

Introduction

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In the years since passage of the Elementary and Secondary Education Act in 1965 and the Education for All Handicapped Children Act in 1975, U.S. federal law has increasingly promoted the view that all children, including those in poverty, from minority populations, or with disabilities, have an inherent right to equal educational opportunity, as much as possible in regular school and classroom settings. Shortly after the beginning of the 21st century, those who were dissatisfied with the uneven results of this egalitarian effort prompted a reauthorization of the Elementary and Secondary Education Act, demanding that schools do everything possible to enable *all* children in every state—especially those who have historically been educated separately or in other ways marginalized—to attain “academic proficiency.” The reauthorized law, known as the No Child Left Behind Act of 2001, which provides a narrow mandate and little funding, requires that states hold their public schools accountable for ensuring that all students either demonstrate proficiency on statewide assessments or make steady progress toward reaching that goal by 2014.

Although some students with disabilities are surely benefiting from this new inclusiveness and experiencing little difficulty proving their knowledge of a general curriculum on standardized tests, the overwhelming majority continue to have problems that have long presented serious challenges to educators. Teaching deaf students, for example, requires that teachers know how to communicate the curriculum through one or more of the following face-to-face modalities: American Sign Language (a complete language conveyed through movements of arms, fingers, facial expressions, and the body that has a grammar and syntax unrelated to English), some form of signing intended to represent English (Signed English, Signing Exact English, Seeing Essential English, etc.), or orally through spoken English (produced in a way intended to make words visually decipherable). Teachers must find ways to explain the vocabulary and grammar of written English to students who may never have heard a human voice speak the language. With students who use sign language, teachers must be able to understand the students’ signed statements or questions. Many teachers in mainstream settings, of course, rely on interpreters to facilitate these interactions when deaf students are placed in their classes, but the resulting communication with these students, even with a highly qualified educational interpreter, is indirect and can be otherwise problematic.

Because the abilities to hear and produce spoken English remain elusive to varying degrees for many deaf individuals throughout their lives, finding the best way to teach deaf students to read and write printed English—usually learned as

a phonological code of familiar speech patterns—is a subject of endless debate. The fact that most standardized assessments are presented in printed English, a code of *unfamiliar* speech patterns for most deaf students, helps explain the difficulties facing deaf students and their teachers in an age of accountability.

The challenges of deaf education, alien to the vast majority of students and teachers, used to occur exclusively in special schools for deaf students. In these schools, teachers and school administrators often measured academic success according to standards they believed to be fair and reasonable for this special population. Because most deaf students had (and still have) serious difficulties mastering reading and writing English, schools emphasized vocational training for all but a few academically successful students. Today, most American deaf students are learning in regular, local schools—more and more often in classrooms with hearing children, but frequently in special classes for deaf students as well. The academic proficiency of deaf students, whether in mainstream or special education settings, is increasingly measured by standards established by state departments of education for the general student population. Even in schools that exclusively serve deaf students, teachers are obliged to do their utmost to help these students learn the state's general curriculum well enough to demonstrate proficiency on standards-based assessments. In several states, deaf students who are not able to perform at this level are being denied a high school diploma upon graduation, jeopardizing their ability to get jobs or attend post-secondary programs (see Lollis, and Moore, this volume).

This book is the result of an effort to bring attention to the overwhelming challenge the accountability movement—now codified in federal law—has set before all schools serving deaf students. In light of the fact that students who are deaf, historically and on average, have performed far below grade level on standardized tests, the editors and contributors to this volume have been concerned for some time about an apparent mismatch between the idealism of the recent laws and the complex realities involved in teaching and testing this population. Our goal in this volume, therefore, has been to assemble a range of perspectives on the intent and flexibility (or inflexibility) of federal law, on achievement data regarding deaf students, on accommodations and universal design as ways of making tests more accessible, on alternate assessments for deaf students deemed unready for regular assessments, on the varying degrees of cooperation or conflict between schools for deaf students and state departments of education, and on the day-to-day efforts of teachers and school administrators to help these students measure up—one way or another—to the new standards. Our hope is that by putting these varying discussions into one book, it will be easier for all concerned to contemplate how a constructive synthesis of worthy ideals, hard realities, and pragmatic solutions can be achieved.

