childhood hearing loss that can also cause other learning disabilities.[55]

Cognitive disabilities, such as learning disabilities or emotional/behavioral disorders, are the most common among multi-disabled deaf and hard of hearing students. However, educators have a difficult time determining whether observed learning problems are due to language delays or a disability unrelated to deafness. Most school psychologists are not trained in deaf education, nor do they use sign language. Furthermore, most assessment tests are developed for and normed to the general (hearing) population and usually are not valid for use with deaf and hard of hearing students. The result is that many students' disabilities are misdiagnosed or not identified at all.[56]

Data From Washington. As part of this study, the Institute surveyed a sample of school districts and WSD regarding student characteristics.[57] Of the 766 students included in the survey, 304 (39 percent) had multiple disabilities. Surveyed public schools reported enrolling a higher proportion of deaf and hard of hearing students with multiple disabilities than WSD, particularly students with cognitive conditions or more than one type of additional disability (see Exhibit 7).[58]

[54] Pollack, "Educating Children."
[55] Donald Moores, *Educating the Deaf: Psychology, Principles, Practices* (Boston: Houghton Mifflin, 1996), 108. Conditions such as maternal rubella, prematurity, and meningitis have been shown to cause both hearing loss and other disabilities.
[56] Malinda Eccarius, "Educating Children Who Are Deaf or Hard of Hearing: Assessment," *ERIC Digest* 550, ED 414668, 1997.
[57] See Appendix C for a summary of the survey.
[58] However, the number of students with multiple disabilities at WSD increased from zero in 1995 to seven in 2001, according to OSPI data. WSD reported 16 multi-handicapped students on the Institute survey.

Exhibit 7
Additional Disabilities of Deaf and Hard of Hearing Students in Special Education Attending WSD and Surveyed Public Schools (2002)

	No Additional Disabilities	Physical Conditions*	Cognitive Conditions**	More Than One Additional Disability
WSD (N=116) [59]	85%	9%	6%	0%
Public Schools (N=660)	56%	10%	23%	11%

**Includes visual, orthopedic, and health impairments.*
***Includes emotional/behavioral disorder, mental retardation, suspected specific learning disability, and attention deficit disorder.*

However, these reported differences could be partly due to difficulties in assessing deaf and hard of hearing students. For example, the additional disability most often identified by public school programs was "suspected specific learning disability" (for 17 percent of students). Federal regulations prohibit schools from formally identifying a specific learning disability if the assessment tests cannot separate the impacts of deafness from those of learning disabilities.[60] The surveyed programs' identification of students with specific learning disabilities may not be based upon systematic assessment criteria and should be interpreted with caution.

Troubled Deaf Youth. One particular group of multi-handicapped students has received attention in recent years: deaf and hard of hearing students with severe emotional or behavioral disorders (often referred to as "troubled deaf youth" or TDY). WSD's admissions policy states that WSD is an inappropriate placement for any child who has an emotional/behavioral disturbance significant enough to disrupt the learning environment or pose a safety risk to other students. However, these students are still entitled to a public education under federal law, and they must be allowed to attend school and receive services necessary to help them learn. Appendix D contains information on educational options for TDY in Washington.

Why Do Students Attend WSD?

Currently, parents and students have the opportunity to choose between public school programs and WSD. In western Washington, parents can also consider private school options. Although each family makes its decision based on a number of factors, there are some common reasons why students tend to be referred to WSD.

Social Development. Research involving interviews with deaf high school students indicates that many older students feel increasingly isolated from their peers and the learning environment in local schools. The primary reason they give is an inability to

[59] Between December 2001 and January 2002, WSD enrolled three new students, bringing total enrollment to 116.
[60] Easterbrooks, "Improving Practices," 545. See also: CFR 34 § 300.541 (b) (1).

communicate with the teachers, staff, or students around them other than through an interpreter.[61] At home, students may also have difficulties communicating with family members who do not sign. For some students, communication barriers and social isolation may become associated with academic and behavioral problems, as illustrated below. These social development issues were most often cited by staff at WSD and public school programs as the primary reason for student referral.

Example of Social Development Issues Associated With Referral to WSD: *One public school teacher described what she believed was a common scenario leading to referral of students to WSD for social development:*

"By the time a deaf child is 7 or 8 years old, he becomes increasingly isolated. The communication gap grows, not only at school, but also at home. The gestures that are used at home as a substitute for language work fine as directives, but cannot suffice for concepts, emotions, relationships.

The child doesn't understand what is going on and has few friends. Then behavior starts to be an issue. The child starts acting out because he can't communicate and others can't communicate back, and he gets frustrated.

Adolescence brings on a whole new set of issues. Desires for peers, to belong to a group, to feel "normal" and not stigmatized as "different" become even more powerful. Self-esteem plummets, and along with it, engagement in school."

Students at WSD say the opportunity to be fully included and participate in everything from football to dance club to student government is an important aspect of their wanting to attend the state school. Staff, students, and parents interviewed believed that only at WSD do deaf students have the opportunity to feel "normal" rather than "different" from other students.[62]

Academic Needs. Academic need was the second major reason for student referral cited by those interviewed. By middle and high school, gaps in academic progress have become cumulative and more pronounced. As the curriculum becomes more challenging, a student struggling with reading and writing has more difficulty keeping up with the rest of the class. Interpreters for high school must have higher skills to translate more complex vocabulary in lecture-style classes. WSD staff observed that many students referred to WSD are significantly delayed in their academic progress, but their enrollment as middle or high school students leaves little time to address those gaps.

Language. A rich language environment is believed by all WSD staff interviewed to be the defining feature of WSD. According to staff, the primary reason elementary students enroll is that parents want their child to have full access to communication with teachers, staff, and other students through sign language at an early stage in their education.

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[61] Susan Foster, *The Impact and Outcome of Mainstreamed and Residential School Programs,* ED296524 (New York: Rochester Institute of Technology, 1987), 11.

[62] During site visits, Institute researchers had several opportunities to interact with students and one opportunity to meet with a small group of WSD parents.

Cultural Issues. According to WSD staff, a unique attribute of the school is that students have an opportunity to learn about and participate in Deaf culture. Students interact with a number of deaf adults who can serve as role models. There is a large Deaf community in the Vancouver/Portland area due in part to the presence of two schools for the deaf (WSD and a private school in Portland).

Summary: Deaf and Hard of Hearing Students in Washington State

- As of December 2001, **494 deaf and 1,029 hard of hearing students** aged 3 to 21 attended public schools or WSD and received special education. This represents **less than one percent** of all Washington students. However, **this is an undercount** of public school students because it does not reflect those who are not in special education or have multiple disabilities.

- More than **90 percent of deaf and hard of hearing special education students attend public schools** rather than WSD (compared with 67 percent 30 years ago). Because hearing loss is a low-incidence condition, **most school districts have fewer than ten deaf or hard of hearing students** living in the district.

- **Enrollment at WSD has gradually declined** by 45 percent in the last 20 years, to 113 students in 2001. The average over the last ten years has been 150 students.

- **WSD students tend to be deaf** (89 percent) rather than hard of hearing (11 percent). Nearly 20 percent of deaf students in the state attend WSD compared with 1 percent of hard of hearing students. **Older (high school-aged)** students are more likely to attend WSD than younger students. WSD students tend to come **from the Vancouver area** (42 percent) and **from districts with fewer than ten** deaf or hard of hearing students (41 percent). Two-thirds of WSD students **live on-campus** in the residential program.

- Survey data suggest that approximately **40 percent** of deaf and hard of hearing students in Washington have **additional disabilities**. **WSD does not appear more likely to enroll students with multiple disabilities** than local public schools, although it is difficult to assess cognitive disabilities accurately for deaf students.

- **The primary reason students attend WSD is for social development, including the opportunity to communicate directly** with teachers, staff, and other students using sign language. Other reasons include academic and cultural issues.

III. MODELS OF EDUCATION AND SERVICE DELIVERY: DESCRIPTION

This section describes five educational delivery models currently available for deaf and hard of hearing students in Washington. A more complete description of each model based on site visits to WSD and case studies of public and private school programs can be found in Appendix E.

The following delivery models currently exist in Washington:

A) Statewide Residential Program

B) Multi-District Programs

C) Single District Programs

D) Private School Programs

E) Outreach Services

A) Statewide Residential Program (WSD)

WSD provides an educational program for deaf and hard of hearing students who attend the Vancouver campus, including both day and residential students.[63] A preschool program serves students aged 3 to 5. The elementary school uses a K–8 grade configuration. Divine High School (in a separate building) is for 9th through 12th grade students. Exhibit 8 shows enrollment in each school program for the most recent two school years.

Exhibit 8
Enrollment at WSD

	2000–2001	2001–2002
Preschool	3	3
Elementary School (K–8)	60	48
High School	75	62

WSD 2001

Parents can request that a deaf or hard of hearing student between ages three and 21 be enrolled at WSD. School personnel and medical professionals may recommend WSD to parents as an alternative for students, and students themselves can play a significant role in the decision.

Legally, the decision to move a student out of a public school and into a special school, such as WSD, occurs through the student's Individual Education Plan (IEP). Special

[63] WSD's outreach program, which includes services for children aged birth to three, is described later in this section.

schools are considered a type of "educational placement," and school districts have an obligation to ensure a continuum of alternative placements are available to meet the needs of special education students, as determined by their IEPs.[64] WSD serves as an in-state (and state-funded) resource for school districts with students whose IEP's dictate a residential placement.

A decision to change a student's placement to WSD must include concurrence by WSD. In general, WSD admits students if deafness is their primary disability and the IEP team and WSD team believe the environment at the school will help the student's learning. In the fall of 2001, WSD adopted new criteria for reviewing whether the school is an appropriate educational placement for students.[65] Most of the policy responds to concerns about ensuring students do not pose a safety risk to other students at WSD. The policy also requires parents and students to visit the school prior to being admitted.

B) Multi-District Programs

Multi-district programs offer education and services to deaf and hard of hearing students from several school districts in order to achieve economies of scale and enhance the services that can be provided for a larger number of students. State law pertaining to inter-district cooperatives gives school districts the discretion to decide whether to send or accept students from another district, although districts must adopt fair and equitable standards for considering applications and are strongly encouraged to honor parent choice.[66] School districts sending students to a multi-district program pay for the services through an inter-district contract. Transportation remains the responsibility of the sending district.

There is one ESD-run multi-district program for deaf and hard of hearing students offered by ESD 189 (Mount Vernon). The program has been in operation for three years and currently serves approximately 20 elementary students.[67] There are at least seven other district-run programs intended to draw students from other districts, ranging in size from 10 to nearly 70 students.[68] Combined, multi-district programs serve more than 300 deaf and hard of hearing students (approximately 20 percent of deaf and hard of hearing special education students in Washington).[69]

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[64] WAC 392-172-174. This is also required under federal law: 34 CFR § 300.551. Even though school districts must ensure students have *access* to alternative placements, a school district is not required to *operate* each placement alternative itself.

[65] WSD, "Admissions Procedure," September 7, 2001.

[66] RCW 28A.225.220-250. There is also an appeal procedure for parents who disagree with a district decision either to send or accept students.

[67] Telephone interview with John Bresko, ESD 189 Special Services Coordinator, November 2001.

[68] It is common for larger districts with specialized staff to enroll a few deaf or hard of hearing students from other districts. The Institute's estimate of seven district-run and one ESD-run multi-district programs reflects programs purposefully designed and offered to attract students from surrounding districts.

[69] The Institute collected enrollment information from each of these districts through survey or case study. The estimate of more than 300 students overstates the number of students actually served within a multi-district program because districts were asked to report *all* special education students with hearing losses, and program services tend to be for students with more severe hearing losses or multiple handicaps.

C) Single District Programs

The Institute identified three types of educational programs operated by individual school districts primarily for deaf and hard of hearing students living within the district.

1) **Teacher of the Deaf Programs.** There are at least 19 districts that have hired one or more specially trained teachers of the deaf[70] to provide direct instruction to deaf students (usually using sign language), consult with mainstream teachers, and coordinate with interpreters. Programs in large districts can resemble a multi-district program in the number of students and number and type of specialized staff. At least 28 percent of deaf and hard of hearing students are served in teacher of the deaf programs, but the figure is probably larger. A few students from small districts may enroll in a nearby teacher of the deaf program even though the programs are primarily operated for students living in the district.[71]

2) **Itinerant Teacher Programs.** Two ESDs currently provide a teacher of the deaf for school districts that have elected to collaborate in enhancing services for their deaf and hard of hearing students: ESD 171 (Wenatchee) and ESD 112 (Vancouver). ESD 105 (Yakima) is in the process of recruiting a teacher for a similar program. These itinerant teachers travel from school to school consulting with the mainstream and special education teachers who work with the students daily, offering training for interpreters, monitoring individual student progress, providing tutoring and instruction on specific skills, and serving as a resource for families. The frequency of contact between the itinerant teacher and a student depends on the student's needs. Some students are visited at least once a week; others less frequently. As of March 2002, 19 school districts and 42 students were participating in itinerant teacher programs.

3) **Special Education Programs.** The remaining school districts that enroll deaf and hard of hearing students provide services through the special education program and do not have access to a teacher of the deaf. Depending on the district, they may receive additional support from the ESD, WSD, or other outreach efforts described below. It was not possible to estimate the number of districts or students under this model because some districts that would otherwise operate a special education program may send students out-of-district.

D) Private School Programs

There are two private schools for deaf and hard of hearing students in Washington and one in Oregon that enrolls Washington students (see Exhibit 9). Enrollment figures for Listen and Talk in Bothell include students who receive consultation and assistance but are enrolled in a public school program (i.e., parents have arranged through the IEP process for

[70] A teacher of the deaf is someone with a degree (usually a master's degree) or certification in deaf education. In Washington, there is no special certification or endorsement for teachers of the deaf. The special education endorsement applies to teachers who work with students of any disability. Currently, no teacher preparation program in Washington offers special training for teachers of the deaf.

[71] Based on a poll conducted by JLARC staff, the Institute identified five teacher of the deaf programs enrolling students from neighboring districts.

the school district to contract with the private program for ongoing services for their students).

Two of the schools focus on helping students use their residual hearing and develop communication through speech rather than a signed language. According to the school directors, the emphasis on oral communication is the primary reason parents choose these programs.[72] The third school teaches students using Signed Exact English.[73]

Exhibit 9
Private Schools for the Deaf and Hard of Hearing

School Name, Year Established, and Location	Number of Students (October 2001)	Grade Levels	Communication Philosophy
Listen and Talk, 1996 (Bothell)	47	• Birth to Three program • Preschool • Individual oral therapy sessions and mainstream assistance in K–12	Auditory-Verbal[74]
Northwest School for Hearing Impaired Children, 1982 (North Seattle)	57	• Preschool–8th grade	Signed Exact English
Tucker-Maxon Oral School, 1947 (Portland, Oregon)	66 (8 from WA)	• Birth to Three program • Preschool–8th grade • Mainstream assistance available in high school	Oral Communication

E) Outreach Services

"Outreach" refers to a variety of different services intended to supplement the education for deaf and hard of hearing students provided through any of the delivery models described above. Although a wide range of initiatives fall within the definition of outreach, most can be categorized as one of the following:

1) **Early Intervention** refers to services provided to parents of children aged birth to three who have been identified with a hearing loss. Early intervention can include parent-infant home visits, family support groups, play groups for young children, and work on oral/aural skills and/or sign language (depending on the parents' choice). Trained staff provide information to parents to help them make choices about communicating with their child and assist them in exposing the child to as much language input as possible.

2) **Interpreter Training** was identified by nearly everyone interviewed by the Institute as a critical need within Washington State. School districts across the state, but particularly those in rural areas, report difficulty in finding and retaining qualified interpreters. Many

[72] The Institute conducted a brief telephone survey of the three schools in October 2001.
[73] Signed Exact English is one of several versions of Signed English.
[74] Auditory-Verbal is a specific method for learning oral communication.

interpreters in the case study schools have developed their skills on the job and over time rather than through formal training.[75]

3) **Student Assessment and Evaluation** was the second most frequently mentioned need among those interviewed by the Institute. Accurately measuring and monitoring a deaf or hard of hearing student's academic performance or identifying other disabilities (including psychological or behavioral issues) is complex and difficult.[76] Communication barriers, inadequate assessment tools, and lack of expertise contribute to this challenge. Assessment conclusions may be colored by the evaluator's philosophy about appropriate mode of communication or approach to education for deaf students.

4) **Teacher Training and Consultation** is another area where school districts would like assistance. In-service training (for example, on specific strategies to help students with reading and writing) and specially adapted curriculum and materials can help both mainstream and special education teachers who are working with deaf and hard of hearing students.

5) **Special Learning Opportunities** include ASL instruction for parents and teachers, summer camps and field trips for students, and special events for parents and students. One innovative outreach effort utilizes the K–20 telecommunications network to help families and teachers read books with young children and provide children in remote areas access to sign language and a deaf role model.

Example of Outreach: Shared Reading Video Outreach Project (SRVOP)

SRVOP helps parents, family members, and teachers read books to young deaf children in remote parts of the state through interactive desk-top video teleconferencing. Each bi-weekly training session addresses a new book and provides families and educators with suggestions on how to explain the pictures and convey concepts and vocabulary. During broadcast sessions for children, the tutor reads and discusses the book, using drama and the pictures (displayed on the screen) to teach both English vocabulary and ASL signs. For some children, the tutor is their first exposure to a signing deaf adult. A teacher associated with the project prepares packets of curriculum and support materials for each book.

Currently, between 80 and 100 students are part of the project. Sessions are broadcast to 21 locations. Some school districts transport the students to a central location to take advantage of the opportunity. To participate, a school district must have the necessary equipment (which, increasingly, most do) and supply the books to the children. Project staff visit each new site at least once during the fall and spring and arrange for regional potlucks for participants, providing an additional opportunity for social interaction. SRVOP is organized by the Washington Sensory Disabilities Services.

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[75] For additional information about educational interpreters, see Appendix F.
[76] Eccarius, "Educating Children."

The following entities are prominent in providing educational outreach services for deaf and hard of hearing students.

1) **WSD.** One of the five strategic initiatives for WSD in 1999 was to create an outreach program to "contribute leadership" in the education of *all* deaf and hard of hearing students in the state.[77] WSD started its program during the 2000–2001 school year, although some on-campus special learning opportunities for students and parents were available previously. Eight staff associated with the outreach program have expertise in psychology, ASL and speech instruction, post-high school transition planning, early intervention, and interpreter training.

   Services most in demand have been consultation for teachers (including classroom observations of students) and student evaluation and assessment. As of March 2002, the outreach program had received 19 specific requests for assistance from school districts.[78] In the spring of 2002, WSD began developing inter-agency agreements with several ESDs as a first step in expanding potential collaboration in providing services. WSD has also been using the K–20 telecommunications network to offer in-service training for interpreters and teachers across the state. Among those interviewed by the Institute, the K–20 trainings were the most well-known outreach from WSD.[79]

2) **Washington Sensory Disabilities Services (WSDS).** WSDS is a project funded by the Office of the Superintendent of Public Instruction (OSPI) using discretionary federal funds for special education. Staff are housed in various ESDs but provide services statewide. WSDS offers technical assistance, training, and resources for families and educators dealing with children with hearing or vision impairments. Two staff focus on services for deaf and hard of hearing students. One works with local schools and community organizations to expand early intervention. She also coordinates the Shared Reading Video Outreach Project. A second person provides consultation and advice to local school district programs and ESDs to enhance services.

3) **Educational Service Districts (ESDs).** As mentioned earlier, two ESDs (and soon a third) have itinerant teachers of the deaf who, in addition to providing direct instruction for students, fulfill an outreach role through teacher consultation, interpreter training, and assistance for parents. They may also provide early intervention services. Other ESDs facilitate audiological or interpreter services for participating school districts that are willing to pay for the additional support. Four of the state's nine ESDs do not currently offer special cooperative services for deaf and hard of hearing students.[80]

4) **Other Community Organizations**. The most common outreach service provided by other organizations is early intervention. Early intervention is available through some school districts, private school programs, service centers for the deaf and hard of

[77] Washington School for the Deaf, *1999–2005 Strategic Plan* (Vancouver, WA: WSD, July 1999), 2.
[78] Although WSD provided outreach services at no charge during the first year, the state authorization to expand these services presumed that school districts would pay a portion of the cost. WSD used $136,000 in appropriated funds to hire a part-time interpreter trainer. *2001–03 Washington State Legislative Budget Notes,* <http://www.leap.leg.wa.gov/leap/budget/lbns/2001leg.pdf>.
[79] Additional information on WSD's outreach program is provided in Appendix E.
[80] ESDs 101 (Spokane), 114 (Bremerton), 113 (Olympia), and 121 (Puget Sound).

hearing,[81] non-profit organizations, and hospitals.[82] Federal funds for Birth to Three services are allocated by the Department of Social and Health Services (DSHS) to county-designated organizations to provide services for any infant with special needs, not just those with hearing losses. DSHS has contracted with WSDS to improve coordination and availability of early intervention for deaf and hard of hearing children.