Apart from assessment issues, we are also concerned that as federal legislation seeks to emphasize the importance of uniform academic standards for all students in every state, some experiences important to young deaf people that have historically been linked with deaf education—such as mastering sign language, forming ties with other deaf people, and developing an identity as a culturally deaf per-

son—may be increasingly treated as unimportant. In our view, this would be a serious loss. It is our belief, in fact, that before the daunting scale of today’s inclusion-oriented challenges for deaf students can be properly understood, the extraordinary history of deaf education in America—a history resulting from the unique communication challenges presented by deaf students combined with the determination of thousands of pioneers in finding ways to educate those students—must be better appreciated.

DEAF EDUCATION IN AMERICA

Imagine having a child and not knowing how to communicate with her. Imagine that, as far as you know, no education system in which she can be effectively taught exists anywhere in your country. Imagine your child not having any way of conversing with other children or of sharing a normal childhood with them. This was the situation that Alice Cogswell’s family in Hartford, Connecticut, faced in the early part of the 19th century.¹

Alice was deafened by meningitis at age 2, and her family struggled with how to reach her and help her learn. When she was 9, her father, Dr. Mason Fitch Cogswell, a pioneering surgeon and a man of means and determination, convinced their neighbor Thomas Hopkins Gallaudet, a Yale graduate who had trained to become a Congregational minister, to travel to Europe in search of a well-developed, proven way to communicate with and teach deaf children. Americans were most aware of two European approaches at the time—the oral Braidwood method used in an exclusive private school for deaf students in England and the methodized signing used at the *Institution des Sourds et Muets* in Paris (henceforth the Paris Institute), which freely served deaf children of poor parents in France. Gallaudet, who visited both schools, ultimately chose the public-domain French option over the proprietary Braidwood method.

Gallaudet returned to the United States in the spring of 1816, accompanied by Laurent Clerc, a brilliant deaf graduate of the Paris Institute. Cogswell, Gallaudet, and Clerc worked with others to obtain a charter from the state of Connecticut to open a school for deaf children in Hartford. As a result, the first publicly sponsored school for deaf children in the United States, now known as the American School for the Deaf, opened in 1817. There, with Alice Cogswell among its first pupils, Clerc and Gallaudet worked together to develop a program and practices based on the signing or “manual” method that became the first enduring model of deaf education in America.

During the remainder of the 19th century and well into the 20th, residential and day schools that exclusively served deaf students—many patterned after the American School for the Deaf—proliferated across the United States. Because the incidence of deafness is relatively rare (affecting roughly 1 out of 1,000 children), deaf children across an entire state were often brought together at a single institu-

1. The editors wish to thank Barbara Raimondo for contributing much of this section.

tion. Trained teachers, house parents, and other staff members could be efficiently assembled at such schools, thus creating a visually accessible learning environment that could not be provided by most of the children's families or local schools throughout the states. In *A Place of Their Own: Creating the Deaf Community in America*, Van Cleve and Crouch (1989) suggest that such "tax-supported special educational institutions freed families from the terrible dilemmas that had confronted the Cogswells and [other parents]. Now, the bewildered parents of deaf children could be assured that their offspring would receive skilled instruction on this side of the Atlantic, and at relatively low cost" (p. 47).