Exhibit 10 summarizes providers of outreach services for deaf and hard of hearing students.

Exhibit 10
Providers of Outreach Services

Services	WSD	WSDS	ESDs	Others
Early Intervention	✓	✓	✓	✓
Interpreter Training	✓	✓	✓	
Student Assessment and Evaluation	✓			✓
Teacher Training and Consultation	✓	✓	✓	
Special Learning Opportunities	✓	✓		

Summary: Description of Models of Education and Service Delivery

Five models of education and service delivery for deaf and hard of hearing students are currently available in Washington.

- A **statewide residential program** is offered for students aged 3 to 21 by WSD in Vancouver.
- Eight **multi-district programs** are intended to draw students from surrounding areas in order to offer specialized services.
- Three types of **single district programs** are offered primarily for students in the district. Districts with sufficient numbers of students hire a specially trained **teacher of the deaf**. In two (soon to be three) ESD cooperatives, districts share an **itinerant teacher**. Remaining districts provide services through their **special education program** or send students to another district.
- Three **private school programs** focus on a particular mode of communication.
- A number of entities provide **outreach services** to supplement students' education. Outreach includes early intervention, interpreter and teacher training, student assessment, and special learning opportunities.

[81] The Office of Deaf and Hard of Hearing Services in DSHS provides funding to support six regional community service centers that offer advocacy, interpreting, and assistance primarily for deaf and hard of hearing adults. Some also offer early intervention.
[82] Children's Hospital in Seattle operates a large early intervention program in western Washington and provides student assessment and evaluation, particularly for psychological and behavioral issues.

IV. MODELS OF EDUCATION AND SERVICE DELIVERY: COMPARISONS

This section compares the current educational delivery models by using information from research literature, case studies, interviews, data from the Office of the Superintendent of Public Instruction (OSPI), and the Institute's survey of a sample of public school programs. Questions of interest include the following:

- How does the learning environment at WSD compare with public school programs?
- Is there evidence that one delivery model is more effective than another?
- How do operating costs of WSD and public school programs compare?

How Do Learning Environments Compare?

The following comparison of the learning environment at WSD with public school programs examines instructional setting, mode of communication used by students in the classroom, creation of a "critical mass" of students, and curriculum. Because students' learning environments are determined in part by their level of hearing loss,[83] comparisons between WSD and public schools examine deaf students only.

Instructional Setting

At WSD, all students attend classes with other deaf students and are taught by a teacher of the deaf. In the surveyed public schools, most deaf students spend portions of the day in mainstream classes with hearing students (see Exhibit 11).

Exhibit 11
Educational Settings for Deaf Students at WSD and Surveyed Public Schools[84]

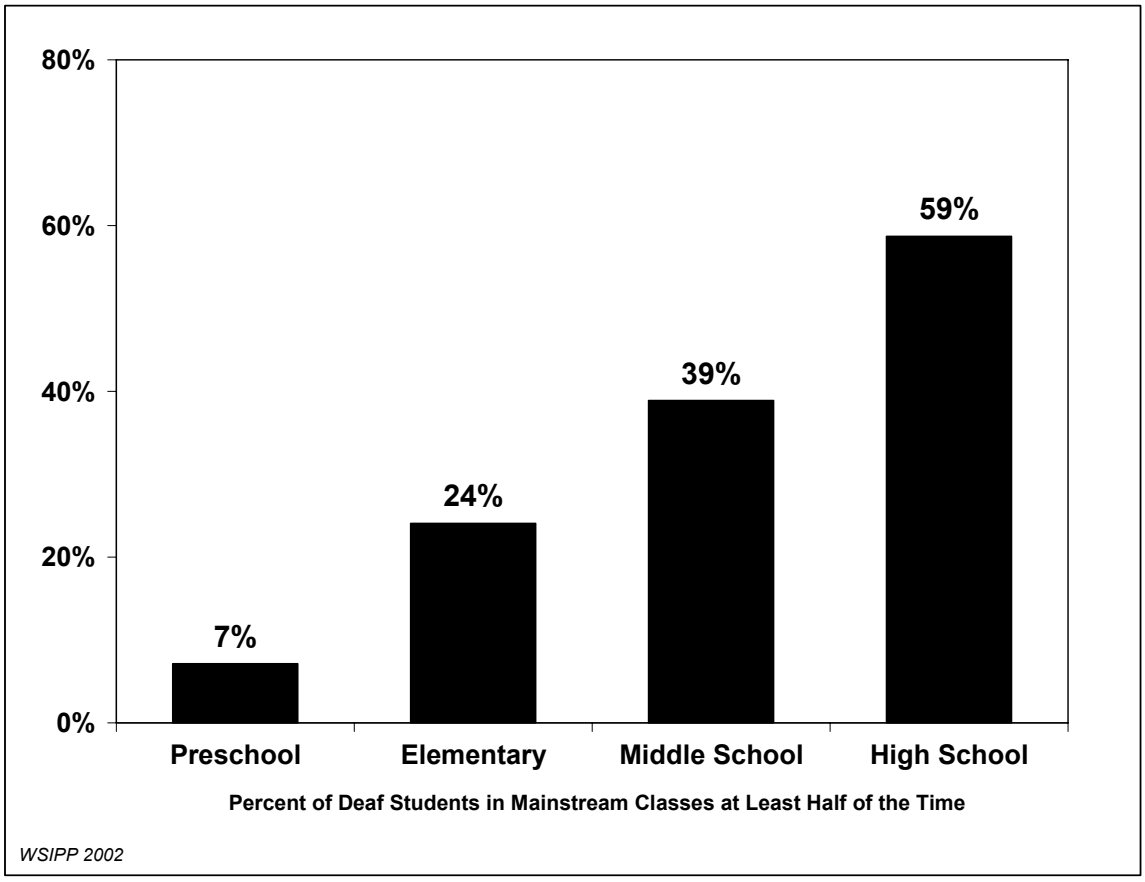
Percent of Students	Special Classroom With Teacher of Deaf	Special Classroom With Special Education Teacher	Mainstream Plus Special Classroom	Mainstream Only
WSD (N=103)	100%	0%	0%	0%
Public Schools (N=324)	36%	6%	43%	15%

[83] For example, two-thirds of hard of hearing students in the surveyed programs spend at least half of their instructional time in mainstream classes compared with only one-third of deaf students. Also, 26 percent of hard of hearing students in the surveyed programs primarily use sign language in instruction compared with 86 percent of deaf students. National surveys have found similar results: Thomas E. Allen, "Subgroup Differences in Educational Placement for Deaf and Hard of Hearing Students," *American Annals of the Deaf* 139 (1994): 384.
[84] See Appendix C for a description of the survey.

The instructional setting experienced by deaf students in public schools is influenced by students' grade level, the subject of the class, and the size, type, and philosophy of the program.

- **Grade Level.** The degree of mainstreaming steadily increases by grade level (see Exhibit 12). In the surveyed public schools, nearly 60 percent of deaf high school students are mainstreamed for at least half the time.

Exhibit 12
Mainstream Education for Deaf Students in Surveyed Public Schools, by Grade Level



- **Subject Area.** Deaf students in the Institute's case studies tend to be in special classrooms for language arts and other courses involving large amounts of reading (such as social studies). They are more likely to be in mainstream classrooms for courses such as physical education, art, computer labs, science, and math.

- **Size of Program.** According to the Institute's survey, larger public school programs are more likely to place deaf students together for group instruction. Students in smaller programs are more likely to be mainstreamed for at least half of instructional time (see Exhibit 13).

Exhibit 13
Instructional Settings for Deaf Students by Size of Public School Program

Program Size*	Number of Programs Surveyed	Number of Deaf Students in Surveyed Programs	Deaf Students in Classrooms for Deaf and Hard of Hearing	Deaf Students in Mainstream Classrooms at Least Half the Time
1 to 9	22	32	13%	72%
10 to 29	11	72	56%	50%
30 or more	9	217	83%	24%

**Number of deaf and hard of hearing special education students in the district.*

- **Multi-District Versus Single District Program.** Deaf students in the surveyed single-district programs are more than twice as likely as deaf students in multi-district programs to attend mainstream classes at least half of the time (43 versus 18 percent). Nearly all (94 percent) deaf students in multi-district programs attend separate classes for deaf and hard of hearing students compared with 56 percent of deaf students in single-district programs.

- **Program Philosophy.** Even when programs have teachers of the deaf, they may choose not to group deaf and hard of hearing students together for instruction. One of the Institute's case studies operated on the philosophy of educating students in their home schools and providing as much instruction as possible through mainstream classrooms. The teacher of the deaf worked on an itinerant model, moving from school to school throughout the day.

An important aspect of education in mainstream classrooms is that deaf students must rely on interpreters to communicate the content of the lecture, classroom discussion, and any interaction with the teacher or students. This dependence makes the skill level of the interpreter a key variable affecting a student's educational experience (see inset below and also Appendix E).

Educational Interpreters

For some time, concern as been expressed about the skill levels and recruitment and retention of interpreters. In Washington, OSPI listed 243 full-time equivalent staff working as interpreters in public schools for 2000–2001. No information is available on levels of training or certification. There are three interpreter training programs in the state (two in Seattle, and one in Spokane). Absent a formal training program, interpreters gain skills through personal experience, ASL classes offered in high schools and community colleges, or on-the-job training.

Concerns about interpreter skills have led 23 states either to establish state standards for educational interpreters or require them to be certified by a national certifying organization.

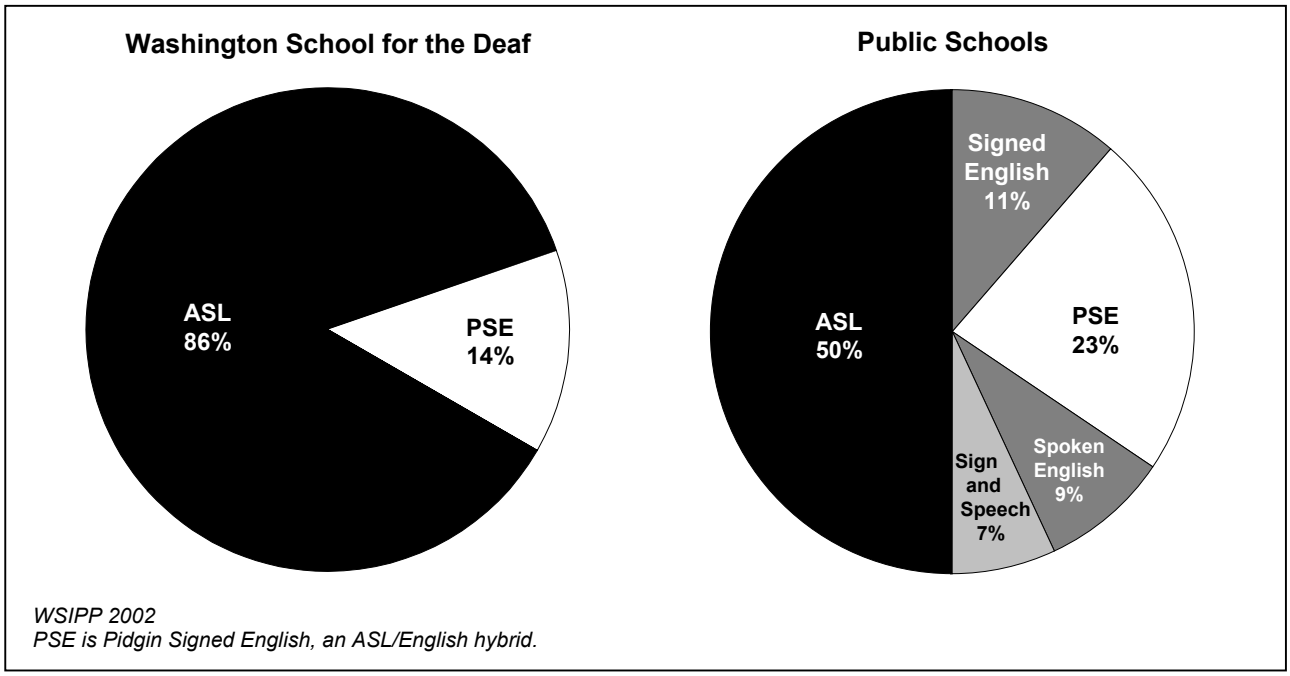
In Washington, legislation has been introduced but not enacted to establish state competencies for educational interpreters. Case study districts were chiefly concerned about their ability to find and keep interpreters at all, regardless of skill level. Highly trained or certified interpreters can command higher salaries in other positions. Some districts would support state standards for interpreters, but only if adequate training was made easily accessible across the state. WSD and WSDS are working to expand training opportunities but believe skill levels and recruitment of interpreters remain significant issues.

Mode of Communication

A second distinguishing feature between WSD and public school programs is how students communicate in the classroom. At WSD, most deaf students use ASL as their primary mode of communication. Several characteristics combine to make WSD an ASL-intensive environment: relatively large numbers of deaf students and staff who primarily communicate with one another through sign language, the fact that students are not mainstreamed with hearing students (and therefore receive all instruction directly in ASL), and the existence of the residential program (which provides continuous exposure to sign language throughout the day).

In public schools, depending on students' needs, a wider array of modes of communication is used in class (see Exhibit 14).

Exhibit 14
Deaf Students' Primary Mode of Communication in Class



WSIPP 2002
PSE is Pidgin Signed English, an ASL/English hybrid.

Parental choice is a significant factor influencing a deaf or hard of hearing student's mode of communication. Public school educators pointed out that meeting parent demands for a particular communication approach can be difficult for both small and large programs. Small programs have a limited range of staff expertise and time to spread among the various approaches. Some educators report that disagreements over mode of communication were a contributing factor in the failure of cooperatives and multi-district programs in the past.

Critical Mass

One of the reasons for establishing separate schools (like WSD) or multi-district programs is to create a "critical mass" of students with similar specialized learning needs.[85] Educators have two objectives in striving for a critical mass of deaf students. First, larger numbers allow groupings of students of similar ages and stages of development as would occur in a classroom for hearing students. Teachers can provide direct instruction (without an interpreter) to students, and students can communicate directly with one another as part of normal social interaction. WSD currently has this characteristic, as do a few larger public school programs.

Second, large programs have the capacity to hire specially trained staff. WSD employs trained teachers of the deaf and a wide range of support staff, all specialists in deaf education through training or experience. Among surveyed districts, the availability of specially trained staff was a function of the number of deaf and hard of hearing students served. All programs with more than 30 students employed a teacher of the deaf. Only one program with fewer than ten students employed a teacher of the deaf. The largest public school programs in the Institute's case studies were similar to WSD (although on a smaller scale) in having multiple teachers and various support staff with experience in deafness.

There is, however, no agreement on the number of students that constitutes a critical mass.[86] Staff from multi-district programs reported a significant challenge sustaining a critical mass within their programs. Because hearing loss is a low-incidence condition, numbers of deaf and hard of hearing children in a particular area can fluctuate dramatically. Rather than participate in a cooperative, a district may decide to hire a teacher of the deaf for its own students or rely on other special education teachers.

Curriculum

High School. Nearly all public school educators interviewed believed that the opportunity to enroll in the full range of electives, vocational training, and honors courses offered in a typical large high school was a noteworthy difference between public schools and WSD.[87] The case study districts acknowledged that scheduling interpreters to accommodate students' choices can be a challenge.

Divine High School at WSD resembles a very small rural school, which means a limited variety of elective courses can be offered. No vocational training courses are available other than as extra-curricular activities, although some students attend a nearby skills center or Running Start. Some students mentioned they would like to take one or two classes at a nearby high school, but WSD has not found a way to accommodate this, citing funding issues as a barrier. WSD has recently subscribed to NovaNET, an on-line interactive curriculum offering a large variety of middle and high school courses.

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[85] Easterbrooks, "Modes of Communication," 22.

[86] Easterbrooks describes the importance of critical mass, but asserts that the concept has not been addressed adequately through research, "Modes of Communication," 22.

[87] This difference would be less noticeable for students in small high schools, although there are only 25 school districts in Washington with high schools of similar or smaller enrollment than WSD (fewer than 75 students).

Academic Rigor. Though the issue has not been extensively studied, some researchers have found that residential schools for the deaf offer a less rigorous academic curriculum for their students than regular public schools.[88] In Washington, differences of opinion exist among educators about whether WSD and public school programs differ in terms of academic rigor and learning expectations for students. The sample of school programs for this study was too small for the Institute to determine how academic rigor compares between WSD and public schools. WSD has recently incorporated the state's learning standards (Essential Academic Learning Requirements or EALRs) into its curriculum.

How Do Delivery Models Compare in Effectiveness?

Comparatively, WSD and public school programs offer different learning environments for deaf and hard of hearing students. The next relevant question is: "Is one model more effective in terms of student outcomes?" Outcomes of interest include student achievement, high school graduation, post high school transition, and social development of deaf and hard of hearing students.

To examine the effectiveness of educational delivery models, the Institute contracted with a national expert in deaf education.[89] The expert was asked to summarize the research evidence pertaining to effectiveness of various types of instructional settings (such as mainstream classrooms, special day programs, or residential programs) and modes of communication (such as oral, ASL, Signed English, or Total Communication). Both instructional settings and modes of communication were examined because they are key aspects of how schools for the deaf and public school programs differ, and their effects have long been the focus of considerable debate.

Student Achievement

Information on Outcomes. Research has indicated that deaf and hard of hearing individuals are of comparable intelligence[90] and have similar cognitive abilities as do hearing people to learn and acquire knowledge.[91] However, deaf and hard of hearing students usually do not do as well academically as their hearing peers. Standardized achievement test scores show that, on average, 17- and 18-year-old deaf and hard of hearing students score at a fourth-grade level on reading comprehension.[92] Some

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[88] Lane et al., *A Journey Into The Deaf-World,* 243; Foster, *The Impact and Outcome of Mainstreamed and Residential School Programs,* 25.

[89] Dr. Susan Easterbrooks of Georgia State University. A copy of the literature review is available by contacting the Institute or accessing the Institute's website, <www.wsipp.wa.gov>.

[90] Jeffrey Braden, "Intellectual Assessment of Deaf and Hard of Hearing People: A Quantitative and Qualitative Research Synthesis," *School Psychology Review* 21, no. 1 (1992), 86.

[91] Michael Strong and Philip Prinz, "A Study of the Relationship Between American Sign Language and English Literacy," *Journal of Deaf Studies and Deaf Education,* 2, no. 1 (1997), 40.

[92] Since the 1970s, Gallaudet University has conducted research using a standardized achievement test (Stanford 9) with sufficient numbers of students to create a norm reference for deaf and hard of hearing students. Gallaudet Research Institute, "Literacy and Deaf Students," <http://gri.gallaudet.edu/Literacy>; Judith Holt et al., *Stanford 9: A User's Guide to the 9th Edition Stanford Achievement Test for Educators of Deaf and Hard-of-Hearing Students,* Gallaudet Research Institute Technical Report 97-1 (Washington, D.C.: Gallaudet University, 1997).

researchers point out that this is only an average, but these test results have changed very little in 30 years.[93] Deaf and hard of hearing students also lag behind hearing students in math achievement.[94]

Unfortunately, data on the achievement of deaf and hard of hearing students in Washington is insufficient to compare either to hearing students or between students at WSD and public school programs.[95] Reasons for this lack of information include the following:

- ***No breakdown of regular WASL scores for deaf and hard of hearing students except at WSD.*** Deaf and hard of hearing students at WSD and in public schools take the Washington Assessment of Student Learning (WASL) in 4th, 7th, and 10th grades. However, results from the regular WASL for deaf and hard of hearing students in public schools are grouped with scores of other students in special education and not separated by disability category. There is no way to identify deaf and hard of hearing students using state test score data.