Although education in the United States has always been, and continues to be, primarily the responsibility of states, the federal government has on many occasions played a significant role in determining how education is provided. Passage of the Morrill Land-Grant Colleges Act in 1862 was one such development. This law allocated federal funds for purchasing land on which colleges could be built in every state that was still part of the union. These land grant colleges promised to make college educations available to a much broader range of students. This spirit of creating more inclusive educational opportunities may well have played a role in the federal funding, beginning in 1857, of the Columbia Institution for the Deaf and Dumb (henceforth, the Columbia Institution for the Deaf) and approval in 1864 of the establishment and funding of a college-level program for granting bachelor degrees to deaf students (Gallaudet, 1983). When Lincoln signed the charter approving the development of a federally supported college serving deaf undergraduates in Washington, D.C., America became the first nation in the world that offered elementary, secondary, and college-level educational programs exclusively for deaf students.

Communication Issues

Until the mid-1970s, residential and day schools for deaf children were widely accepted as an excellent solution to the instructional challenges that these students presented. Schools for the deaf trained teachers in the communication method considered most effective or valuable within their program to compensate for the lack of formal instruction and experience in deaf education among applicants. To this day, it is rare for a subject-area specialist certified to teach the general student population to also have the special capabilities required to teach deaf children. Consequently, when deaf students are placed in mainstream settings, skilled educational interpreters play a critical role. Unfortunately, there is no consensus among schools and programs on how best to handle the communication issues presented by students who cannot hear. Given that effective communication plays such a vital role in education, an overview of the history of communication practices and disputes in the years since Gallaudet brought Laurent Clerc to America deserves attention here.

Although the manual communication method and philosophy that Gallaudet and Clerc imported to the United States from France² led to practices that were

2. The imported method and philosophy were first developed in the 18th century by the Abbé de l'Épée, founder of the Paris Institute.

widely adopted nationwide, disagreements about aspects of those practices have existed ever since. As early as the 1830s, some argued that teachers of deaf students should present signs in English word order as they spoke, thus at least referencing the language of common discourse. Others, more concerned with imparting information engagingly and efficiently, favored a more natural form of signing that followed its own rules and did not overburden itself with visual references to spoken English. Some believed that fingerspelling should be used as much as possible to create a direct connection between face-to-face communication and reading and writing, whereas others argued about the wearying concentration required and the slowness that resulted from excessive use of fingerspelling.

Those debates, however, were mild compared with disputes between educators who favored some form of manual communication and advocates of a pure oral approach. For much of the 19th century in America (roughly from 1817 to the 1880s), students who were taught in manual communication programs were learning the basics of reading, writing, and arithmetic, plus practical knowledge helpful for obtaining jobs with employers willing to learn signs, demonstrate skills visually, or write on slates to communicate with workers who could not hear or speak (Buchanan, 1999).³ But as early as the 1840s, educational reformer Horace Mann and others, influenced by German oralists, expressed the view that it was wrong to assume that speech and effective speechreading were beyond the reach of deaf children. Mann felt that American educators of deaf students were depriving these students of skills that would help them find a wider range of jobs and fit in better with the rest of society.

In the 1860s, oralists succeeded in establishing the Clarke School for the Deaf in Massachusetts and the New York Institution for the Improved Instruction of Deaf Mutes (which later became the Lexington School for the Deaf), both of which were in competition with existing schools that used the manual method. In 1868, Edward Miner Gallaudet, son of Thomas Hopkins Gallaudet and president of the Columbia Institution for the Deaf (which later became Gallaudet College), presented a paper to superintendents of schools for the deaf, advocating a “combined method” in which students would continue to be taught in sign language but would also be given a substantial amount of instruction in articulation and speechreading. Having visited oral programs in Europe where he discovered that the approach was often successful, Gallaudet made this concession partly to head off inevitable oralist criticisms of American schools for the deaf, thereby, he hoped, preserving the use of sign language in those schools (Van Cleve, 1987).

In 1880, at the Congress of Milan, an international meeting of mostly hearing European and American educators, there was a public exhibition of deaf Italians who presumably had learned to read lips (speechread) and speak. Their demonstrations were accepted by most in attendance as evidence that deaf people can learn to understand and produce spoken language. All but one of the European

3. A widely circulated periodical produced by deaf people, which began in 1888 and continues to this day, is called *The Silent Worker*.

attendees voted in favor of a resolution to the effect that deaf education programs in the represented countries (seven European countries plus the United States) should henceforth concentrate on training deaf students to read lips and to speak the national languages of their respective countries. American attendees, including Edward Miner Gallaudet and one deaf delegate, opposed the resolution and voted in favor of the combined method. In spite of their dissent, the destiny of the majority of American deaf students for the next 90 years was largely determined by the influence of oralists.

As a consequence of this major international political victory, between the 1880s and the early 20th century, Alexander Graham Bell and other like-minded individuals successfully transformed deaf education in America, converting most schools for the deaf into oral schools and eliminating deaf teachers, who were seen as inadequate models of speech. Edward Miner Gallaudet retained the combined method at the Columbia Institution for the Deaf, as did the superintendents at some other schools for deaf students. Nevertheless, oralism became the dominant teaching philosophy nationwide at least until the late 1960s. During that time, deaf students were taught to concentrate on and recognize English words in the lip movements of hearing speakers. But so many aspects of pronunciation *look* virtually the same—even though hearing people can easily *hear* the differences—that speechreading of ordinary speakers in casual circumstances has always required a large amount of guesswork. Cued Speech, invented by Dr. Orin Cornett at Gallaudet College in 1966, is a method that helps resolve the ambiguity of lip movements but requires a trained cuer to be effective (Henegar & Cornett, 1971).

Deaf students in oral programs devoted much of their class time to speech instruction, with very uneven results. Although students were often punished for signing to one another, the decades in which sign language was forbidden provoked an underground devotion to its use among deaf students in residential schools. Typically, older deaf children or the deaf children who had deaf parents taught sign language to other children in dormitories, on playgrounds, and during weekends. The resulting friendships developed into lifelong social networks, known collectively as the “deaf community.”

Nevertheless, an undeterred oralist philosophy dominated deaf education programs nationwide until the late 1960s when widespread dissatisfaction with the educational results of this approach and a feeling that the elimination of sign language from deaf education had been too severe prompted the birth of a new philosophy called “Total Communication.” At first, fingerspelling was allowed into some programs; then school after school began to allow signs to be presented as a visual augmentation of speechreading, a practice now described by linguists as “Sign Supported Speech” (Johnson, Liddell, & Erting, 1989).

As Total Communication took hold, various groups of educators, including deaf and hearing individuals, decided to find ways to alter sign language in an effort to make it represent English visually. In addition to efforts such as Signed English, intended primarily to help hearing parents learn and use simple signs as they spoke or read to their deaf children, Linguistics of Visual English (LOVE), Seeing

Essential English (SEE I), and Signing Exact English (SEE II) were developed as serious efforts to represent through signing all aspects of spoken English, including signs invented to represent articles, prefixes, suffixes, and verbs such as *to be* that had no signing counterpart. Many signs were “initialized” with fingerspelled first letters to link the sign more clearly to an English word.

Beginning in the late 1950s, a full decade before Total Communication was born, William C. Stokoe, an English professor at Gallaudet University, began to film and analyze sign language as members of the American deaf community naturally produced it among themselves. Stokoe’s groundbreaking *Sign Language Structure* in 1960 and *A Dictionary of American Sign Language on Linguistic Principles* (with Casterline and Croneberg) in 1965 challenged the prevailing view that sign language was a crude form of communication, arguing that it should be seen as an independent language—American Sign Language (ASL)—with a sophisticated structure capable of transmitting complex ideas.

Efforts by linguists, sociolinguists, and Gallaudet’s National Center for Law and the Deaf began as early as 1978 to have ASL accepted as a first language for deaf students (Woodward, 1978). These advocates argued that ASL could be used in deaf education programs with the support of the Bilingual Education Act of 1978. Although the U.S. Department of Education did not accept this view, then or subsequently, several programs in various states began to use ASL in the 1990s on their own initiative, justifying this use on the grounds that ASL functions as an efficient, easily grasped medium for teaching deaf students in through-the-air instruction and discussion. Many linguists and educators continue to argue that ASL ideally serves as a first language for deaf students through which English as a second language to be used for reading and writing may be taught visually.