  In 2001, too few 4th grade students at WSD took the WASL to permit reporting of results.[96] Among 7th grade students, 60 percent met the state standard in communication, and 11 percent met the standard in math. None met the standard in reading and writing. Among 10th grade students, 57 percent met the standard in communication, 14 percent in writing, and 8 percent in reading and math.[97]

- ***Results from the alternative WASL are not comparable.*** Students in special education may take one of several alternative assessments in lieu of the WASL. Results from the alternative form of the WASL are separated by type of disability, so results for deaf and hard of hearing students are available. According to OSPI, 34 deaf and hard of hearing students took an alternative form of the WASL in 2001.[98] However, school districts could choose from a variety of commercially available tests or a portfolio, so results are not comparable.

Even if data were available, most students at WSD also attended public schools during their educational career. It would be very difficult to measure the effects on student achievement of one learning environment (WSD) separately from another learning environment (public school).

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[93] Robert Clover Johnson, "High Stakes Testing and Deaf Students: Some Research Perspectives," *Research at Gallaudet* (Spring/Summer 2001): 2.

[94] Richard Lytle and Michele Rovins, "Reforming Deaf Education," *American Annals of the Deaf* 142 (1997): 8.

[95] The Institute considered collecting individual-level data on student achievement from school districts but could not feasibly account for many of the factors that research has shown are related to achievement, including age of hearing loss onset, receipt of early intervention, parents' hearing status, and parent involvement. Without this information, statistical comparisons of students at WSD and public schools would have been invalid.

[96] WASL results are not reported when fewer than ten students are tested to protect confidentiality.

[97] For 2001, the statewide WASL results for all students were as follows in reading and math (percent met state standard): 4th grade, 66 percent reading and 43 percent math; 7th grade, 40 percent reading and 27 percent math; 10th grade, 62 percent reading and 39 percent math.

[98] Communication from Nancy Arnold, Alternate Assessment Specialist, OSPI, March 2002.

Information on Delivery Models. The research literature provides no definitive evidence that one instructional setting is more academically beneficial for students than another. Some research has shown that deaf and hard of hearing students who are mainstreamed have higher levels of literacy and academic achievement, but studies comparing different educational placements do not account for prior achievement.[99] That is, mainstreamed students may perform better academically because they already showed academic promise before being mainstreamed. Students in special classrooms or schools for the deaf may have worse performance because they were already lagging behind their peers before being placed in these settings. Furthermore, the evidence is not consistent that deaf and hard of hearing students in public schools have higher achievement: some research has found that students in schools for the deaf outperform students in self-contained classrooms in public schools.[100]

Easterbrooks concluded that "a successful placement is one that meets the unique needs of the individual child. Neither residential schools nor completely mainstreamed programs can adequately serve all children with hearing loss."[101]

Similarly, the research literature does not permit a declaration that a particular mode of communication contributes to improved academic achievement for deaf students. The low achievement of many deaf and hard of hearing students is related to delays in language and communication, which are in turn related to low English literacy skills. Proficiency in *any* language, spoken or signed, is a precondition to learning to read and write.[102] What language is used matters less than early and consistent communication within the family.[103] Later, if the language used in instruction matches a student's preferred mode of communication, academic achievement and social adjustment improve.[104]

Graduation Rates

Information on Outcomes. The Institute included questions regarding 2001 high school graduation in its survey of public school programs and WSD. Exhibit 15 shows that 90 percent of deaf or hard of hearing students who were in their final year of high school in the surveyed schools graduated with a high school diploma in the spring of 2001.[105] Of those who did not graduate, half did not complete requirements and half dropped out (but this represents only four students).

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[99] Easterbrooks, "Modes of Communication," 17.
[100] Judith Holt, "Classroom Attributes and Achievement Test Scores for Deaf and Hard of Hearing Students," *American Annal of the Deaf* 139 (1994): 433, 436-437.
[101] Easterbrooks, "Modes of Communication," 18.
[102] Connie Mayer and C. Tane Akamatsu, "Bilingual-Bicultural Models of Literacy Education for Deaf Students: Considering the Claims," *Journal of Deaf Studies and Deaf Education* 4 (1999): 2.
[103] Easterbrooks, "Modes of Communication," 14.
[104] Gary Long et al., "Students' Perceptions of Communication Ease and Engagement: How They Relate to Academic Success," *American Annals of the Deaf* 136 (1991): 419.
[105] There is no statistical significance in the difference between graduation rates in public schools and WSD. Despite the small numbers, the sample represents approximately 40 percent of deaf students aged 18 to 21 for the 2000–2001 school year. In comparison, 85 percent of all high school seniors in Washington graduated in 1999–2000. Office of the Superintendent of Public Instruction, *Dropout Rates and Graduation Statistics by County and School District for the School Year 1999-00* (Olympia, WA, February 2002).

Exhibit 15
High School Graduation for a Sample of Deaf and Hard of Hearing Students, Spring 2001

	Surveyed Public Schools*	WSD	Total
Number of Seniors	26	16	42
Number Graduating	24	14	38
Percent Graduating	92%	88%	90%

**Only 11 surveyed districts (24 percent) reported having seniors in 2000–2001*

Students in special education may receive a diploma either by completing regular high school graduation requirements or by fulfilling the requirements of their IEP. In the Institute survey, public schools reported that 17 percent of graduating deaf and hard of hearing students received a diploma based on completing their IEP. At WSD, this applied to 29 percent of graduating students.[106] Again, however, these figures represent a very small number of students (eight total).

Information on Delivery Models. There is insufficient information on graduation rates for deaf and hard of hearing students to permit a comparison of delivery models. Several national studies in the late 1980s found between 29 and 50 percent of deaf students left high school without a high school diploma,[107] but dropout rates are notoriously difficult to estimate because there is no consistent method of calculation. Student records often do not permit identifying which students have transferred to another school or only left school temporarily.[108]

Post-High School Transition

Information on Outcomes. Follow-up of Washington high school graduates, regardless of whether they are deaf or hearing, is limited by the difficulty of locating sufficient numbers of students.[109] A one-year follow-up of a sample of special education students who graduated from public schools in 1999 only included information on ten deaf and hard of hearing students.[110] Of these students, five were enrolled in post-secondary education or training, and four were employed. WSD reported that, of the 16 graduates in the spring of 2001, 11 were enrolled in post-secondary education or training and one was employed in the fall of 2001.

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[106] The difference between public schools and WSD is statistically significant, but the number of total students is still too small to draw any conclusions.
[107] Thomas Kluwin, "Deaf Adolescents Who Drop Out of Local Public Schools," *American Annals of the Deaf* 137 (1992): 293; Yael Bat-Chava et al., "An Evaluation of a College Preparatory and Readiness Program for Deaf Students," *Journal of Rehabilitation* (Spring 1999): 51.
[108] See Edie Harding et al., *Educational Opportunities in Washington's High Schools Under State Education Reform, Volume 1* (Olympia, WA: Washington State Institute for Public Policy, January 2001).
[109] The Graduate Follow-Up Study conducted annually for Washington high school graduates provides information on fewer than half of all graduates. Harding, *Educational Opportunities,* 42.
[110] OSPI, *Post-School Status Report: 1999 Special Education Graduates* (University of Washington Center for Change in Transition Services, May 2000).

Information on Delivery Models. Again, the limited existing studies do not differentiate students according to where they attended school. One national-level follow-up of deaf high school graduates examined what happened to those students several years after graduation. Two-thirds (66 percent) had gone on to receive post-secondary training from a two or four-year college, vocational-technical program, or other program. Of those who did not, slightly more than half (54 percent) worked either part- or full-time. Nearly three-quarters of those working (72 percent) were employed in blue-collar jobs (clerks, kitchen workers, custodians, etc.).[111]

Social Development

Information on Delivery Models. Indicators of social development include students' self-esteem, confidence in communication, and participation in classroom interactions and social activities. Research based on interviews and surveys generally concludes that deaf students can experience social isolation in mainstream educational settings, primarily due to the difficulties of communication.[112] Difficulties of communication can lead to low class participation, few close peer friendships, and limited participation in social activities associated with school.[113] The social and communication opportunities in residential schools for the deaf are cited as a key reason for why students and parents choose them.[114]

Preferred mode of communication is a factor in students' adjustment to their learning environment. Not surprisingly, researchers have found that students who rely on sign language are better adjusted to environments with other deaf students; students with better spoken language skills are better adjusted to being with hearing students.[115] Family involvement, communication and support from teachers and peers, high expectations, and extracurricular and social opportunities are important aspects of successful learning environments.[116] These attributes are not necessarily confined to one type of educational setting.

Outreach Services

Information on Outcomes. There is evidence from the research literature on the effectiveness of early intervention programs,[117] but results from other outreach initiatives are difficult to measure. One way to gauge the effectiveness of outreach services is to examine gaps in service provision. Although the Institute's information on outreach services and providers is not exhaustive, there are clearly some parts of the state (notably eastern Washington and the Olympic Peninsula) where there are few cooperative services or multi-

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[111] Thomas Allen et al., *Deaf Students,* 52.
[112] Stinson and Whitmire, "Adolescents Who Are Deaf," 62-66; Foster, *The Impact and Outcome of Mainstreamed and Residential School Programs,* 22.
[113] Gwendolyn Cartledge and Lessie Cochran, "Social Skill Self-Assessments by Adolescents with Hearing Impairment in Residential and Public Schools," *Remedial and Special Education* 17 (1996): 32.
[114] Stinson and Whitmore, "Adolescents Who Are Deaf," 63; Foster, *The Impact and Outcome of Mainstreamed and Residential School Programs,* 23.
[115] Easterbrooks, "Modes of Communication," 17.
[116] Ibid., 18.
[117] See, for example, Mary Pat Moeller, "Early Intervention; Christine Yoshinaga-Itano, "Language of Early- and Later-identified Children; Christine Yoshinaga-Itano, *Factors Predictive of Successful Outcome*.

district programs and where single district programs are small and remote. These gaps may occur because outreach services by ESDs or WSD are provided only on-demand, which reflects willingness and ability of school districts to pay for them.[118] Districts are not charged for outreach services from WSDS.

WSD's outreach program is in its second year and represents a new role for the staff and the school. Nevertheless, there is a lingering perception among public school educators interviewed by the Institute that WSD remains somewhat isolated. Many of those interviewed believe WSD staff are experts at providing services in a state school for the deaf but do not fully understand the learning environment of a mainstream public school program.

They suggested that to be effective in outreach, WSD should work more closely with other service providers. WSD, public schools, ESDs, WSDS, and others have not collaboratively identified outreach priorities and developed a comprehensive plan to provide services in a manner that coordinates rather than duplicates expertise across the state.

How Do Operating Costs of WSD and Public School Programs Compare?

A comparison of operating costs among WSD and public schools must take into account that each receives funding differently. This difference influences calculations of per-student cost of service and the cost to the state of the different delivery models.

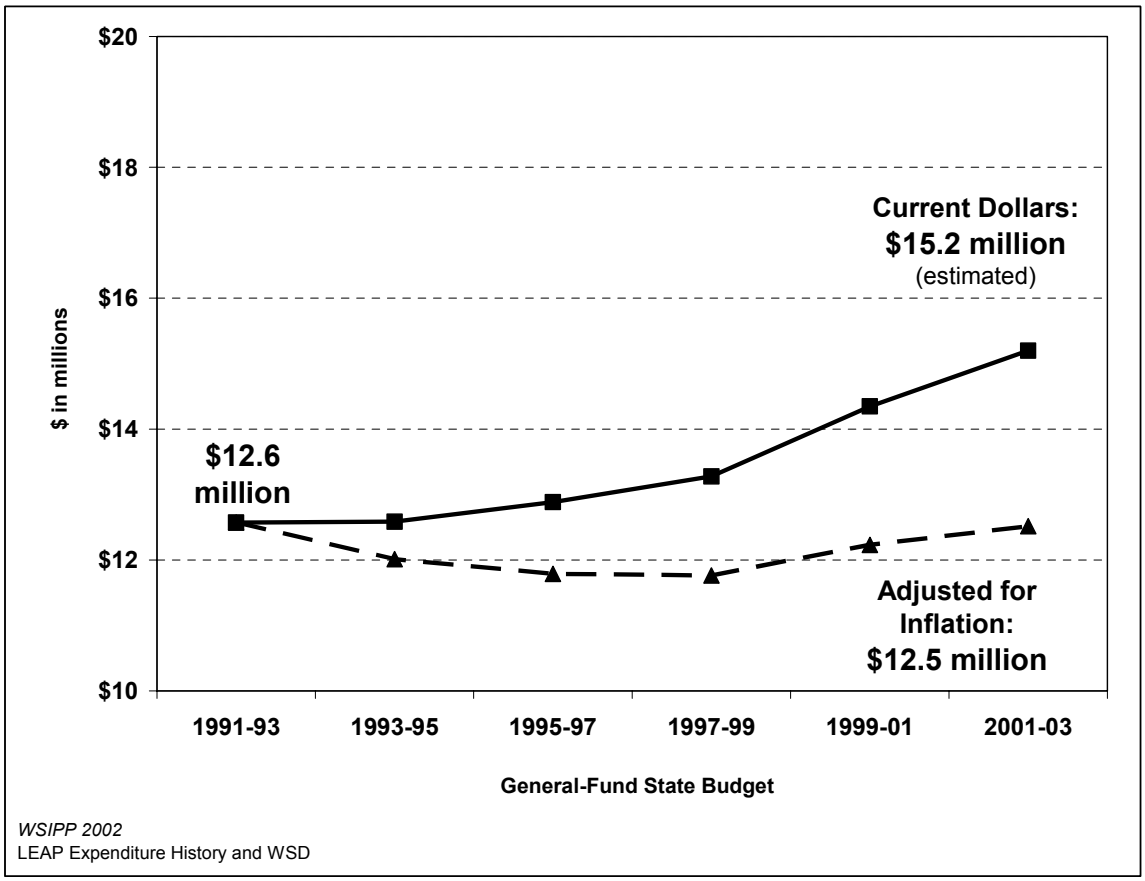
How WSD Is Funded

WSD is a state agency and receives a biennial appropriation from the legislature. The amount of funding does not fluctuate with the number of enrolled students. Approximately 94 percent of WSD's budget is from the state general fund, 1 percent from federal funds for special education and other education initiatives, and 5 percent from contracts with other agencies. The total appropriation for the 2001–03 biennium is $15.4 million, with $15.2 million from the state.

Over the last 12 years, appropriations for WSD have increased 21 percent (see Exhibit 16).[119] Before 1999, increases were due largely to legislatively authorized salary and benefit increases for employees. Recent enhancements have included funding for student safety initiatives and the outreach program. The 2002 supplemental budget also provided additional residential program staff. Adjusting for inflation, the WSD appropriation has actually declined by almost 1 percent over the last 12 years.

[118] WSD staff reported they have tried to be flexible in how they charge districts for outreach services, placing a top priority on getting necessary services to students who need them.
[119] LEAP Committee Expenditure History, <http://leap.leg.wa.gov/leap/oversight/index_finalh.asp>; 2002 Supplemental Operating Budget (ESSB 6387).

Exhibit 16
State Biennial Budgets for the Washington School for the Deaf: Twelve-Year History



WSIPP 2002
LEAP Expenditure History and WSD

Cost of Service at WSD

Because WSD is not funded on a per-student basis, the annual cost per student is heavily dependent on how many students are enrolled in a particular year. Enrollment at WSD over the past ten years has been declining while appropriations have increased. At the beginning of the 2001–02 school year, WSD had a total of 113 students. However, the superintendent maintains the school could serve 150 students within the same budget.[120] Exhibit 17 illustrates a breakdown of expenditures for 2001–02 and estimated per-student costs at two different enrollment levels.

[120] Interview with Len Aron, WSD Superintendent, February 6, 2002. As illustrated in Section II, average enrollment at WSD over the past ten years has been approximately 150 students.

Exhibit 17
WSD Estimated Costs: 2001–02

Expenditures by Program	
Administration and Overhead	$1,880,000
School (Pre-K–12)	2,770,000
Residential	2,207,000
Outreach	720,000
Total	$7,577,000

	Current	Ten Year Average
Enrollment		
Total	113	150
Residential	73	98*
Per Student Cost**		
Day	$32,600	$24,600
Residential + Day	$72,800	$54,700

WSIPP Summary of WSD FY 2002 Allotments.
**Assumes the same proportion of residential to total students as current.*
***Does not include Outreach in per student cost.*

How Public School Programs Are Funded

Nearly all state and most federal money for school districts is allocated on a per-student basis, so funding fluctuates between years (and within the school year) according to the number of students enrolled. School districts also have the ability to raise local funds through voter-approved levies. For 2000–2001, 72 percent of school district revenue was from the state, 8 percent was federal, and 20 percent came from local or other sources.[121]

The primary state allocation is for basic education. For each student in special education, additional funds are provided to supplement basic education funds. The funding formula for special education assumes an average cost per student, regardless of type of disability. Some students will require fewer, less costly supplemental services; others more. Districts that can demonstrate a need for additional funds outside these assumptions can apply for relief through the Special Education Safety Net.[122]

[121] OSPI, *Financial Reporting Summary 2000–2001*, F196 Detail Revenue Report.
[122] For more information on the safety net and special education funding, see Joint Legislative Audit and Review Committee, *K–12 Special Education Study*, Report 01-11, (Olympia, WA, December 12, 2001).

Exhibit 18 shows the estimated average state and federal funding per special education student for the 2000–2001 school year.[123] A statewide average of $1,055 per student from locally approved levies is not reflected, which may also benefit special education students.

Exhibit 18
State and Federal Funding for Public School Students in Special Education: 2000–2001 Estimated Statewide Average

Source	Funding Per Student
State Basic Education	$3,840
Special Education (state and federal)	4,160
Other State (transportation, block grant)	210
Other Federal (food services)	110
Total Average	$8,320

OSPI Financial Reporting Summary 2000–2001 and Report 1220 F: State Summary Special Education Allocation

Cost of Service in Public School Programs

Although Exhibit 18 provides an estimate of state and federal funding available per special education student, it says little about how much it costs to educate a deaf or hard of hearing student. Special classrooms tend to have very low staff-to-student ratios; deaf students in mainstream classes probably require a full-time interpreter. Hard of hearing students receive speech therapy and other assistance. Multi-handicapped students may receive a number of different services.

Because the needs of each individual student vary widely (and there are so few students), information on "average" costs of service for deaf and hard of hearing students should be interpreted with caution. There are, however, several sources of information on cost of services for deaf and hard of hearing students in public schools. Multi-district programs charge participating districts a per-student fee to cover the full cost of providing services. Most programs are staffed to serve deaf, rather than hard of hearing, students.

Three programs provided the following per-student fees to the Institute for the 2001–02 school year:

- Program 1: $19,600 to $22,700, depending on program enrollment
- Program 2: $13,500 to $18,900, depending on age and multiple disabilities
- Program 3: $16,000 to $28,700, depending on age

[123] The funding sources in Exhibit 18 cover 86 percent of all state and federal revenue to school districts. Funding for bilingual, vocational, or remedial education, class-size reduction, and levy equalization is not included. OSPI, *Financial Reporting Summary 2000-2001*, F196 Detail Revenue Report.

The average cost among the programs is $21,000. Costs to transport students from their home district to the program are paid separately by the home district and are not reflected.[124]

A second source of information is a recent study by JLARC. In 2000–2001, JLARC conducted a K–12 Special Education Study that included estimating the cost of services for special education students in 15 case study districts.[125] Among the case studies were 33 deaf and 65 hard of hearing students. Exhibit 19 illustrates the range of costs identified by the JLARC study.[126] Due to the limited number of districts and students, it is not known how representative these cost estimates are, although the average for deaf students in the case studies ($23,800) is similar to the per-student charge from the multi-district programs. It was not possible to differentiate costs among different types of public school programs (i.e., multi-district versus single district).

Exhibit 19
Per-Student Cost of Service From JLARC District Case Studies (Special Education and Basic Education)

	Deaf (N=33)	Hard of Hearing (N=65)
Average	$23,800	$8,800
Low	$5,430	$5,470
High	$55,360	$22,600

JLARC K–12 Education Study 2001; worksheets provided to the Institute.

Overall, it appears the cost of providing services to deaf students is above average compared with other special education students, regardless of whether students are at WSD or in public schools.[127] For public schools, the special education funding formula is intended to accommodate both above- and below-average costs.