Today, deaf education is conducted in all of the ways just described. Oralism is still the governing philosophy of many programs, sometimes more or less by accident in mainstream programs and sometimes with the augmentation of cues in programs using Cued Speech⁴ or a more recent innovation called Visual Phonics (Friedman Narr, 2006). Some bilingual programs use ASL for most instruction and discussion but use blackboards, computers, workbooks, and associated techniques such as “chaining” (signs and words with like meanings presented in rapid succession) to increase deaf students’ grasp of English. A few bilingual programs use ASL for teaching some subjects and Cued English for others—a fascinating variation on Edward Miner Gallaudet’s combined method. Many programs continue to use Signed English or SEE II or some less formalized system of Total Communication.

As a result, controversy still exists concerning optimal communication methods for teaching deaf children. The search for solutions to these issues has been complicated by the fact that the majority of American deaf children are no longer taught in separate, special schools where communication practices can be ex-

4. The method is often called Cued English when referring specifically to its use in association with that language, as is generally the case when used in schools serving deaf children in the United States.

pected to be somewhat consistent from class to class. Today, parents, teachers, and school administrators must seriously consider a deaf child's communication needs and background when making placement and accommodation decisions. The same needs and background must be carefully considered when the child is required to take a statewide test. A deaf child's access to both the curriculum and test materials cannot be taken for granted until—at a bare minimum—the communication needs of the individual child are satisfactorily met.

Joining the Mainstream

In 1975, Congress passed the Education for All Handicapped Children Act, later reauthorized as the Individuals With Disabilities Education Act in 1990. This law, in all its reauthorizations, has endeavored to find workable ways to allow children with disabilities, including deaf children, to attend regular local schools. The last three reauthorizations have made explicit the expectation that students with disabilities learn the general curriculum of their state to the extent possible. This legislation was largely a result of a successful effort by parent advocates for children with cognitive disabilities—especially those labeled as “educable mentally retarded”—who argued in district court cases (see Raimondo, this volume) that these children, often institutionalized and deprived of appropriate intellectual challenges, deserved to benefit from a general curriculum and should be admitted as much as seemed beneficial into mainstream settings (Moores, 2001, p. 19). For reasons related to communication issues already discussed in this introduction, there is much less evidence that parents of deaf children felt similar discontent with separate, special programs for children who are deaf. Nevertheless, various factors seemed to conspire to make the mainstreaming of most deaf children inevitable.

For one thing, the Civil Rights movement in America had raised questions about discrimination, disparate resources, low expectations, and benevolent paternalism associated with so-called “separate but equal” educational systems for minority populations. Although teaching deaf children required communication skills unknown by most teachers in regular schools, it was difficult to dispute that an unknown number of bright deaf students, frustrated by the pace of education in schools for the deaf, might be able to succeed in mainstream settings with the help of appropriate accommodations. Placing deaf students in special schools, in other words, was not necessarily the best solution for *all* deaf children. A range of placement options needed to be available, and Individualized Education Programs (IEPs), developed with the input of key people in a child's life, needed to be the basis for deciding where in this range a deaf child should be positioned.

The emphasis of the Individuals With Disabilities Education Act has historically been less on guaranteeing that disabled children meet the same achievement goals as other students than on ensuring that they are included and taught in whatever placement seems most likely to help children advance from grade to grade with their nondisabled peers (see Raimondo, this volume). Recent reauthorizations of this law, however, have increasingly emphasized the importance of achievement testing as a means of assessing the success of these placements. This change became strikingly clear in the 1997 reauthorization of the Individuals With Disabili-

ties Education Act, which required that all disabled children must participate in statewide assessments. The 2004 reauthorization included many provisions related to the assessment of children with disabilities, largely to conform with the No Child Left Behind Act of 2001, which itself was a reauthorization of the Elementary and Secondary Education Act of 1965.