Outreach and Itinerant Services

For 2001–02, WSD budgeted $720,000 for outreach and support. Most staff also provide services to WSD students. WSD is beginning to develop contracts with school districts to recover some of the cost of consultation and assessments and had seven contracts in place as of March 2002. Only one of the contracts involved ongoing services as opposed to a one-time consultation. ESDs charge participating districts for itinerant teachers in different

[124] The per-student cost for a day student at WSD without transportation is $30,000 at current enrollment levels and would be approximately $22,600 at ten-year average enrollment levels.
[125] JLARC, *K-12 Special Education Study,* 17.
[126] JLARC estimated the weekly cost of special education according to the minutes of service contained in students' individual education plans (IEPs). This does not reflect costs of educating a student while he or she is not receiving special education. However, the data allow a calculation of the proportion of time a student would be in basic education, the cost of which can be estimated using the per-student basic education allocation.
[127] Based on information provided by JLARC, the estimated special and basic education costs for the average special education student in the case studies was $9,100.

ways, but an estimated cost for one teacher providing services for 20 students is approximately $3,500 per student.[128]

Cooperative efforts such as outreach, itinerant teachers, and multi-district programs all rely on school districts' willingness and ability to pay to participate. According to program administrators, above-average costs of providing services for deaf and hard of hearing students can jeopardize cooperative efforts even if they enhance students' education.

Summary: Comparisons of Models of Education and Service Delivery

Learning Environment

- **WSD offers a different learning environment** than public school programs because all students receive direct instruction from a teacher of the deaf in **classrooms with other deaf and hard of hearing students**. Most students in public schools spend all or part of the day in mainstream classrooms with hearing students.

- WSD also provides an **ASL-intensive learning environment** due to the numbers of deaf students and staff communicating primarily through sign language and the after school and residential programs. Parent choice has a significant influence on students' modes of communication and where they attend school.

- **Both WSD and public school programs attempt to create a critical mass of students and specialized staff** with expertise in deaf education. However, in public school programs, the **presence of specialized staff is dependent on the type and size** of the program, and programs report **difficulty maintaining critical mass**.

- Students at WSD have a more **limited range of choices for high school electives** than students in a large public high school. Differences of opinion exist about **whether WSD is as academically rigorous** as a public school.

Effectiveness

- On average, **deaf and hard of hearing students have lower academic achievement** than hearing students. However, the research literature provides **no definitive evidence that a particular instructional setting or mode of communication is more academically beneficial** for students.

- Seniors at WSD and public schools have **similar graduation rates. Information on post-high school transition is limited** by the difficulty of locating sufficient numbers of students.

- Research generally concludes that **challenges of communication can affect deaf students' social development and participation in school.** The social and

[128] Telephone interviews with Robin Taylor, ESD 171 (November 2001) and Faye Fuchs, ESD 105 (January 2002).

communication opportunities at schools for the deaf are often cited as a reason for why students and parents choose this learning environment.

- Some suggest that, to be more effective, WSD, public schools, ESDs, and other service providers should work more closely to develop a **comprehensive plan for coordinated delivery of outreach services**.

Operating Costs

- **WSD is funded differently than public schools.** WSD receives a biennial appropriation that does not fluctuate with the number of enrolled students. When enrollment declines, the per-student cost of services increases. Most public school funding is provided on a per-student basis.

- Available information indicates the **current per-student cost of service at WSD is higher than in public schools**, on average. For 2001–02, the annual per-student cost at WSD is **$32,600 for a day student and $72,300 for a residential student** (who also attends class during the day), based on enrollment of 113 students. If enrollment had been 150 students, costs would be $24,600 and $54,700.

- On average, **public schools received $8,320** from state and federal funds for each special education student in 2000–2001. **Average costs of providing services for deaf students, however, can be $21,000 to $23,800 per student** in public school programs, with much wider variation depending on the student. Districts that can demonstrate a need for additional funds outside the funding formula assumptions can apply for relief through the Special Education Safety Net.

V. ALTERNATIVE MODELS OF EDUCATION AND SERVICE DELIVERY

The Legislature directed the Institute to "examine various educational delivery models for providing services and education for students through the Washington state school for the deaf."[129] Implicit in this charge is that the state envisions a role for WSD in providing services and education but that there could be alternative ways for WSD to fulfill this role.

Using the data and information collected for this study, the Institute developed four alternative models (with a total of seven options). This section describes the models and summarizes possible educational and fiscal implications of each. JLARC's report addresses the capital implications of these alternatives. It was outside the scope of this study to survey interest or demand by parents or others for the alternatives presented.

Overview of Alternative Models

The following models are examined in terms of how WSD could provide education and services. WSD could continue to offer a comprehensive program or focus its mission and service delivery on a particular population of students.

Exhibit 20
Alternative Models

Model	Summary
1. Comprehensive Program (Current)	Academic and residential program for students aged 3 to 21 at WSD Vancouver campus, supplemented by outreach services.
2. Focus on Day Students	
A. Vancouver Day Program	WSD offers day-only program on campus.
B. Vancouver + Satellite(s)	WSD day programs in Vancouver and other locations for students within commuting distance.
3. Focus on Secondary Students	
A. Comprehensive Secondary + Day Elementary	WSD residential program for older students only; day-only for younger students.
B. Comprehensive Secondary Program	On-campus academic and residential program at WSD for older students only.
4. Focus on Outreach*	
A. Improved Coordination of Outreach	Comprehensive plan developed by WSD with other outreach providers.
B. Expanded Outreach	Expand services to students not attending WSD under one of the other models.
**Outreach can be pursued along with any other model.*	

[129] ESSB 6153, Section 608, Chapter 7, Laws of 2001 Second Special Session.

Before moving to a description and analysis of each model, there are three points for consideration that apply to all models:

1) **Unknown impact on public schools.** As illustrated in Section IV of this report, the per-student allocation of state and federal funds to public schools is considerably less than current per-student funding to WSD. The state could save money if services are shifted from WSD to public schools. However, because costs of service vary widely depending on the needs of the student, it is not known how school districts would be affected financially if students currently at WSD return to public school programs. Some districts might need time to recruit appropriate staff to provide services for returning students (or make arrangements for the student to attend another district, if possible). A change in placement would necessitate reconsideration of students' individual education plans (IEPs). If the IEP continued to dictate a residential placement, public schools have the obligation under federal law to ensure this option is available through some means other than WSD.

2) **Fixed costs associated with Vancouver campus.** Two-thirds of the current WSD operating budget for administration and overhead represents fixed costs associated with the Vancouver campus (utilities, custodial, maintenance, etc.).[130] For many of the alternative models to be financially feasible, some overhead costs would have to be recovered through alternative uses of the current facilities. It is possible a smaller WSD program would incur lower administrative costs, but the Institute had no basis for assuming a reduction. This leaves a high percentage of administration and overhead in the scenarios and per-student costs illustrated below.

3) **Unknown feasibility of estimates based on per-student costs.** To calculate the costs of school and residential programs under the alternative models, the Institute relied on the 2001–02 WSD budget and the current per-student costs for these programs. Under each of the models, enrollment is significantly smaller than current WSD enrollment. At some minimum number of students, this method of estimating costs (enrollment times per-student cost) will not provide sufficient staff to sustain a program. It is not known whether the enrollment scenarios presented below are below this threshold. If policymakers wish to pursue an alternative model, additional work would be needed to determine feasibility, demand, program design, and cost.

Model 1: Comprehensive Program (Current)

WSD could continue to offer a comprehensive academic and residential program for students aged 3 to 21 at its Vancouver campus, supplemented by outreach services such as early intervention, in-service training, consultation and assessment, and special learning opportunities for parents and students. WSD could try to expand its leadership in providing education, services, and advocacy for deaf and hard of hearing students across the state.

Educational Implications. As demonstrated by this study, WSD is different from public schools. WSD primarily serves deaf students who rely on sign language for communication. The combination of relatively large numbers of deaf students together in

[130] Institute analysis of WSD allotments for 2001–02.

one place, staff who communicate using sign language, and the after-school and residential programs make WSD an ASL-intensive learning environment not replicated in even the largest public school program.

All students at WSD are educated in special classrooms with other deaf students and receive direct instruction from teachers of the deaf. With the exception of occasional students attending Running Start or a skills center, no students are educated in mainstream classrooms with hearing students.

Academic research studies do not indicate that separate schools for the deaf provide better or worse academic or social outcomes for all students. Research does reveal that different students learn better in different learning environments. Parents and students choose WSD primarily for reasons having to do with their preferred mode of communication and instructional setting, the desire for social interaction among deaf students, and involvement with Deaf culture. WSD is a resource for school districts with students whose IEPs dictate a residential placement.

Fiscal Implications. The primary reason given for closures of schools for the deaf in other states has been declining enrollment and corresponding increases in per-student cost. Enrollment at WSD has also gradually declined over the last 20 years. Concerns about student safety probably contributed to recent drops, but WSD hopes to encourage new enrollment through its outreach efforts. In the long run, the general trend to educate students in local schools, combined with the expansion of cochlear implants and other technological assistance for deaf children, provides no reason to expect dramatic enrollment increases at WSD.

The 2001–02 budget for WSD is $7.58 million. At current enrollment levels, the per-student cost at WSD is $32,600 for a day student and $72,800 for a residential student. If enrollment again reached its ten-year average of 150 students, the cost would be $24,600 and $54,700, respectively.

Model 2: Focus on Day Students

Model 2A: Vancouver Day Program

WSD could offer a day-only program in Vancouver with no residential component. There is a large Deaf community in the Vancouver/Portland area, and WSD could continue to provide local families with an educational alternative to public schools and the private school in Portland. Families living elsewhere in the state could relocate or be served through outreach. At current enrollment levels, there would be 27 Pre-K–8 students and 13 high school students under this model.

Educational Implications. With fewer students, the attributes of critical mass that lead educators to group deaf and hard of hearing students together could be difficult to sustain: classrooms of students of similar ages and stages of development, direct instruction from teachers of the deaf, and various specially trained support staff. There are large and multi-district public school programs serving fewer than 50 deaf students with direct instruction

and specialized staff, but these programs are part of a larger school, and students spend varying proportions of their time in mainstream classrooms. Forty-one percent of the current students at WSD would be returning to school districts with fewer than ten deaf students, although some may be able to attend a multi-district or teacher of the deaf program in a neighboring district.

Because operating a separate high school for approximately 15 students is unlikely to be feasible, Model 2A in effect is an "elementary-only" option.[131] This runs counter to current enrollment trends, where more than half of WSD students are in high school.

There are three Pre-K through secondary state schools for the deaf with enrollment of fewer than 50 students (North and South Dakota and Vermont). Two states (Rhode Island and Massachusetts) operate day schools but no residential school.

Fiscal Implications. The possible costs illustrated in Exhibit 21 are based on an elementary school program for 27 day students (assuming a high school program would not be feasible for 13 students). As mentioned above, assumptions about fixed costs and school costs would need further refinement if policymakers wish to explore Model 2A.

Exhibit 21
Possible Costs: Model 2A (Vancouver Day Program)

	Current	Vancouver Day Program
Administration and Overhead	$1,880,000	$1,880,000
School	2,770,000	655,000
Residential	2,207,000	0
Outreach	720,000	720,000
Total	**$7,577,000**	**$3,255,000**
Enrollment	**113**	**27**
Per Student	**$32,600**	**$57,400**

Based on 2001–02 WSD Budget and Enrollment

Students currently enrolled at WSD would presumably return to local public schools, and districts would receive state and federal allocations of approximately $8,320 per student to support their education (based on statewide averages in 2000–2001). For 86 students, over $700,000 would be allocated to public schools.

[131] No Washington school district operates a high school of fewer than 20 students, although there are several alternative schools with enrollment as low as 30. Some local private schools for the deaf have similar small numbers of students, but none serve high school students on-campus.

Model 2B: Vancouver + Satellite(s)

A second day-only option for WSD would be to continue services at the Vancouver campus and create satellite campuses where there are sufficient numbers of students within commuting distance. As with Model 2A, Model 2B is likely to be feasible only for elementary students. The outreach program in Vancouver could support the satellites with itinerant expert staff, such as a psychologist, ASL specialist, etc. Enrollment at WSD (using 2001–02 enrollment) would be 27 students. Possible enrollment at satellite campuses is discussed below.

Educational Implications. Several issues arise when considering satellite WSD programs for elementary students:

- ***Critical Mass.*** WSD currently serves primarily deaf, as opposed to hard of hearing, students. Presumably, this would also be the target population for a satellite program. The Institute examined OSPI data showing the resident school district for deaf students in special education aged 3 to 13 (Pre-K–8). If it is assumed that approximately 15 deaf elementary students within a 40 mile radius might constitute a critical mass for a satellite program, there are three potential locations in the state not currently served by a multi-district program or WSD's Vancouver campus: Spokane, Yakima, and the Tri-Cities.[132]

- ***Instructional Setting.*** Theoretically, WSD could operate in the same location as a multi-district program because each offers a different instructional setting. As such, a WSD satellite could be located in a population center such as Seattle and offer parents an alternative to current public school programs. However, a WSD satellite might draw students away from existing multi-district programs and affect the critical mass of students in those programs.

  Alternatively, instruction at a WSD satellite could be modeled after multi-district programs (e.g., located within a public school, include mainstream classroom instruction). WSD has limited experience in providing mainstream public school education for deaf students but might choose this approach as more feasible for a small satellite. Because it is not known which instructional approach WSD would use, this analysis reflects fiscal assumptions for both.

- ***Demand.*** Some parents are satisfied with their local school and do not want their students to commute, even if a special program is located within reasonable distance. Parent and student preference in mode of communication and instructional setting play a large part in where deaf students attend school. There are no indicators of level of demand for a WSD satellite program absent a residential component to WSD.

[132] There are school districts in each of these areas that operate teacher of the deaf programs and enroll some students from other districts at parent request, but they do not operate multi-district programs intended to draw students from around the region. The Institute does not assert that 15 students constitutes a critical mass. Rather, between 12 and 15 students was the largest grouping of deaf elementary students to be found within a 40 mile radius outside Vancouver and the Puget Sound. The presence of multi-handicapped students could increase the potential population for a satellite program.

Fiscal Implications. As described above, a WSD day program in Vancouver could cost $3.3 million for 27 elementary students (a figure that includes administration and fixed costs of the Vancouver campus). Possible costs of a WSD satellite are shown in Exhibit 22, but the analysis is complicated by several factors:

- ***Unknown Enrollment.*** No indicator of demand exists for a WSD satellite. A hypothetical enrollment of 25 students is used below.

- ***Choice of Instructional Setting.*** The cost to operate a satellite depends on whether the program is operated within a larger public school or run separately in order to mirror WSD's current approach to education for deaf students. The average charge for an elementary student in a multi-district program is $21,000.[133] At current enrollment and budget, WSD per-student cost is $32,600 (including administration and overhead). It is not known whether a separate program could be sustained for 25 students at this funding level. Exhibit 22 reflects a range of costs, depending on the setting.

- ***Who Pays.*** If the state supports WSD satellites in the same geographic location as a multi-district program, districts that currently pay to participate in a cooperative might have an incentive to cease their participation and encourage students to enroll in the satellite. If the state expects WSD satellites to charge fees to participating districts, demand for this new service may be limited. Current multi-district programs cite maintaining district participation as a significant challenge.

Exhibit 22
Possible Costs: Model 2B (Vancouver + Satellite)

	Current	Vancouver + Satellite
Administration and Overhead	$1,880,000	$1,880,000
School	2,770,000	655,000
Residential	2,207,000	0
Outreach	720,000	720,000
WSD Vancouver	$7,577,000	$3,255,000
WSD Satellite	0	$525,000 – $815,000
Total	**$7,577,000**	**$3,780,000 – $4,070,000**
Enrollment		
Vancouver	**113**	**27**
Satellite	**0**	**25**
Per Student		
Vancouver	**$32,600**	**$57,400**
Satellite	**0**	**$21,000 – $32,600**

Based on 2001–02 WSD Budget and Enrollment and hypothetical satellite program of 25 students.

[133] This represents the average cost from multi-district programs that supplied information to the Institute.

It is not possible to estimate a public school fiscal impact from Model 2B. Some current WSD students would return to public schools; some public school students may shift to the new satellite option.

Model 3: Focus on Secondary Students

Model 3A: Comprehensive Secondary + Day Elementary

WSD could offer an academic and residential program for secondary students and allow local families to send younger students to the school for a day-only program. At 2001–02 enrollment levels, there would be 62 high school students and 27 Pre-K–8 day students, for a total of 89 students.

Model 3B: Comprehensive Secondary Program

Under this option, WSD would focus its on-campus program on secondary students. At 2001–02 enrollment levels, there would be 62 high school students. If WSD included grades 7 and 8 in a junior-senior high configuration, there could be 81 students.

Educational Implications. A focus on secondary school students follows current enrollment trends. Most WSD students are in high school, and 79 percent live on campus. Nearly 30 percent of deaf high school students in the state attend WSD. The reason cited most often for students attending WSD is for social development, including the opportunity for direct communication with teachers and peers and full participation in classroom and extra-curricular activities. Some deaf students, as they reach adolescence, feel increasingly isolated in schools with few other deaf peers, which can lead to problems with academics, self-esteem, and behavior.

However, parents wanting to enroll their deaf children in an ASL-intensive learning environment from an early age would have to relocate to Vancouver under Model 3A. Under Model 3B, they would not have this educational option within Washington. Most national research is clear that early exposure of deaf children to language is associated with later literacy and academic achievement. Deaf parents in particular are more likely to enroll their deaf children in schools for the deaf for both linguistic and cultural reasons. No other state operates a school for the deaf only for secondary students.

Fiscal Implications. The fiscal estimates in Exhibit 23 are subject to the same limitations as those presented above: high fixed costs associated with maintaining the Vancouver campus and uncertain feasibility when school or residential costs are calculated on a per-student basis.

Exhibit 23
Possible Costs: Model 3 (Focus on Secondary)

	Current	Model 3A: Comprehensive Secondary+ Day Elementary	Model 3B: Comprehensive Secondary Program
Administration and Overhead	$1,880,000	$1,880,000	$1,880,000
School	2,770,000	2,187,000	1,532,000
Residential	2,207,000	1,482,000	1,482,000
Outreach	720,000	720,000	720,000
Total	**$7,577,000**	**$6,269,000**	**$5,614,000**
Enrollment			
Total	**113**	**89**	**62**
Residential	**73**	**49**	**49**
Per Student			
Day	**$32,600**	**$35,100**	**$37,100**
Residential + Day	**$72,800**	**$78,300**	**$82,600**

Based on 2001–02 WSD Budget and Enrollment.

Students returning to public schools from WSD would generate $200,000 in state and federal allocations under Model 3A and approximately $425,000 under Model 3B.

Model 4: Focus on Outreach

The two models focusing on outreach services for students not attending WSD can be implemented simultaneously with or in lieu of any of the models presented above.

Model 4A: Improved Coordination of Outreach

WSD has created a strategic plan for its own outreach efforts, but no statewide plan exists for outreach services that includes WSD, public schools, ESDs, WSDS, and other current service providers. The legislature could direct OSPI and WSD to convene a workgroup to identify outreach priorities, develop a comprehensive plan to provide services in an effective and efficient manner, and coordinate implementation on an ongoing basis. As part of the plan, OSPI and WSD could examine whether establishing regions for service delivery (similar to Arizona or Nebraska) would improve coordination.

Fiscal Implications. There are no additional costs estimated for this model.

Model 4B: Expanded Outreach

WSD could work with local schools, ESDs, and other organizations to house itinerant experts (teachers of the deaf, psychologists, early intervention specialists) in regional

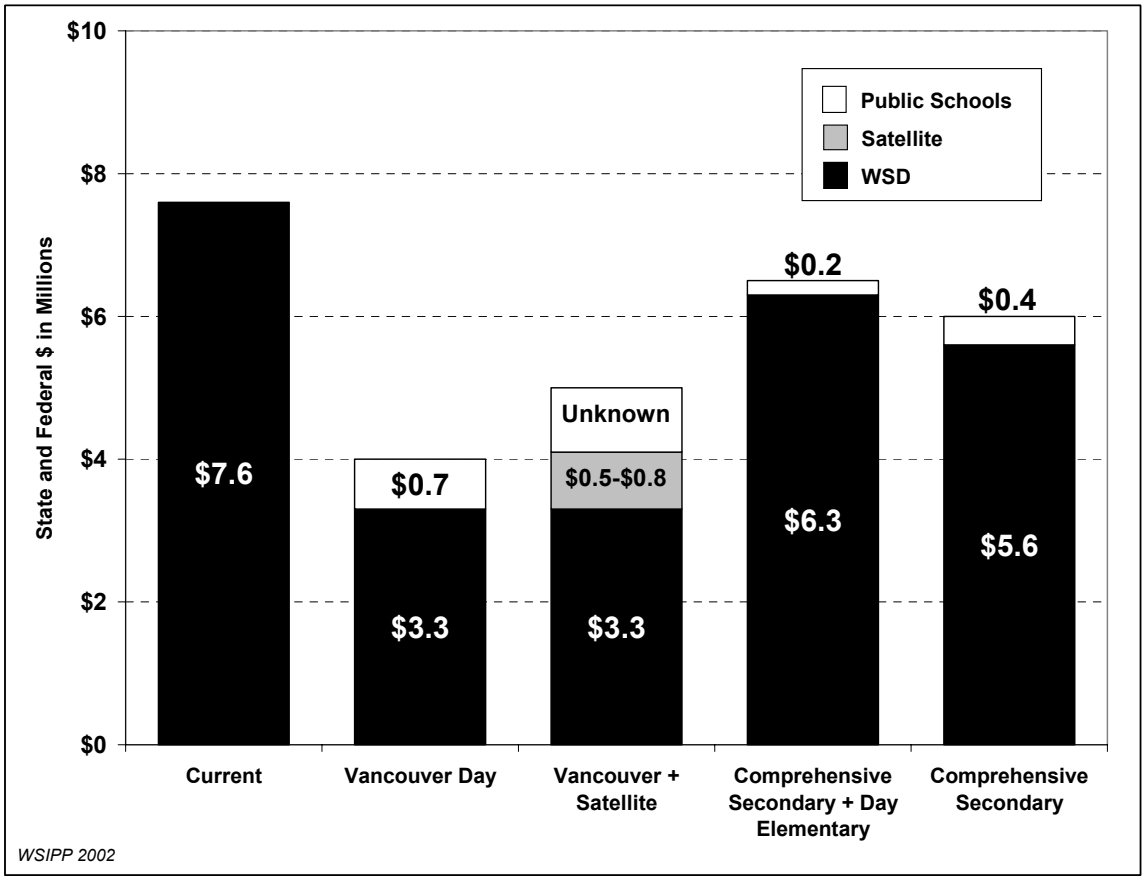
centers across the state and create regional special learning opportunities for deaf students living a long distance from Vancouver. Use of the K–20 network could be expanded for interpreter and teacher in-service training and direct instruction of students.

Fiscal Implications. Further work would be needed to prioritize and calculate the costs of expanded outreach. A key question for policymakers is whether to recapture some or all of the costs of expanded outreach from participating school districts. WSD's current outreach program is too new to estimate district demand or willingness to pay for ongoing services. Models of regional outreach that include direct instruction in Texas and Oregon are supported by state and federal resources.

Cost Comparison of Models

Exhibit 24 summarizes the possible state and federal fiscal impact of the alternative models (with the exception of outreach). As described above, fixed costs associated with WSD's Vancouver campus and administrative overhead remain constant for each scenario. The amounts for public schools reflect state and federal allocations for students who attended WSD in 2001–02 but would presumably enroll in public schools under the new model. The actual cost of services for these students in public schools is not known.

Exhibit 24
Comparison of Alternative Models: State and Federal Dollars



Summary: Alternative Models of Education and Service Delivery

- The Institute examined **four alternative models** (a total of seven options) for WSD to provide education and services for deaf and hard of hearing students in Washington. WSD could continue to offer a **comprehensive program** or **focus** its mission and service delivery on a **particular student population**.

- **All alternatives would cost the state less** than the current model because students would shift from WSD to public schools, and the per-student state allocations to public schools are considerably less than WSD. The full educational and fiscal impact of shifting students to public schools is not known.

- Other fiscal issues to consider are how to address **fixed costs associated with the Vancouver campus,** the **unknown feasibility of estimates** based on current per-student costs, and **who pays to support outreach** or cooperative programs.

- **Each alternative presents trade-offs** for parents, students, educators, and policymakers:

    - Under Model 1 **(Comprehensive Program or Current),** WSD could continue to provide a **unique educational option** for students of all ages. However, because there is **little reason to expect dramatic future increases** in enrollment, the costs of this service are not expected to decline.

    - At current enrollment levels, Model 2 **(Focus on Day Students)** is, in effect, an "**elementary-only**" model, which runs counter to enrollment trends. WSD could potentially operate satellite day programs, but there are **few locations in the state** where a **critical mass of deaf students** live who are **not already served** by either WSD or a multi-district public school program.

    - Model 3 **(Focus on Secondary Students) follows current enrollment trends** in targeting on-campus academic and residential programs only for older students. However, **parents who want WSD's educational setting for their young children** for linguistic or cultural reasons **would have to move to Vancouver or not have this option** within Washington.

    - Model 4 **(Focus on Outreach) could be pursued in combination with other models.** WSD, OSPI, public schools, and others could create a **comprehensive plan** to provide outreach services to maximize effectiveness and efficiency across multiple providers and/or **expand outreach** services for students who would not attend WSD under one of the other alternative models.

CONCLUSION

The 2001 Legislature directed the Washington State Institute for Public Policy to examine various educational delivery models for providing services and education for students through the Washington School for the Deaf. Based on data collection and analysis, review of national research literature, and interviews and site visits, the Institute presents the following study findings and alternatives.

Student Characteristics and Enrollment Trends

At least 494 deaf and 1,029 hard of hearing students aged 3 to 21 received special education in public schools or WSD in 2001, not including students with multiple disabilities or students with hearing loss but not in special education. Approximately 40 percent of deaf and hard of hearing students in Washington may have multiple disabilities. Hearing loss is a low-incidence condition, which means that students are spread thinly across the state. More than 80 percent of school districts reported either no deaf and hard of hearing students or fewer than ten deaf and hard of hearing students living in the district in 2001.

More than 90 percent of deaf and hard of hearing students currently attend public schools, and enrollment at WSD has steadily declined over the last 30 years. Students who attend WSD are more likely to be deaf, rather than hard of hearing, and high school-aged students are more likely to attend than younger students. WSD attracts local students from the Vancouver area, as well as those from more isolated districts where there are few other deaf or hard of hearing students. WSD does not appear more likely to enroll students with multiple disabilities, although it is difficult to assess cognitive disabilities for deaf students. The primary reason students attend WSD is for social development, including the opportunity to communicate directly with teachers, staff, and other students using sign language and participate fully in school and after-school activities.

Current Models of Education and Service Delivery and Their Effectiveness

WSD provides a Pre-K through 12th grade educational program on the Vancouver campus for day and residential students, as well as outreach services for students attending public schools. Forty-three other states provide a similar model through a state school for the deaf. Public school programs may be multi-district (intended to draw students from surrounding areas to offer specialized services) or single district (operated primarily for students living within the district). The chief distinction among different types of single district programs is the number of students and access to specially trained staff.

WSD offers a different learning environment than public school programs and focuses on a particular mode of communication. Parental choice has a significant influence on a deaf student's mode of communication and the instructional setting believed to be most appropriate and least restrictive. These two issues have long been the subject of debate.

The research literature provides no definitive evidence that a particular instructional setting or mode of communication is more likely to be academically beneficial or effective for students. Deaf and hard of hearing students continue to have lower academic achievement than hearing students, on average. This is largely due to delays in acquiring language, which affects literacy.

The current per-student cost of service at WSD is higher than the average in public school programs. This is partly due to how WSD is funded: through a biennial appropriation that does not fluctuate with the number of enrolled students. The overall cost to the state for WSD services is also higher than the state cost for public schools. Deaf students incur above-average costs, but state funding to public schools for special education is based on an average cost of service.

A number of entities provide outreach services to supplement students' education. To be more effective, WSD could work more closely with public schools, OSPI, ESDs, and other service providers to develop a comprehensive plan for coordinated delivery of outreach services.

Alternative Models of Education and Service Delivery

WSD could continue to offer a comprehensive day, residential, and outreach program for students of all ages (the current model), or focus its mission and service delivery on a particular student population. Alternatives include the following:

- Focus on Day Students (only in Vancouver or at additional satellite locations).
- Focus on Secondary Students (serving elementary students through day-only or outreach-only).
- Focus on Outreach (through coordination and/or expansion of services to students who do not attend WSD).

All alternatives could cost the state less than the current model. However, the per-student cost of each alternative is higher than the current model because enrollments under each alternative are reduced, and there are fixed costs associated with the Vancouver campus. There is no reason to expect dramatic future increases in enrollment at WSD.

Each alternative presents educational and fiscal trade-offs for parents, students, educators, and policymakers. The Institute does not make a recommendation of one model over another because neither the research literature nor information collected for this report provide a single solution for providing education and services for deaf and hard of hearing students that is without drawbacks or limitations.

APPENDIX A. STATE-DIRECTED STUDIES OF THE WASHINGTON SCHOOL FOR THE DEAF, 2001–2002

In addition to legislatively directed studies conducted by the Institute and the Joint Legislative Audit and Review Committee (JLARC), five other studies and reviews of WSD occurred during 2001 and 2002. The major areas of focus were student safety, student conduct, the school's residential program, and governance issues.

Exhibit A-1
Other State-Directed Studies of the Washington School for the Deaf (2001-02)

Report Date	Conducted By	Major Topics Addressed
May 2001	Dr. Henry Klopping, California School for the Deaf, Fremont (Directed by Governor Locke)	Reviews the residential program at WSD: • Residential staffing ratios and qualifications • Residential policies and procedures • Student development programs • Student supervision • Residential environment • Family involvement
June 2001	Dr. Kenneth Randall, Arizona State Schools for the Deaf and Blind (Directed by Governor Locke)	Examines governance of WSD with the objective of increasing responsibility and accountability, including roles of the Governor, WSD Superintendent, and WSD Board of Trustees.
September 2001; January 2002	Governor's WSD Safety Changes Monitoring Panel (A six-person panel appointed by Governor Locke)	Reviews and monitors implementation of changes ordered by the Governor to increase student safety: • Admission and expulsion policies • Staffing models to ensure supervision • Training and curriculum on emotional and behavioral disturbances and abuse • Behavioral management policies • Incident documentation
November 2001	Office of the Family and Children's Ombudsman	Investigates sex-related incidents involving WSD students from 1995–96 through 2000–2001 school years.
January 2002	Department of Social and Health Services, Division of Licensed Resources	Describes the first annual review (directed by the Governor) of operations and staffing in the residential program and incident reporting.

APPENDIX B. SCHOOLS FOR THE DEAF IN OTHER STATES

This appendix summarizes how other states operate schools and regional programs for the deaf.

State Schools for the Deaf [134]

Nearly all states (46) operate a school for the deaf. States vary, however, in the number and type of schools for the deaf they maintain.

Residential Schools for the Deaf

Most states (44) operate a school for the deaf that includes a residential program. Washington D.C. also has a federally-supported residential school for the deaf, operated by Gallaudet University, that admits students from all over the United States. Thirty-six states operate only one residential school for the deaf, and eight states[135] have more than one. States with more than one residential school tend to be large geographically and have sizeable populations. In these states, the schools are located in different regions of the state in order to be able to serve students closer to home. In all, 57 public residential schools for the deaf operate in the United States.

Day-Only Schools for the Deaf

There are at least 12 day-only (i.e., without a residential program) public schools for the deaf in the United States. Most are located in states where there is also a residential school, but two states only have a day school.

Day-Only and Residential. Six states[136] have both day-only and residential schools for the deaf. Day-only schools in these states usually target a local population in a large city (e.g., Arizona's Phoenix Day School for the Deaf and Georgia's Atlanta Area Day School for the Deaf) rather than the entire state.

Day-Only. Two states (Rhode Island and Massachusetts) only have a day school for the deaf. Rhode Island previously had a residential school, but it was converted to a day-only school in 1974, due in part to declining enrollment. Also, because Rhode Island is geographically small, students from around the state can commute to the school (located in

[134] Data from this section were gathered from Gallaudet University's Annual Survey of State Schools, published in the *American Annals of the Deaf* (April 2001), "Educational Programs for Deaf Students," unless otherwise noted.

[135] California, Maryland, New York, North Carolina, Pennsylvania, Tennessee, Utah, and Virginia. Four out of five of New York's residential schools for the deaf are technically private, but they are designated as "state-supported schools" by the state legislature and essentially function as public schools for the deaf.

[136] Arizona, Georgia, Michigan, New Jersey, New York (again, most are "state-supported private schools") and Pennsylvania. Gallaudet University also operates a day-only elementary school.

Providence) on a daily basis.[137] Massachusetts, rather than operating a state residential school, pays to enroll deaf and hard of hearing students in either of two private residential schools for the deaf in the state.[138] There is also one public day school for the deaf in the Boston area.

States With No Schools for the Deaf

There is no federal requirement for a state to have a school for the deaf.[139] Four states (New Hampshire, Nevada, Nebraska, and Wyoming) do not currently operate a state school for the deaf. According to staff at their respective departments of education, New Hampshire and Nevada have never operated schools for the deaf, and most of their deaf and hard of hearing students attend local school district programs.[140]

Nebraska closed its residential school for the deaf after the 1997-98 school year due to diminishing enrollment and increasing per-student costs. At the time, there were fewer than 40 students enrolled at the Nebraska School for the Deaf. Nebraska has since established regional day programs to fill gaps in services left from the school's closure. The state also helps local school districts pay tuition and residential costs at nearby states' schools for the deaf for students who require a residential program according to their Individual Education Plan (IEP).[141]

Though it was never a large school, the Wyoming School for the Deaf closed after enrollment dropped below ten students in 2000.[142] Most of Wyoming's deaf and hard of hearing students now attend local public schools. Some students go to other states' residential schools, paid for by the state of Wyoming, when their IEPs call for a residential setting. The Wyoming School for the Deaf is now primarily an outreach agency that provides support to students and teachers throughout the state.[143]

Exhibit B-1 provides information for all 50 states, plus Washington D.C.

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[137] Interview with Rick Clarkson, Rhode Island School for the Deaf, November 30, 2001.
[138] Interview with Madeline Levine, Massachusetts Department of Education, Office of Special Services, February 13, 2002. Other states also have "approved private schools" for which the state will cover tuition and residential costs when determined appropriate by students' IEPs.
[139] The federal IDEA requires that education agencies (such as school districts) make a continuum of alternative placements *available* to students, including residential and special schools: 34 CFR § 300.551. Federal law does not say that states must *operate* special or residential schools.
[140] Telephone survey of staff in the NV Department of Education and Office of Community Based Services, December 2001 and January 2002, and the NH Department of Education, November 2001. Some students in these states attend private or local charter schools for the deaf.
[141] Editorial, "An Acceptable Plan," *The Hastings Tribune* (March 25, 1998).
[142] Robert Kellogg, "Times Change… Schools Succeed… And Close," *Perspectives in Education and Deafness* 17 (1998): 4; David Eisenhauer, "Wyoming School for the Deaf No Longer Accepting Students," *Casper Star-Tribune* (June 29, 2000).
[143] Interview with Rebecca Walk, Director, Special Education Services, Wyoming Department of Education, March 18, 2002.

Exhibit B-1

Summary of State Schools for the Deaf[144]

State	Number of Residential Schools	Number of Public Day Schools	Year Founded	2000–2001 Enrollment[145]	Grade Levels[146]
Alabama	1	0	1858	250	Pre-K-12
Alaska	1	0	1972	57	Birth-12
Arizona	1	1	1912	190*	K-12+[147]
Arkansas	1	0	1850	226	K-12
California	2	0	1860	939	Birth-12
Colorado	1	0	1874	244*	Birth-12+
Connecticut	1	0	1817	205	Birth-12
Delaware	1	0	1929	149	Pre-K-12
Florida	1	0	1882	507*	Pre-K-12+
Georgia	1	1	1846	107	Birth-12+
Hawaii	1	0	1918	76*	Pre-K-12
Idaho	1	0	1906	95*	Pre-K-12
Illinois	1	0	1839	280	Birth-12
Indiana	1	0	1843	300	Birth-12
Iowa	1	0	1855	254	Pre-K-12+
Kansas	1	0	No data	150	Pre-K-12
Kentucky	1	0	1823	180	K-12
Louisiana	1	0	1852	350	Pre-K-12
Maine	1	0	1876	77	Pre-K-12
Maryland	2	0	1868	504	Birth-12[148]
Massachusetts	0	1	1869	N/A	N/A
Michigan	1	1	1848	105*	Pre-K-12+
Minnesota	1	0	1863	150	Pre-K-12
Mississippi	1	0	1854	No data	K-12

[144] Data in this table were collected from the *American Annals of the Deaf* April 2001 annual reference volume, "Educational Programs for Deaf Students." Missing data were filled in wherever possible by searches of schools for the deaf websites (when available) and contacts with schools for the deaf staff.
[145] Residential schools only.
[146] Residential schools only. For states with more than one school, the full range of grades between all schools is given.
[147] 12+ indicates that "post-high school" services are available, because the IDEA mandates that education be provided for students with disabilities until they are 21, if needed.
[148] One of Maryland's schools is one of two schools in the nation that does not have a high school. The other is in Tennessee, which also has two schools.

Exhibit B-1, continued

State	Number of Residential Schools	Number of Public Day Schools	Year Founded	2000–2001 Enrollment[149]	Grade Levels[150]
Missouri	1	0	1851	138	K-12
Montana	1	0	1893	125*	Pre-K-12
Nebraska	0	0	No data	N/A	N/A
Nevada	0	0	N/A	N/A	N/A
New Hampshire	0	0	N/A	N/A	N/A
New Jersey	1	1	~1883	235	Birth-12+
New Mexico	1	0	1887	130	Pre-K-12
New York	5	4	1817	895	Birth-12+
North Carolina	2	0	1892	160	Pre-K-12+
North Dakota	1	0	1890	35	Pre-K-12+
Ohio	1	0	1826	No data	Pre-K-12
Oklahoma	1	0	1898	177	Pre-K-12
Oregon	1	0	No data	130	K-12+
Pennsylvania	2	1	1869	430	Birth-12+
Rhode Island	0	1	1876	N/A	N/A
South Carolina	1	0	1849	359*	Birth-12+
South Dakota	1	0	1880	52	Pre-K-12
Tennessee	2	0	1844	245	Pre-K-12
Texas	1	0	1856	455	Pre-K-12+
Utah	2	0	1896	727*	Birth-12+
Vermont	1	0	1904	56	Pre-K-12
Virginia	2	0	1839	170*[151]	Birth-12+
Washington	1	0	1886	150*	Birth-12+
West Virginia	1	0	1870	No data*	Pre-K-12
Wisconsin	1	0	1852	165	Pre-K-12
Wyoming	0	0	No data	N/A	N/A

*School combines deaf, hard of hearing, and blind students, which inflates the total enrollment for deaf and hard of hearing students. These schools were excluded from the analysis of enrollment at schools for the deaf for this report.

[149] Residential schools only.
[150] Residential schools only. For states with more than one school, the full range of grades between all schools is given.
[151] Includes only one school's enrollment due to missing data.

Characteristics of State Residential Schools for the Deaf

History. Most state residential schools for the deaf (70 percent) were established during the 19th century, though some have been founded as recently as 1986.[152] The Washington School for the Deaf was founded in 1886.

Enrollment. Most residential schools for the deaf enroll students aged 3 through 21 and offer a Pre-K through 12th grade educational program.[153] The median enrollment is approximately 180 students. The majority of schools (over 60 percent) enroll more than 150 students, and approximately 25 percent have enrollment levels similar to WSD (between 100 and 150 students). The largest school for the deaf (in California) enrolled 485 students during the 2000-2001 school year, and the smallest (in North Dakota) enrolled 35 students.

Mode of Communication. As with WSD, state residential schools for the deaf focus on the use of sign language (usually ASL) for instruction and social communication. The majority (65 percent) use some combination of sign and speech, and about a third (35 percent) use sign language only. No state schools use an exclusively oral approach.

Trends. Schools for the deaf across the nation report trends that are also occurring in Washington.[154]

1) ***Declining Enrollment.*** Most schools for the deaf have experienced gradual decreases in enrollment over the last few decades.[155] This has occurred as parents and educators have interpreted the IDEA as a preference for mainstream settings whenever possible. As a result, more programs for deaf and hard of hearing students are now available in local public schools.