The Elementary and Secondary Education Act was the first federal act designed to provide financial support and guidelines directed at ensuring that “all” American children would get satisfactory elementary and high school educations. Part of President Lyndon Johnson’s “War on Poverty,” the law was particularly focused on enabling children with low socioeconomic backgrounds to get the help they needed to get good educations. Naturally, the emphasis on the word *all* also carried implications for children with other disadvantages.

The No Child Left Behind Act was so named to emphasize that schools not only were being *urged* to provide quality education to all students (including deaf students) but also were, in fact, being held *accountable* for doing so. Because the two federal laws (Individuals With Disabilities Education Act and No Child Left Behind) have deliberately extended their reach to embrace all children in the United States, deaf education—previously the exclusive province of state-run or privately operated, separate, special schools—has become part of a system in which the academic achievement levels of deaf students are increasingly measured by the same tests and standards applied to all other children. The rigorosity of what are considered acceptable achievement levels varies considerably from state to state, but in recent years, it has generally gotten higher nationwide.

Opportunity to Learn

The concept of *opportunity to learn*, as the term is used in No Child Left Behind, refers to the obligation of schools and teachers to make every reasonable effort to provide whatever form of instruction is needed to ensure that all students learn the material in which they are expected to become proficient. Teachers must determine the optimal mode of communication, pace of instruction, and method of demonstration needed by each child to learn the required material. To ensure that all students in a class will be ready for end-of-year assessments, teachers should do more than simply present the concepts and information contained in the state curriculum for the students’ grade level. Ideally, they would also devote as much time as necessary to reviewing material and developing learning exercises that can deepen the students’ grasp of the concepts being taught.

Because the emphasis in No Child Left Behind is on providing *equitable* opportunities to learn, the school should not give up on a child who is disadvantaged, difficult to motivate, or disabled. If an accommodation is needed to boost a child’s achievement level and—importantly—if the child’s achievement level is not yet proficient, then reasonable efforts should be made to provide the accommodation. Partly as a legacy of the Supreme Court decision in *Hendrick Hudson School District v. Rowley* in 1982, these “shoulds” do not amount to actual requirements in No Child Left Behind. With that ruling, a majority of Supreme Court justices decided that the federal government must not overstep a state’s decisions concerning what

must be done to provide educational opportunities for students who, in spite of a disability, are academically proficient. Nevertheless, the law does state that failure to enable students either to achieve proficiency or to make “adequate yearly progress” toward that goal can result in “serious adverse consequences” for teachers or school administrators. Jay Heubert and other experts in educational law have gone so far as to describe the high stakes assessment of students who have *not* had adequate opportunity to learn as “immoral” (Heubert, 2001).

As will become clear from reading the many chapters in this volume by specialists in deaf education, those who are familiar with the day-to-day challenges involved in preparing deaf students for statewide assessments tend to be doubtful that even “*equitable* opportunities to learn” required by No Child Left Behind will necessarily result in an *equal* opportunity to learn a state curriculum. For instance, when it comes to educational interpreting as a means for achieving equitable learning opportunities, the capabilities of interpreters vary and the information received is not necessarily equivalent to what the teacher is saying. An interpreter may not always be present or may not know the form of signing that is most familiar to the deaf student (Winston, 1994, pp. 55–62). For a variety of reasons, deaf students in mainstream settings are often reluctant to interrupt the teacher if they have difficulty understanding. Also, if there is no follow-up linking the signed information with material in the English text, then the student may have difficulty associating what was learned by means of an interpreter with a printed question on a state assessment form.