2) ***Expanded Outreach.*** Most schools for the deaf now provide outreach services on a statewide basis. Amendments to the IDEA in the 1980s and early 1990s required that state education agencies provide early intervention services for preschool age children with disabilities. Schools for the deaf have usually been designated as the lead agency for this purpose.[156] WSD is one of the major providers of outreach services for deaf and hard of hearing in Washington. Schools for the deaf most frequently provide

[152] School histories were obtained through website searches and brief telephone surveys with staff.
[153] Two schools do not enroll high school students, but both of these are in states that have another residential school for the deaf that does enroll high school students. Many schools also offer "Birth to Three" programs (sometimes called "Parent-Infant Programs").
[154] In addition to examining national research literature and Gallaudet University's Annual Survey of State Schools, the Institute surveyed schools for the deaf in the following states: Alaska, Arizona, Massachusetts, Nebraska, North Carolina, Oregon, Ohio, Nevada, New Hampshire, New York, Rhode Island, Texas, and Wyoming. States were selected to represent different configurations of schools for the deaf and different areas of the United States.
[155] Priscilla Gutierrez, "A Preliminary Study of Deaf Educational Policy," *Bilingual Research Journal* 18 (1994): 86-87.
[156] Helen Craig, "Parent-Infant Education in Schools for Deaf Children: Before and After PL 99-457," *American Annals of the Deaf* 137 (1992): 69-70.

audiological and psychological assessments, parent education, and technical assistance for mainstream teachers.[157]

3) ***More Students With Multiple Disabilities.*** Schools for the deaf are serving increasingly more deaf and hard of hearing students with multiple disabilities. School administrators attribute this trend to medical advances that have treated premature infants, resulting in a greater number of children with learning disabilities. Also, schools are identifying more students as having emotional/behavioral disorders (troubled deaf youth), and few states have programs available for them. All schools for the deaf are struggling to serve students with both types of additional disabilities because they require significantly different approaches to instruction than deaf and hard of hearing students in general.[158]

Regional Programs

Some states, in addition to or instead of operating a residential school, have created regional programs for deaf and hard of hearing students who attend local public schools. There are two models of regional programs: those that provide instruction for students, and those that primarily offer technical support to schools and early intervention services for families.

Direct Instruction Model

Two states surveyed by the Institute operate regional programs similar to the multi-district programs in Washington: Texas and Oregon. There are, however, two key differences between these types of programs and the multi-district model in Washington:

1) ***Statewide Coordination.*** Texas and Oregon have established official regions that form the boundaries of regional programs. Deaf and hard of hearing students requiring specialized instruction are assigned to the program within their home region. Washington's multi-district programs are self-created; whether students enroll or not depends on awareness of the program, parental preference, and existing relationships between districts.

2) ***Funding.*** Regional programs in Texas and Oregon receive most of their funding directly from the state legislature or department of education. Students' home districts usually pay a small portion of program costs. In Washington, multi-district programs rely exclusively upon inter-district contracts to maintain services.

Texas. The Texas Legislature established regional day programs in 1974 to give deaf and hard of hearing students the option of attending classes specifically for deaf and hard of hearing students while still living at home. The Legislature divided the state into five regions and mandated that at least one day program be established in each region. The Texas

[157] Gilbert Delgado, "Outreach: The Resource of State Schools for the Deaf," *American Annals of the Deaf* 138 (1993): 412.
[158] John Luckner and Kathy Carter, "Essential Competencies for Teaching Students with Hearing Loss and Additional Disabilities," *American Annals of the Deaf* 146 (2000): 8.

Special Education Department oversees the programs and channels state and federal special education funds to the schools that house them. In 2001–02, 59 regional day programs enrolled approximately 4,500 deaf and hard of hearing students.[159]

Oregon. The 1988 Oregon Legislature created eight regional itinerant teacher programs for deaf and hard of hearing students. The state superintendent of public instruction was directed to select a school district or educational service district within each region to staff and manage a deaf and hard of hearing support services program. Each regional program includes at least one expert in deaf education who provides early intervention and itinerant services, including direct instruction for students and consultation with mainstream teachers. Funding for services is provided through a combination of state appropriations and federal special education funds administered by the Department of Education.[160]

Technical Support and Outreach Model

Two states surveyed by the Institute (Arizona and Nebraska) operate regional programs that function more like Washington's Educational Service Districts (ESDs), providing support to school districts and teachers within the established regions. These programs also provide outreach and early intervention services to families. The main difference is that regional programs in Arizona and Nebraska were created specifically to serve deaf and hard of hearing students.

Arizona. The Arizona Schools for the Deaf and the Blind (ASDB) is a state agency that oversees services, including the state residential and day schools, for deaf and blind students throughout the state. In 1987, ASDB established its first regional program. Currently, five regional cooperatives serve about 80 percent of all deaf and hard of hearing students in Arizona. The cooperatives assist school districts in setting up day programs and provide training and support to mainstream teachers serving deaf and hard of hearing students. The cooperatives also provide early intervention services, including parent education and information referrals. Funding is provided by a combination of state and federal special education funds.[161]

Nebraska. The Nebraska Department of Education (NDE) established four educational service delivery regions for deaf and hard of hearing students after the closure of its school for the deaf in 1998. Operated as sub-departments within the NDE, the regional programs assist school districts in developing day programs, provide training for mainstream teachers serving deaf and hard of hearing students, and offer early intervention and other outreach services to deaf and hard of hearing students and their families. Funding is provided by a combination of state and federal special education funds.[162]

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[159] Interview with Shalia Cowan, Director of Services for the Deaf, Texas Education Agency, November 28, 2001. Texas Education Agency, Division of Services for the Deaf website: <http://www.tea.state.tx.us/deaf/sfd30.html>. Texas Statutes, Education Code, § 30.081-87.

[160] Interview with Marilyn Gense, Oregon Department of Education, February 6, 2002. Oregon Administrative Rules, § 581-015-0291–0296.

[161] Interviews with Dennis Russell, Regional Superintendent, ASDB, November 21, 2001 and January 22, 2001. For more information, see the ASDB website: <http://www.asdb.state.az.us/About/Home.html>.

[162] Douglas Christensen, Commissioner of Education, "Statewide Educational Programs and Support Services for Children Who Are Deaf or Hard of Hearing: Report to the State Board of Education" (Nebraska Department of Education, June 5, 1997), <http://www.nde.state.ne.us/SPED/adsites/regdeaf.html>.

Summary

Nearly all (44) states operate at least one residential school for the deaf. Eight states operate more than one residential school, for a total of 57 public residential schools for the deaf in the United States. The two states that operate only a day school (Rhode Island and Massachusetts) are geographically small with high population densities. Four states (New Hampshire, Nevada, Nebraska, and Wyoming) have no public schools for the deaf. Two states closed their residential schools in the last five years due to declining enrollment.

Many state residential schools for the deaf have recently experienced declining enrollment, except among students with multiple disabilities. To serve students in public schools, many schools for the deaf have expanded their outreach services. Several states have created regional programs, providing direct instruction and/or outreach for deaf and hard of hearing students who attend local public schools in a structured fashion. Regional programs in these states are supported by state and federal funds.

APPENDIX C. SURVEY OF EDUCATION AND SERVICES FOR DEAF AND HARD OF HEARING STUDENTS IN WASHINGTON STATE

In order to compare education and services for students in public schools with the Washington School for the Deaf (WSD), the Institute surveyed a sample of 60 school districts in January and February 2002.

Information Gathered

The survey, which was developed in collaboration with a technical advisory committee of educators of deaf students, asked districts to provide information for each deaf and hard of hearing student receiving special education in preschool, elementary, middle, and high school. Districts were asked to include any students considered multi-handicapped. The information requested for each student included the following:

- Level of hearing loss
- Additional conditions affecting learning (i.e., multiple disabilities)
- Primary communication method in class
- Primary language of instruction
- Time student was integrated with hearing students for instruction
- Instructional settings (e.g., mainstream classroom, special classroom)

Several questions were posed about deaf and hard of hearing students who may have graduated from high school in the spring of 2001. WSD also completed the survey.

Sampling and Response Rates

Because hearing loss is a low-incidence disability, the Institute purposefully over-sampled school districts enrolling more than ten deaf and hard of hearing students in order to obtain information on a larger number of students.

Of the 60 districts surveyed, 46 responses were received (77 percent). Table C-1 shows the over-representation of larger programs in the survey responses: 75 percent of districts with 30 or more deaf and hard of hearing students participated in the survey compared with 16 percent of districts with fewer than ten students.

Exhibit C-1

Institute Survey of Education and Services for Deaf and Hard of Hearing Students

	OSPI Headcount 2001		Survey Respondents		
Size of Enrollment	**Number of Districts**	**Percent of All Districts**	**Number of Districts**	**Percent of Respondents**	**Percent of All Districts**
0	123	42%	4	9%	3%
1 to 9	136	46%	22	48%	16%
10 to 29	25	8%	11	24%	44%
30 or more	12	4%	9	19%	75%
Total	296	100%	46	100%	15%

According to the Office of the Superintendent of Public Instruction (OSPI) December 2001 headcount, 36 percent of deaf and hard of hearing students in special education reside in the responding districts (515 of 1,417 students). The addition of 106 students at WSD means the surveyed programs should cover 41 percent (621 of 1,523) of the state's deaf and hard of hearing students in special education.

However, the survey information actually contains information regarding 660 public school and 116 WSD students, nearly 25 percent more students than expected. There are two probable reasons for the discrepancy between OSPI data and the survey data: (1) districts were specifically asked to include multi-handicapped students, and (2) districts included students who were being educated in their program, but who may live in another district.

The combination of over-sampling of larger programs and discrepancies in the reported numbers of students means information from the Institute's survey should be interpreted with caution. Nevertheless, it represents previously unavailable data about how education and services are provided to a sizeable proportion of the deaf and hard of hearing students in special education in the state.

APPENDIX D: TROUBLED DEAF YOUTH

Two reviews of the Washington School for the Deaf (WSD) released in late 2001 recommended that a special program be established for severely emotionally or behaviorally disturbed deaf students, sometimes referred to as "troubled deaf youth" (TDY).[163] This appendix describes the type of services a TDY program might offer and reviews possible options for the state to consider.

Background

The definition of emotionally or behaviorally disturbed (EBD) for purposes of special education includes children who exhibit marked and sustained problems with interpersonal relationships, inappropriate behaviors and feelings, and a resulting inability to learn.[164] In 2000, approximately 4,900 Washington students were identified as EBD and in need of special education services (about 0.5 percent of the total K–12 student population). There are numerous indications that deaf and hard of hearing students are more likely than other students to have emotional or behavioral problems. National data collected by Gallaudet University and information from Washington collected by the Institute suggest that between 1.5 and 4 percent of deaf and hard of hearing students have emotional/behavioral disorders.[165]

As with other disabilities, there is a wide range of services and interventions EBD students may require. Only those with the most severe problems are placed in separate schools or require extensive treatment that may include a residential placement. One national study found that 20 percent of EBD students were in separate day or residential school programs.[166]

History in Washington

The 2001 reports were not the first to discuss a possible gap in services in Washington for TDY. Task forces convened in 1975, 1988, and 1998 each identified a need for mental health and educational services to be offered in a coordinated fashion for TDY.[167] The 1988 task force recommended establishing a statewide resource team to identify deaf children needing these services and develop a coordinated service plan for them. The plan called

[163] Office of the Family and Children's Ombudsman, *Review of the Washington School for the Deaf* (November 2001), 34; and Governor's Washington School for the Deaf Safety Changes Monitoring Panel, *Final Report to Governor Locke* (Olympia, WA, January 2002), 5.
[164] Summarized from WAC 392-172-118.
[165] Gallaudet Research Institute, *State Summary Report*. Due to a change in reporting, state-specific information on additional disabilities was not available for 1999–2000. Thirty of 766 students in the Institute's survey were reportedly emotionally or behaviorally disturbed.
[166] Christine Spencer et al., "The Market for Residential and Day Schools for Children with Severe Emotional Disturbance," *The Journal of Mental Health Administration* 24, no. 1 (Winter 1997): 73.
[167] Governor's Committee on Disability Issues and Employment, *Troubled Deaf Youth Program Proposal* (Olympia, WA, December 1987).

for appropriate education (in self-contained classrooms with specially trained staff) to be available at both WSD and in selected public school programs. Residential treatment services (if needed) could occur through special foster homes located near the school programs, with staff knowledgeable in behavior management, Deaf culture, and sign language.

Example of TDY Program: Pressley Ridge[168]

The Pressley Ridge School offers day and residential programs for TDY on the campus of the Western Pennsylvania School for the Deaf (located in Pittsburgh). A maximum of 20 students can be served in the educational day program with 11 residential slots available in three cottages. Only students from Pennsylvania may enroll at Pressley Ridge.

There are four classrooms with teachers and aides trained to educate children with severe emotional and behavioral problems. Each cottage is staffed by three teacher-counselors and a houseparent, again, all trained in dealing with mental health and behavior management. Day and residential programs are highly structured and incorporate extensive individual and group counseling, behavioral expectations, and interventions specific to each child's needs. A full-time family liaison maintains contact with families and provides follow-up services and referrals up to one year after a student leaves the program. All staff are also experienced and trained in sign language, Deaf culture, and other issues and challenges uniquely associated with deafness.

Although Pressley Ridge is located at a state school for the deaf, it is a separate organization, and the students do not inter-mingle either for education or social reasons. The programs also do not share staff, although occasionally Pressley Ridge provides consultation to Western Pennsylvania staff regarding students with behavioral problems. In the six years since Pressley Ridge was established (1996), only one student has been mainstreamed into the school for the deaf.

The current estimated cost for a day student at Pressley Ridge is $200 per day. The residential program is an additional $300 per day. Pressley Ridge provides services year-round. The Pennsylvania Department of Education pays 60 percent of costs, and local school districts pay 40 percent. This funding arrangement is not unique to Pressley Ridge but applies to all "approved private" schools in Pennsylvania providing services to special needs populations.

Current Program Models in Washington

While there are no services specifically for TDY in Washington, there are specialized educational programs and residential treatment programs for other students with severe emotional and behavioral problems.

[168] Information was compiled from the Pressley Ridge website, <http://www.pressleyridge.org>, and a telephone interview with Leanna Lawson, Program Director, December 2001.

Education

Several Educational Service Districts (ESDs) offer programs for multiple school districts on a cooperative basis to serve EBD students who need a self-contained, intensive learning environment separate from other students. Larger school districts may run similar programs just for their students. High staff to student ratios, extra counselors, specially trained staff, a highly structured curriculum, and behavior management are typical features of these programs. The ESD may work with the Regional Service Network (RSN—the state-designated local coordinator of mental health services) to secure additional counseling and services for some students. The cost per student of these programs can range from $125 to $190 per day.[169] In a cooperative program, the student's home school district pays the costs.

Residential

Residential programs in Washington for EBD children include group homes and therapeutic foster homes (including several programs for children considered sexual predators). These programs share similar characteristics to educational programs for these children: a structured environment, high staffing ratios, group and individual counseling from trained staff, and supplemental mental health services. The highest rate paid by the Department of Social and Health Services for a child in a group home with severe behavior disorders is approximately $230 per day.[170] All of these children attend public schools, although presumably some are enrolled in special EBD programs.

Issues to Consider

Size of Target Population

It is not known how many deaf or hard of hearing students in Washington require intensive EBD services. If national incidence rates are correct, the figure could be approximately 20 students. At the incidence rate in the Institute's survey, there may be 60 students (some of whom would be hard of hearing rather than deaf). Some smaller number would require intensive services.[171] These students may vary widely in age or severity of disorder, as well

[169] Telephone interview with John Bresko, Special Services Director, ESD 189, November 2001. ESD 189 runs four different EBD programs serving roughly 30 students each. These figures are similar to cost estimates of various day programs for EBD students presented in *Final Report: Task Force on Behavioral Disabilities* (Olympia, WA: Office of the Superintendent of Public Instruction, July 1999), 14.
[170] Telephone interview with Dinah Martin, Group Care Coordinator, Department of Social and Health Services, November 2001.
[171] According to the Ombudsman report, there were an average of seven "repeat perpetrators" of sexual misconduct at WSD between 1995–96 and 2000–2001, but the figure varied between two and 11 each year. Office of the Family and Children's Ombudsman, 12.

as gender. Designing and sustaining a residential program for a small, divergent population of students could be difficult.[172]

Role of WSD

WSD staff have recently received additional training in addressing emotional and behavioral disturbances in children. However, the recommendation of the Governor's Monitoring Panel is that WSD does not currently have sufficient expertise to provide a residential treatment program for severely affected students.[173] The Ombudsman suggested creating a "school within a school" at WSD, staffed by appropriately trained individuals and offering the potential for students to be mainstreamed into regular WSD classes if appropriate.

The Pressley Ridge experience suggests that involvement by WSD is not necessary to operate an intensive TDY program in Washington, but there may be benefits to having this type of expertise associated with WSD and available to the main WSD program and other districts through outreach.

Payment for Services

Mental health RSNs would be natural partners in establishing an educational and treatment program for TDY. However, state funding for RSNs is allocated specifically to serve residents within the RSN territory. Participants in a TDY program could come from anywhere in the state. If substantial RSN participation is expected in the TDY program, the state may need to consider a separate funding source for these services.

Continuum of Services

Establishing a separate residential education and treatment program for TDY would provide enhanced services only for students with the most significant needs. It would not address other TDY in public schools who may need some special interventions but do not require intensive treatment. As part of its outreach program, WSD is creating curriculum modules to train staff in identifying and addressing TDY behaviors. This staff team would be available to provide consultation and referrals to local mental health services at the request of a school district.

[172] Pressley Ridge is experiencing challenges due to the small target population. According to the program director, the program was created in response to a few significantly EBD deaf adolescents, but there have been no recent referrals. The director was not aware of any potential students for referral in the near future. The response of the Pennsylvania Department of Education has been to expand the mission of Pressley Ridge to include first younger students and then multi-handicapped and autistic students. If student needs begin to diverge too widely, however, providing appropriate staffing and programming becomes problematic.

[173] Governor's Monitoring Panel, 5. According to several individuals interviewed by the Institute, this lack of expertise is not unique to WSD. Most teachers of the deaf have been trained in educating students with hearing loss along with some additional learning disabilities, not necessarily addressing significant behavioral or emotional disturbances.

Options

The following options are available for policymakers to address residential and educational needs of TDY. For a comparison of possible costs and major policy issues, see Exhibit D-1.[174]

1) Out-of-State Program. The Governor's Monitoring Panel suggested that the most extremely troubled deaf youth might best be served in an out-of-state program with appropriate specialized expertise.[175] Presumably, very few TDY would need the highest level of services. There are several programs in the nation similar to Pressley Ridge that do accept out-of-state students.[176] One issue would be how to provide services for returning students. Length of stay in the out-of-state programs tends to be nine months to two years, with children referred back to another structured environment (such as a group home) after treatment.

A second issue is "who pays." Tuition at the out-of-state programs surveyed tends to be paid by the referring agency (usually the school district).[177] Washington school districts that incur high costs in providing special education services for an individual student can apply to the State Safety Net Committee for relief. The Safety Net Committee uses federal special education funds for this purpose.

2) Separate and Intensive Program. Washington could create a program like Pressley Ridge for TDY to provide intensive residential and educational services. The program would not have to be located on or near the WSD campus, although it could be. The major issue would be sustaining a program over time for a small, potentially widely fluctuating population of TDY. One possible option would be to offer a program that could serve both hearing and deaf students, which would make it less vulnerable to extreme variation in the number of TDY.[178]

3) Less Intensive Program (School Within a School). Another option would be to limit the target population to only those TDY who would benefit from a unique residential and education program, but not those with the most severe disorders that would require the most intensive staffing and treatment. WSD could establish such a "school within a school" on campus and develop strategies to integrate TDY into certain activities but would still have to hire specially trained staff and develop a special program and screening tools to identify and serve students appropriately. The residential component could be operated off campus, but nearby, similar to the therapeutic foster home model suggested by the 1988

[174] Similar to other educational service delivery options presented in this report, capital facilities implications are discussed in the JLARC report.
[175] Governor's Monitoring Panel, 5.
[176] Brief telephone interviews were conducted in January 2002 with the Walden School (Massachusetts), National Deaf Academy (Florida), Tampa Bay Academy (Florida), Desert Hills (New Mexico), and PACES (Connecticut).
[177] The school district becomes obligated to pay when referral is made through the IEP process. If a specialized treatment is determined to be the most appropriate educational placement for a student, the school district must ensure that placement is available.
[178] Desert Hills of New Mexico is such a program, offering intensive, residential services for adolescents, with a 12-bed unit set aside for deaf students.

task force. Presumably, a larger proportion of TDY might be appropriate for this less-intensive level of services, but there is still no information on the potential number.

Exhibit D-1

Options for Providing Residential and Educational Services to Troubled Deaf Youth

Option	Estimated Cost per TDY (School Year)*	Issues to Consider
1) Out-of-State Program	$73,800 to $97,200[179]	What services are available on return to Washington? Who pays?
2) Separate and Intensive Program	$75,600 to $90,000[180]	How can fluctuation in TDY population (number, ages, gender) be addressed?
3) Less Intensive Program (School Within a School)	$55,200 to $63,200[181]	Should WSD hire staff and develop expertise to provide these services?

**Although intensive programs operate year-round, costs are shown for a 180-day school year for comparability.*

[179] Based on telephone interviews with five out-of-state programs.

[180] The first number combines the estimated daily cost for the most intensive educational EBD programs run by ESD 189 ($190) and the group home reimbursement rate paid by DSHS for the most severely EBD children ($230). The second number represents cost-estimates provided by Pressley Ridge.

[181] Both figures combine per-student costs for a day student at WSD with the median residential group home reimbursement from DSHS ($3,400 per month). The difference between the two is the assumed per-student cost at WSD: ten-year average enrollment of 150 ($24,600 per student) or current enrollment of 113 ($32,600 per student).

APPENDIX E. MODELS OF EDUCATION AND SERVICE DELIVERY: SUMMARY OF CASE STUDIES AND SITE VISITS

The following delivery models currently exist in Washington State:

- **Statewide Residential Program**
- **Multi-District Programs**
- **Single District Programs**
- **Private School Programs**
- **Outreach Services**

The sections below rely on information gathered from site visits and interviews to describe the learning environments associated with these various delivery models: how children are taught, what mode of communication is used, and what possible advantages or challenges are associated with each.

Statewide Residential Program

The Washington School for the Deaf (WSD) provides an educational program for deaf students who attend the Vancouver campus, and includes both day and residential students. A preschool program serves students aged 3 to 5. The elementary school uses a K–8 configuration. Divine High School (in a separate building) is a 9–12 secondary school.

Educational Setting

Learning Environment. At WSD, enough students are enrolled to enable groupings of similar ages and stages of development, as would occur in a classroom for hearing students. In the elementary school, two grade levels are placed together in one class (e.g., first and second, third and fourth). Elementary class sizes are small: generally five to eight students. There is a pool of classroom aides who may be assigned to work with individual students or assist in group work. The high school principal tries to keep classes no larger than 10 to 12 students.

Students with learning disabilities or other multiple handicaps are included in the regular classroom in a manner similar to a typical public school, with some students pulled out of class for special assistance and others spending varying portions of their day in a resource room to enable more individualized assistance.

Curriculum and Instruction. In the last several years, WSD has adopted the learning benchmarks and curriculum framework used by the Vancouver School District to align with what is being taught in public schools and the state Essential Academic Learning Requirements (EALRs). New textbooks are being phased in for further alignment with state standards. Teachers at all grade levels place a special emphasis on reading and writing,

skills deaf children tend to have difficulty with because they are delayed in language or because English is their second language.[182] Beyond the frameworks and occasional in-service training, teachers at WSD have limited opportunities for ongoing exposure to the course content or grade-level expectations for hearing students in local public schools.

Materials and instructional strategies are specially adapted for deaf students so that concepts and topics are conveyed in a variety of ways. Staff combine visual techniques into instruction, including dramatization, pictures, writing or drawing on a board, videos, and PowerPoint. Some elementary materials have been developed by deaf educators to reflect differences in how deaf children acquire knowledge. For example, certain concepts, such as the sequence of time, money, and other social norms must be directly instructed. Hearing children have the opportunity to learn these concepts through their daily interactions with family and friends (contextual learning), but many deaf children have not had this opportunity.[183]

As a small school with fewer than 75 students, Divine High School resembles a small rural school and is somewhat limited in the variety of elective courses that can be offered.[184] Core course offerings cover topics needed to meet state graduation requirements. Multiple sections are offered in reading, writing, and math to cater to a wide range of student abilities. WSD has recently subscribed to NovaNET, an on-line interactive curriculum offering a large variety of middle and high school courses. Divine has joined a consortium of area high schools in requiring all students to create a career portfolio. Seniors complete a project that includes community service and a presentation.

Teachers and Support Services. At WSD, there are 23 teachers (12 elementary and 11 secondary) along with 8 classroom assistants (6 elementary and 2 secondary). One elementary and one secondary teacher are also certified administrators and serve as building principals. A number of support staff are available, including a full-time audiologist, psychologist, counselor, speech teacher, ASL instructor, and post-high school transitions coordinator. A speech-language pathologist position is currently vacant. Support staff divide their time between WSD students and the new outreach program. A significant number of staff are deaf or hard of hearing, which provides adult role models for students. All are specialists in deaf education through training and/or experience.

Mode of Communication

Teachers and staff at WSD communicate and teach using American Sign Language (ASL) but do not describe the program as "ASL-only." Students enter WSD with widely varying levels of language competency using different modes of communication (speech, signed English, ASL/English, ASL, gestures, finger-spelling). Staff use whatever mode enhances communication with the child and work toward competency in two: ASL and English. An ASL specialist works with students one-on-one to improve vocabulary and grammar, using a pull-out model similar to how a speech teacher would work on oral language. There are staff to support development of spoken English, but the choice of whether to use

[182] Peter Paul and Stephen Quigley, *Education and Deafness*, 181.
[183] Michael Stinson and Kathleen Whitmire, "Adolescents Who Are Deaf, 60.
[184] There are 25 school districts in Washington with high schools of similar, or smaller, enrollments.

amplification (hearing aids or cochlear implants) and oral communication largely rests with the students and their parents.

All staff at WSD—from accountants to food service staff to custodians—are expected to make an effort to learn ASL. There are no interpreters employed by the school.

Other Learning Opportunities

WSD reports a high level of student participation in extra-curricular activities and points to this as another unique aspect of the school. Students say the opportunity to be included and participate in everything from football to dance club to student government just as other high school students is an important aspect of their wanting to attend WSD. WSD students have somewhat limited contact with hearing students from nearby schools. Occasionally, a high school student will join a local club in a sport or activity not offered by WSD. WSD also offers opportunities for hearing students to come to the campus through volunteerism, sign language classes, and other events.

Vocational training courses are not available on campus, but each year between three and five students attend the Clark County Skills Center. A similar number attend Running Start through Clark College. The programs have agreed to offer WSD reduced tuition if WSD pays for interpreter services.[185] Some students mentioned they would like to take one or two classes at a nearby high school, but WSD has not found a way to accommodate this, citing funding issues as a barrier.

Approximately 15 percent of WSD secondary students are multi-handicapped to the extent that a focus on life skills and basic communication is more appropriate than regular academics. The Alternative Learning Program for Students (ALPS) is a separate program for these students, most of whom stay at WSD until they are 21. Students in the ALPS program spend part of the day on job readiness, including work-study at nearby businesses. Another 15 to 20 percent who also have significant learning delays spend part of the school day at worksite internships to learn skills and communication for a particular working environment.

Residential Program

Student housing is comprised of six residential cottages and two dorms. Each cottage houses up to 14 students in a family-like environment, with a living room, dining room, and kitchen. Bedrooms open to a common area that functions as a family room and study area for students. The dormitories are located in older buildings with a more traditional configuration and are undergoing significant renovation under the current capital plan. Once renovations are complete, residential capacity will be 125 students.

[185] Because WSD is not funded like a school district, program administrators have to be flexible in how they admit WSD students. A consortium of area school districts buy student FTE slots at the Skills Center. WSD is not part of this arrangement, and, if slots are filled, WSD students may not be able to enroll. State law provides for transfer of student FTE funds to community colleges for Running Start; again, WSD is not funded in this manner.

In 1999, WSD reconfigured its after-school program with the intent of making it more structured and supportive of the academic program. Students of all ages sign up for elective classes and activities that run from 3:30 to 5:30 p.m. three days a week. Activities include varsity and intramural sports, yearbook, cooking, and auto mechanics. Participation is mandatory for residential students and optional for day students. In addition, all residential students are expected to spend at least 30 minutes each evening reading.

WSD considers the residential program an integral part of the overall academic and social development of students. Residential students return home each Friday afternoon and return to WSD Sunday night.

Multi-District Programs

Multi-district programs provide full-time education and services to deaf and hard of hearing students from several school districts in order to achieve economies of scale. Programs may be offered through a cooperative coordinated by an ESD or a school district that operates a program intended to draw students from other districts. The Institute included two multi-district programs as case studies. Edmonds offers the largest such program in the state, and Ephrata the smallest.

Edmonds School District

Edmonds has offered a Deaf and Hard of Hearing (DHH) program for area school districts since the early 1970s. Currently, 67 students are in the program (7 preschool, 37 elementary/middle, and 23 high school). Over half the students come from other districts, as far away as North Bend, Port Angeles, and Bellingham. Approximately 40 additional hard of hearing students in special education are served by Edmonds but do not receive services from the DHH program. Either their degree of hearing loss necessitates only some speech-language therapy and audiological support or they have been educated using an oral/aural approach to communication and do not rely on sign language.

Educational Setting, Curriculum, and Staff. The preschool and elementary/middle school students are housed in Madrona Elementary School, which has a K–8 grade configuration. High school students attend Edmonds-Woodway High School. There are seven full-time and one part-time teachers of the deaf, nine educational assistants, two speech language pathologists, eight interpreters, an audiologist, and a counselor/psychologist assigned to the DHH program. Interpreters must either have graduated from an interpreter training program or pass a district-administered skills test. Several of the staff are deaf.

The size of the elementary program allows Edmonds to group students by level of development and ability, although students of different grades and ages may be taught together. Class sizes in the program are somewhat larger than at WSD, with 8 to 11 students taught by a teacher and an educational assistant. A few students have a one-on-one assistant due to special needs. Because they have been trained in teaching deaf students, teachers are knowledgeable about learning challenges common to deaf students (e.g., limited contextual knowledge and delays in vocabulary and grammar). The teachers

adjust their instruction to address these issues as well as advise mainstream teachers to monitor student progress in particular areas.

Students come and go from the DHH classrooms, attending mainstream classes with their peers according to their level of ability. Students are more likely to be in mainstream classes for math, less likely for language arts or social studies. Some classes of multi-handicapped students stay with the teacher of the deaf for the majority of the school day. Interpreters also come and go, sometimes working with one student, other times with up to five or six students, depending on the schedule.

Mode of Communication. Although staff at Edmonds reported they would prefer to rely predominantly on ASL for instruction and communication, parent choice and students' skill levels are factors that necessitate using different modes. As a result, teachers vary their mode of instructional communication depending on the setting and the students. For example, for group instruction of deaf students, teachers rely primarily on ASL. If they are teaching a group of students who use residual hearing, they will use sign and voice. One-on-one instruction may include any mode that facilitates communication.

The variation in language abilities is also a challenge for interpreters, who may be assigned to students who know ASL, Signed English, or have limited skills in any form of signed communication. Many students enrolled in a nearby private elementary school that uses Signed Exact English enter Edmonds when they reach high school. In addition, the district has put together a committee to examine how to provide additional support for students with cochlear implants who need more intensive oral/aural services.

Other Learning Opportunities. At the high school, approximately one-third of the students are in a Life Skills program because of significant learning delays or multiple handicaps. These students spend part of the day with the teacher of the deaf working on language arts, math, and science and the remainder on independent living skills (including on- and off-campus work experiences). Other students spend most of the day in mainstream classes accompanied by interpreters but come to the DHH classroom for homeroom and a tutoring period to get supplemental assistance. Some students may take an English or social studies class taught by a teacher of the deaf. Vocational training options are available both at the high school and through a regional skills center.

Staff at Edmonds believe multi-district programs offer several advantages for students, including direct communication among teachers and students, peers for students to learn from and socialize with, and specialized and expert staff. Furthermore, they believe a program in a regular school setting provides students with a larger range of academic learning opportunities and classes, particularly at the high school level. Staff at Edmonds make efforts to schedule interpreters for every subject from carpentry to chemistry to Japanese. Students are encouraged to participate in sports and extra-curricular activities, but transportation is a barrier for students who commute long distances.

The biggest challenge to sustaining the program is maintaining school district participation to keep the program viable. Meeting parents' demands for a particular mode of communication can also be difficult. If the program is forced to split into sub-groups based on different communication approaches, the advantages of grouping larger numbers of students together and providing direct instruction from a teacher of the deaf can be lost.

Ephrata School District

The Ephrata School District (located in central Washington, approximately 25 miles northwest of Moses Lake) operates a special services cooperative to provide itinerant psychologists, speech-language pathologists, and occupational/physical therapists for six small rural districts that cannot retain these services independently. Preschool and multi-handicapped students are transported to Ephrata to attend a special program. Since the 1980s, Ephrata has also offered a deaf and hard of hearing program. There are currently ten students enrolled, ranging from Kindergarten through 12th grade. Half the students live in other districts. Several families have moved to Ephrata to reduce the commute time.

Educational Setting, Curriculum, and Staff. The DHH program employs one teacher of the deaf and five full-time and one part-time interpreters. Most students receive speech-language therapy from itinerant staff in the special services cooperative. An audiologist in private practice comes from Wenatchee once a month, and the local mental health office has a signing counselor available for students who might need that service. The teacher works with elementary students in the morning and teaches 7th, 10th, and 12th grade English, history, and science at the high school in the afternoon. The remainder of the day students are in mainstream classes, although several of the older high school students are focusing on work skills by serving as teaching assistants for part of the day. Due to widely varying skill levels in reading and language, the teacher develops much of her own curriculum while trying to follow the content and topics being covered in mainstream classes.

Mode of Communication. Previously, Ephrata instructed students using Signed Exact English (SEE), believing students could more readily learn the construction of the English language (e.g., verb tenses, adverb endings, and grammar) and this could improve their literacy. The current teacher uses a combination of ASL and SEE in an attempt to improve students' signing abilities. With limited staff, it is not feasible for the program to rely exclusively on ASL even when parents might prefer this approach.

Other Learning Opportunities. Staff mentioned a number of challenges with maintaining a small multi-district program in a rural area. Enrollment shifts of even one or two students can dramatically affect the program's viability (and per-student cost). Specially trained staff, such as speech-language therapists and interpreters, can be very difficult to find in a small, remote community. Program staff cited a desire for greater access to training in deaf education (both for interpreters and mainstream teachers) and assistance with student assessment to identify possible learning disabilities as well as accurately gauge student progress.

Students have limited exposure to other deaf peers or adults, although the teacher tries to educate them about Deaf culture. Ephrata participates in the Shared Reading Video Outreach Project, which helps parents and younger students read books together and exposes students to a signing deaf adult via the K–20 telecommunications network. Hearing students in the schools where the deaf and hard of hearing program is located are also exposed to aspects of Deaf culture. Students in the elementary school learned to sign holiday songs. High school students have signed a petition to have ASL offered as a language elective. The teacher offers ASL mini-courses for other teachers, staff, and parents in the area.

Single District Programs

Two of the three types of single district programs were included in Institute case studies: two Teacher of the Deaf Programs (Evergreen School District and Shoreline School District) and one Special Education Program (Walla Walla School District). Evergreen and Walla Walla provide a contrast in terms of program size and location (large versus small; suburban community with access to a range of services versus rural and remote). Shoreline provides a contrast due to its specialization in oral/aural communication.

Evergreen School District

The Evergreen School District in Vancouver has a DHH program currently serving 36 students. Some students attend from nearby districts, but this is changing. The Vancouver School District recently hired a teacher of the deaf at the high school, so older students from there no longer attend the Evergreen program. In addition, Evergreen has been the fastest growing district in the state in terms of overall student enrollment, and program administrators are concerned about serving in-district students first. They consider the DHH program "full" and are not actively encouraging additional out-of-district enrollment.

Educational Setting, Curriculum, and Staff. Evergreen has four teachers of the deaf, one at each school (preschool, elementary, middle, and high) and 13 interpreters. A speech teacher works individually with students at all grade levels (and is also employed by a nearby school district a few days a week). Evergreen usually offers a parent-infant (Birth to Three) DHH program but does not currently have any children enrolled.

As in other programs, students attend mainstream classes for part or most of the day, depending on their skills. A few middle and high school students who previously attended the Tucker-Maxon Oral School in Portland are mainstreamed except for one period of the day when an itinerant teacher from Tucker provides them with tutoring and assistance with speech and vocabulary. These students rely on real-time captioning (arranged by Tucker) to assist them in following classroom discussion. These services are provided through a contract between Evergreen and Tucker because they are included in the students' Individual Education Plans (IEPs).

Because they are part of a regular school, teachers in the DHH program can readily gauge their students' progress against state learning standards and grade-level expectations. DHH teachers attend regular staff meetings and (when possible) planning sessions for teachers of the same grade as their students. They know what content is being taught in the regular classroom and try to incorporate and adapt the same material to the greatest extent possible, depending on student ability. Although some students in the DHH program have significant language and reading delays, students with multiple handicaps (such as autism or mental retardation) are educated outside the program in "center-based" classrooms with other multi-handicapped students.

Mode of Communication. For a number of years, Evergreen has implemented a "Total Communication" approach, actively relying on both oral/aural instruction as well as sign (in this case, SEE). The degree of teachers' adherence to English word order, grammar, and sentence construction varies slightly by the age of the student (more strict in preschool;

somewhat less so in high school). The Total Communication approach also calls for teachers to extensively use gestures, drawing, and dramatization. Students use ASL to communicate with one another and occasionally one-on-one with the teacher. Because Evergreen is located within commuting distance of programs that rely on different approaches (Tucker for oral/aural and WSD for ASL), local parents have options that are not available elsewhere in the state.

Other Learning Opportunities. High school students choose from a number of options depending on their skill levels and interests. They may receive direct instruction from the DHH teacher, enroll in regular mainstream classes or special education classes, or focus on school-to-work preparation. The special education courses in math, science, or social studies follow the regular curriculum but are adapted for students (not just those in the DHH program) who may have a difficult time keeping up with the pace of a larger class. School-to-work preparation (including a transition program for students over 18) provides job skills and work study and is coordinated through the special education department. Two students were considering enrolling in Running Start.

Staff report that most of the middle school students are actively involved in extra-curricular activities such as sports, cheerleading, drama, and other clubs. Fewer of the current high school students have chosen to participate. Evergreen staff receive notices of WSD activities for students and parents and frequently send this information home, but they otherwise have limited contact with staff at the school.

Walla Walla School District

Walla Walla School District (located in southeast Washington approximately 40 miles east of the Tri-Cities) currently has three deaf and two hard of hearing students enrolled. Four of the students are in elementary school (1st through 4th grade) and one in high school. Walla Walla previously enrolled a student from nearby College Place School District, but currently all students live in the district. During some years, only one or two deaf or hard of hearing students are enrolled.

Educational Setting, Curriculum, and Staff. To provide services, Walla Walla has a lead special education teacher who oversees instruction for the elementary DHH students as well as multi-handicapped students. The DHH students spend much of the day in the "learning lab" classroom with other special education students, although they are physically separate from the other students and receive their instruction separately. Math, language arts, and social studies are taught in the learning lab using special curriculum and materials adapted by the special education teacher. The lesson plans and classroom activities are highly scripted to allow the interpreters to move through the material with less supervision, enabling the teacher to move among all the students in the lab. There are two interpreters at the elementary school who learned sign language through personal experience rather than formal training. A speech-language pathologist provides one-on-one support to the students four days a week. The high school student is fully mainstreamed with an interpreter/tutor and receives no additional support services.

Mode of Communication. The interpreters use SEE with the intent of improving students' literacy in English. Students rarely enter the program with any knowledge of sign language, and sign must be directly instructed. A particular challenge is that many of the students are

from Spanish-speaking homes, and, consequently, should really be considered tri-lingual. Students whose parents have requested a focus on oral/aural communication rather than sign language are somewhat separated from others in the program but still receive additional support from the special education teacher in the learning lab.

Other Learning Opportunities. ASL is one of the most popular elective languages taught at the high school, and the best students often serve as teaching assistants in the elementary school program. They can also be assigned as "signing peers" with DHH high-school aged students to provide additional social interaction. The school district is hoping to work with a local community college to capitalize on students' interest in ASL and provide a training program for future interpreters for the region.

Walla Walla would like to provide additional opportunities for students and parents but is constrained by the location and size of the program. The district had previously participated in the Shared Reading Video Outreach Project, but many parents had difficulty attending broadcast sessions. Staff expressed concern about students' social development when they live in a rural area with few other deaf individuals and sometimes no deaf peers in school. Staff frequently observe students become isolated and frustrated at the lack of communication with their peers, sometimes leading to behavioral problems. Staff have arranged visits to WSD for families and students and actively encourage them to consider enrolling there.

Shoreline School District

Shoreline School District (located just north of Seattle) currently enrolls 37 deaf and hard of hearing special education students in its DHH program. Most students (25) are in elementary school, two are in preschool, three in middle school, and seven in high school. Shoreline created the DHH program in 1958 and has enrolled between ten and 40 students each year. Shoreline occasionally enrolls students from other districts that do not offer the same type of services, but it primarily serves in-district students.

Educational Setting, Curriculum, and Staff. Shoreline has an itinerant teacher of the deaf who provides instruction for DHH students and support for their mainstream teachers. The district also employs two instructional aides/interpreters, one full-time sign language interpreter, an educational audiologist, a speech-language pathologist for every school building, and one real-time captioner. None of the staff is deaf.

Shoreline adopted an itinerant model for its DHH program in 1998. Students attend their home schools—spread throughout the district—and are not grouped together by disability. The DHH students spend almost all their time in mainstream settings and are pulled out of class by the itinerant teacher for between one and four hours each week for oral language instruction. The itinerant teacher helps mainstream teachers adapt their curricula to match the learning styles of DHH students. Some DHH students who have multiple disabilities are educated in classrooms with other special education students.

Prior to 1998, Shoreline grouped DHH students into a separate classroom for part of the day (mainly for instruction in language-intensive subjects such as English and social studies). However, pressure from parents to allow DHH students to enroll in their home schools provided the impetus to change to an itinerant model. The varied modes of

communication used by students also made grouping students together for instruction difficult, and the itinerant model was viewed as a means to provide highly individualized language support.

Mode of Communication. Shoreline specializes in the auditory-oral approach, and most students use spoken English as their primary means of communication. Shoreline's program emphasizes the use of hearing aids and other amplification devices (e.g., FM or sound field systems) to enhance students' residual hearing and speech development.

There are, however, a few students whose parents prefer to use sign language for communication, and interpreters are provided for these students. Most mainstreamed students who sign use ASL. Students with multiple disabilities who attend separate special education classrooms usually use SEE to communicate, depending on parental preference and the abilities of the teachers. Shoreline currently contracts with Edmonds School District to provide education for three students who primarily use ASL, and Edmonds has sent oral students to Shoreline in the past. Whether students enroll in the Shoreline or Edmonds program depends on parental preference.

Other Learning Opportunities. Staff attributed the long history of Shoreline's program, at least in part, to the location of the district. In a densely populated suburban area, there are sufficient numbers of deaf and hard of hearing students to maintain a relatively stable program over time. Shoreline staff see the program as filling a niche for families who choose the oral approach. Another benefit of Shoreline's location is having a sizable Deaf community nearby, which enables the DHH program to expose students to Deaf culture. Shoreline regularly invites Deaf adults to visit the program and give presentations on Deaf issues.

According to staff, educating DHH students with their hearing peers in mainstream classrooms is the goal of Shoreline's program, and increased social interaction between DHH and hearing students is one benefit of this approach. With a relatively high number of DHH students, Shoreline is able to provide a range of services for both oral and signing students that would not be available in a smaller district.

Private School Programs

Two of the three private school programs that enroll Washington students focus on oral/aural communication with students, and the program directors report this focus is the primary reason parents choose to enroll their students. The Institute had the opportunity to visit Listen and Talk in Bothell as a case study of a private program.

Listen and Talk

Listen and Talk is a private, non-profit educational program that opened in 1996 to fill a perceived gap in the availability of oral programs, particularly for younger DHH children. Listen and Talk provides a parent-infant program, a blended preschool program, and language support (individual sessions and consultations) for school-age children who attend mainstream public schools. There are 45 students currently enrolled in these programs.

Educational Setting, Curriculum, and Staff. Listen and Talk employs seven staff members with the following areas of expertise: auditory-verbal therapy, audiology, special education, deaf education, social work, early intervention, early childhood education, speech-language pathology, and grant-writing. Students can come from all over the state, though most are from school districts around the Puget Sound.

Services included in the parent-infant program include monthly home visits, bi-monthly play groups for families, and weekly speech therapy sessions. The school has a strong emphasis on parent involvement and provides training for parents to enhance speech, listening, and language development in the home. The preschool enrolls children aged three to four and includes both DHH and hearing students. Staff see this "blended" approach as beneficial because it prepares DHH children for participation in a hearing world and reinforces their language training and social skills. Activities in the preschool center around English language and cognitive development.

Language support for school-age children involves one-on-one speech sessions (conducted after school, usually for one hour per week, with the parents included). As students get older and their oral skills improve, they generally require less support from Listen and Talk; most of their school-age students are under age 12. School districts pay for such services when they are required by a student's IEP but are not offered by the district.

Listen and Talk also provides consultations to mainstream teachers and other service providers (such as audiologists and speech-language pathologists) upon request. Consultation services include classroom observation, in-service trainings, assistance with IEP development, and assessment and ongoing monitoring for mainstreamed students who use the auditory-oral or auditory-verbal approach.

Mode of Communication. The focus of the program is on auditory-oral training: to teach DHH children how to use and understand spoken English. A secondary goal is for children to be fully mainstreamed in school with hearing children. The oral approach is the main reason parents enroll their children in Listen and Talk. All children have either a hearing aid or a cochlear implant, and none use sign language while in the program. Only one student uses sign language in public school classes. The parent-infant program is the only oral program serving DHH children in the state.

Outreach Services

In 1999, the WSD Board of Trustees adopted a mission statement that envisions a role for WSD to "contribute leadership" in the education of all deaf and hard of hearing students.[186] *One of the five strategic initiatives for the school in 2000 was to create an outreach program to achieve this goal. According to the superintendent, WSD wants to position itself to become a resource for parents, teachers, and schools and an educational service provider for students across the state.*

[186] Washington School for the Deaf, *1999-2005 Strategic Plan* (Vancouver, WA: WSD, July 1999), 2.

WSD Outreach Program

Before creating the outreach program, WSD interviewed a large number of educators around the state to determine program priorities and whether there was demand for its assistance. Program services officially began during the 2000–2001 school year, and staff were somewhat surprised at the volume and diverse nature of requests. The program logged more than 700 e-mails and nearly 400 phone calls. Existing support staff devote varying proportions of their time to outreach. Areas of expertise include psychology, counseling, ASL instruction, audiology, early intervention, interpreter training, speech-language pathology, and post-high school transitions planning. WSD's Assistant Director for Special Education also serves as outreach coordinator.

For the first year, WSD offered consultation and assistance free of charge. Beginning in the 2001–02 school year, WSD has been working to develop contracts with school districts, similar to the fee-for-service model used by the School for the Blind and many ESDs. As of the end of March 2002, WSD had contracted with seven districts and was discussing possible contracts with an additional six. With one exception, the contracts were for consultation and assessment on a one-time basis. The school psychologist is most in demand, although assistance from the ASL specialist, teacher consultant, and interpreter trainer has also been requested. In the spring of 2002, WSD began developing inter-agency agreements with several ESDs in Eastern Washington as a first step in expanding potential collaboration in providing services.

Early Intervention. An early intervention specialist hired by WSD offers parent-infant home visits, a family support group, and a play group for children identified with hearing losses in Clark, Skamania, and Cowlitz Counties. WSD is one of several organizations in southwest Washington offering early intervention.

Interpreter Training. During the first year of outreach, WSD identified a need and demand for in-service training for educational interpreters. In the 2001–03 biennial budget, the Legislature appropriated $136,000 for outreach and authorized an additional $232,000 to be recovered through contracts with school districts. The new funding has been used to hire a part-time interpreter trainer. In addition, WSD is using the K–20 telecommunications network to offer training sessions and classes. Among the Institute's case study schools, interpreter training was the most widely known and accessed outreach service. The Washington Sensory Disabilities Services (WSDS) also offers interpreter training using the K–20 network and is working to create "interpreter mentors" in rural areas that have a difficult time finding trained interpreters.

Teacher Training and Consultation. During the first year, WSD received nearly 50 requests to visit local programs to observe deaf students and provide advice on instructional strategies or developing appropriate IEPs. Twenty requests for specially adapted curriculum and materials also came in (not including frequent requests for closed-captioning on video and film materials). WSD also uses the K–20 network to offer in-service training for teachers. WSD staff are developing a package of curriculum materials for DHH youth with behavioral disorders and plan to distribute these, along with training, through the outreach program.

Student Assessment and Evaluation. As mentioned, an area of very high demand is assistance with psychological issues or identification of potential learning disabilities among DHH children. According to WSD's psychologist, inexperience with deafness and the general lack of appropriate assessment tools for this population of children frequently leads to misdiagnosis (or non-diagnosis) of problems. Educators from the Institute's case study schools recognized WSD's ability to provide expert psychological assistance but mentioned that it was becoming difficult to gain access to WSD's services due to high demand.

Special Learning Opportunities. Beginning, intermediate, and advanced ASL classes are offered by WSD three days a week throughout the school year. In addition, WSD uses the residential campus (primarily during the summer, but occasionally on weekends) to encourage interested parents, teachers, and students from across the state to come to Vancouver. Opportunities include the following:

- *Total Immersion Sign Language Programs.* Three weeklong summer programs, including residence in the campus cottages, with different sessions for high school students enrolled in ASL, international students, and adults (teachers or parents).
- *Summer Camps for Deaf and Hard of Hearing Students:* During 2002, weeklong camps in the arts, cheerleading, sports, or marine science.
- *Deaf Fiesta:* A weekend event for Spanish-speaking families with deaf and hard of hearing students.
- *Family Learning Experience:* An opportunity for parents and DHH children to spend the weekend at WSD, learn about the school's programs, attend workshops, and meet in support groups.

WSD's superintendent would like to see expanded use of the residential campus in the future for special learning opportunities. One of the campus buildings (Clark Hall) is being renovated to include a floor with hotel-like rooms and a common kitchen area where families could come and stay for assessment, training, and consultation. The space could potentially also be used to house mainstream teachers during in-service training on how to work with DHH students.

Other Initiatives. During 2001–02, WSD has been developing a number of other initiatives to enhance education for deaf and hard of hearing students. A collaborative relationship with WSU-Vancouver is growing, with WSD staff offering two summer courses in deaf education for 2002 and professors at the branch campus conducting research on WSD's residential program model. In the long run, the WSD superintendent hopes to expand teacher training opportunities in collaboration with WSU-Vancouver. The only regional college of education offering a deaf education specialty recently closed its program (Lewis and Clark College in Portland).

Starting in 2002–03, junior and senior students at WSD will participate in a life-skills program designed to better prepare them for living and working independently after graduation. WSD is collaborating with Clark College, the regional center for deaf and hard of hearing services, and the Division of Vocational Rehabilitation in hopes of expanding the program in the future for transitional students (those who may have graduated from high

school, are still under 21, but are not yet fully prepared for independent living, work, or higher education).

APPENDIX F. EDUCATIONAL INTERPRETERS

Why Interpreters Are Important

As a profession, educational interpreting largely grew out of the federal Individuals with Disabilities Education Act (IDEA) which created the expectation that deaf students should have the opportunity to be educated in mainstream classes with hearing students. As more deaf students are educated in mainstream settings, demand for educational interpreters has grown.

If a student has no functional hearing and the teacher does not sign, the interpreter is the student's primary link to information conveyed through lecture or classroom discussion. In a small public school program, the interpreter may be the only person in the school communicating directly with the deaf student. Deaf students also depend on interpreters for social interaction with other students.

Interpreting in an educational setting can differ from other interpreting. The national Registry for Interpreters of the Deaf (RID) maintains that the "fundamental role of an interpreter, regardless of specialty or place of employment, is to facilitate communication..."[187] However, educational interpreters often play multiple roles, including tutoring, correcting homework, assisting the classroom teacher, direct instruction, and classroom management involving deaf students.[188] One school district among the Institute's case studies refers to staff as "interpreter aides" to clarify that the expected role is a combination of classroom aide and instructional assistant as well as interpreter.

Despite the importance of interpreters in the education of deaf students, little research is available about the effect interpreters have on students' comprehension of classroom material.[189] Nevertheless, it is reasonable to assume that the better the interpreter, the more that is communicated to the student.

Issues Associated With Interpreters

For some time, concern has been expressed about the "lack of skilled interpreters to work in educational settings."[190] This concern has two aspects: the skill level of interpreters and recruitment and retention of interpreters.

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[187] Registry of Interpreters for the Deaf, "Interpreting in Educational Settings," <http://www.rid.org/124.pdf> (May 2002), 1. RID is a national association of interpreters and provides the largest testing and certification program for professional interpreters.

[188] Bernhardt Jones et al., "Characteristics and Practices of Sign Language Interpreters in Inclusive Education Programs," *Exceptional Children* 63 (1997): 258.

[189] Thomas Kluwin and David Stewart, "Interpreting in Schools: A Look at Research," *Odyssey* (Winter/Spring 2001).

[190] Carmel Collum Yarger, "Educational Interpreting: Understanding the Rural Experience," *American Annals of the Deaf* 146 (2001): 16.

Skill Levels

In 1988, the national Commission on Education for the Deaf made a strong statement that integration of deaf students into mainstream settings was a "mockery" without quality interpreting services.[191] However, a 1996 survey of educational interpreters in three states found that 61 percent described themselves as either "not" or "only somewhat" proficient in signing at the time they were hired. More than half reported their interpreting skills were not evaluated before they were hired for their positions.[192]

Formal interpreter training is offered through both two- and four-year programs. In addition to American Sign Language (ASL), candidates take classes in linguistics and Deaf culture. Many programs provide an internship and require a performance evaluation for completion.

In Washington, the Office of the Superintendent of Public Instruction (OSPI) listed 243 full-time equivalent staff working as interpreters in public schools for 2000–2001.[193] No information is available on levels of training or certification. Only a few interpreter training programs are available in the state.[194] Portland also has a program. Absent a formal training program, interpreters gain skills through personal experience (contact with deaf individuals or family members), ASL classes that may be offered in high schools and community colleges, or on-the-job training.

Even formally trained interpreters might not have received training in how to interpret in an educational setting. One survey listed fewer than 5 percent of interpreter training programs that specifically offered training for school-based interpreters, even though more than half of program graduates sought school employment.[195] Interpreting for young students may involve teaching them sign language and adapting to different types of signed systems, such as Signed English (which some school programs use for instruction because it mirrors English grammar and sentence structure). Interpreting for secondary school students is a particular challenge because the interpreter must convey complex academic course content and vocabulary for a wide range of subjects (e.g., algebra and chemistry).

Recruitment and Retention

The challenge of ensuring that interpreters have adequate skills is inseparable from challenges of recruitment and retention. School districts in the Institute's case studies were chiefly concerned about their ability to find and keep interpreters at all, regardless of skill level. Highly trained or certified interpreters can command higher salaries in other positions. For example, among the case studies, interpreters' salaries ranged from $10 to

[191] Commission on Education of the Deaf, *Toward Equality: Education of the Deaf* (Washington, D.C.: U.S. Government Printing Office, 1988), 103.
[192] Jones, 261.
[193] Office of the Superintendent of Public Instruction, "Signlang.xls," Worksheet provided to the Institute, (Olympia, WA).
[194] Interpreter training programs are offered by Seattle Central Community College, Spokane Falls Community College, and the American Sign Language Interpreting School (a private program in Seattle).
[195] Yarger, 17.

$18 per hour. Certified interpreters may earn $25 to $40 an hour or more in private practice or working in medical or legal environments.[196]

Rural school districts frequently reported a lack of individuals in the local community with sign language training able to work as interpreters. Also, because deafness is a low-incidence condition, there may be times when there are no deaf students in the school. In one case study district, a long-time interpreter occasionally had to work as a special education aide in order to stay employed with the district. These issues are particularly salient for small programs: as illustrated in this study, the smallest public school programs are where deaf students spend the most time in mainstreamed classes and are the least likely to have access to a teacher of the deaf who can instruct the students directly.

Options for Addressing Interpreter Issues

Standards

Concerns about interpreter skills have led at least 23 states either to establish state standards for educational interpreters or require them to be certified by a national certifying organization (such as RID or the National Association of the Deaf (NAD)). National certification involves both written and performance tests and a range of certification levels.[197] However, neither RID nor NAD offer a special certificate for educational interpreters.

In Washington, legislation has been introduced but not enacted to require the State Board of Education, in conjunction with the Office of Deaf and Hard of Hearing Services in DSHS, to establish state competencies for educational interpreters.[198] Demonstration of the competencies would be required for all educational interpreters. Under the proposed legislation, remote districts could request a waiver if no individual within reasonable distance could meet the competencies, as long as the district also developed a plan to remedy the lack of services.

Unfortunately, requiring educational interpreters to meet a state competency standard could address one issue (skill levels) but exacerbate another (recruitment and retention) by making it more difficult for school districts to hire interpreters. As mentioned, for most case study districts, limited availability of interpreters is a paramount concern. Some report they would support state standards for interpreters, but only if the requirements are accompanied by adequate training made easily accessible to current and potential interpreters across the state.

[196] Registry of Interpreters for the Deaf, "Interpreting and Interpreter Training Programs FAQ," <http://www.rid.org/terpfaq.html>.
[197] See <www.rid.org/expl.html> for certificates offered by RID and <www.nad.org/openhouse/programs/NIC/index.html> for certification by NAD.
[198] "An Act Relating to Deaf, Deaf-Blind, and Hard of Hearing Children," Senate Bill 5793, 1997 Regular Session.

Training

The Institute's case study districts identified ongoing opportunities for interpreter training as a critical need. WSD received the same message as it was developing a strategic plan for outreach services, so interpreter training has been a top priority for WSD's outreach program. WSD used new funds authorized in 2001–03 for outreach to hire an interpreter trainer who is available to consult with districts regarding interpreter skills and conducts training sessions for current interpreters. However, 2001–02 is the first year for this project, and WSD is still working on how to best offer services and collaborate with other efforts.

Other outreach service providers are also working to expand interpreter training. ESD 171 (Wenatchee), the Washington Sensory Disabilities Services (WSDS), and WSD each offer interpreter training sessions using the K–20 telecommunications network. During 2001–02, more than ten sessions were offered on such topics as "Deaf and Hard of Hearing Children with Multiple Disabilities" and "Interpreting Math Concepts." WSD ran a six-class series for 30 interpreters at 12 different locations across the state.

Recruitment and Retention

One strategy for helping districts address recruitment and retention of educational interpreters is through a cooperative. Two ESDs (171 in Wenatchee and 189 in Mount Vernon) hire educational interpreters on behalf of participating districts. Having interpreters as employees of the ESD allows a district to address fluctuation in student enrollment: if a deaf student leaves the district, the interpreter can be re-deployed to another district. ESDs can also take over responsibility for evaluating and ensuring interpreter skills, an area where the school district might have little or no experience. ESD 171 is also trying to "home grow" trained interpreters in rural communities through a combination of training and mentoring from the cooperative interpreters.

Summary

Interpreters are a critical resource in the education of deaf and hard of hearing students in public schools, but there are long-standing concerns about the lack of skilled interpreters to work in educational settings. Concerns have to do not only with the skill levels of interpreters, but the challenge faced particularly by rural school districts in recruiting and retaining individuals who can sign. Some states require educational interpreters to meet state or national standards for competency. This has been proposed in Washington, although school districts in the Institute's case studies were concerned about the possible effect of standards on their ability to find and hire necessary staff. Various entities, including ESDs, WSDS, and WSD, have identified interpreter training and assisting school districts with recruiting interpreters as a priority for outreach services.

If the Legislature chooses to support alternative service delivery Model 4 (Focus on Outreach), interpreter standards, training, and assistance to districts with recruitment and retention could be key aspects of a comprehensive state plan for outreach or expansion of current outreach services.

APPENDIX G: AGENCY RESPONSE

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