Because test designers generally assume that students taking statewide assessments already have a substantial English vocabulary by the third grade and are quite familiar with common English usage, teachers of deaf students must work extra hard not only to provide information about subject matter (social studies, mathematics, etc.) in a visually accessible modality but also to take steps to fill the gaps in deaf students’ grasp of written English. Teachers in bilingual ASL–English programs use various strategies to create links between sign language and written English presentations of the same information, sometimes conducting face-to-face class discussions in ASL and then continuing the discussions in English on connected computers. During discussion of a subject or concept in ASL, teachers may write English words on the blackboard, present an ASL sign that has similar meaning, and fingerspell the English word, thus building awareness of English vocabulary. Teachers may help students analyze the structure of an ASL sentence, then show the students on the blackboard how the same sentence could be translated into English, thereby building metalinguistic awareness.

This monumental but necessary effort may require more time than is realistically available in a normal school year. The desire to unify visual and English communication, using Signed English, SEE I or II, Cued Speech, or a pure oral approach, is understandable in the context of current pressures. It must be kept in mind, however, that a history of unresolved disagreement exists concerning the effectiveness or ineffectiveness, advantages and disadvantages of each of these approaches. Given the fact that communication continues to present problems for deaf students, even in this age of accountability, it is understandable that many

parents today choose to have cochlear implants surgically placed in their deaf children in the hope that this technology will provide a viable level of hearing. Some children, if the surgery and follow-up are successful, may indeed escape many of the difficulties just described, though they may face other difficulties outside the scope of this book. Whatever approach is used, of course, needs to be well-researched and chosen with great care.

It should be added that although many parents of deaf children go to great lengths to learn about the options they should explore, and though these parents often strive to learn and use some form of sign language with their preschool-aged deaf children, many others, for a variety of reasons, fail to learn how to communicate effectively with their deaf children. As a result, some children enter first grade or are transferred to a special program at a later age with too little language capability to be ready for anything approaching grade-level instruction (see Bosso, this volume). The consequences of such language delays are usually difficult for an individual teacher to overcome during the time such a child is in his or her class. Moore (this volume) goes so far as to say that parents of newly diagnosed deaf children should be required by law to learn and use sign language with their children. Her point, of course, is that a deaf child's preschool years should be seen as among the child's most important opportunities to learn. Parents must be among the child's first teachers, and in fairness to the child and to the child's teachers in school, parents should share in the accountability for these children's educations.

However discouraging the process sometimes may be, honest efforts to create equitable opportunities for deaf students to learn must be pursued not only because they are required by current federal law but also because these efforts collectively may indeed raise the level of deaf students' knowledge of a general curriculum.

KNOWING WHAT DEAF STUDENTS KNOW

Over November 15–16, 2002, a national conference called “High Stakes Testing: Are Deaf and Hard of Hearing Students Being Left Behind?” was held in Gallaudet University's Kellogg Conference Center. I. King Jordan, who had become Gallaudet's first deaf president in 1988, acknowledged in his welcoming remarks that many deaf students were indeed being “left behind” as a result of statewide testing. This answer to the conference title's rhetorical question was reinforced later in the conference by Pat Moore (this volume), who discussed the difficulties deaf students will have seeking employment as more and more states begin to withhold diplomas from students who do not pass high school exit exams.

The information imparted at the conference that seemed to support a pessimistic view of deaf students' prospects on statewide assessments consisted of Stanford Achievement Test data on the academic capabilities of deaf students analyzed over a four-decade period by researchers in the Gallaudet Research Institute (see Mitchell, this volume). In essence, the data showed that deaf 18-year-olds, historically and on average, perform at slightly below a fourth-grade level in reading

comprehension and roughly at a sixth-grade level in mathematics. These areas of learning involve skills so fundamental to academic performance that No Child Left Behind and most states emphasize the importance of reading and math proficiency in statewide assessments. Betsy Case (this volume), who at the time of the conference worked for Harcourt Assessment, which continues to develop and market the Stanford tests, described the deaf student population as facing “*extra, extra* challenges passing high stakes tests.”

What fascinates us is that, in spite of Stanford achievement data, No Child Left Behind does not exclude deaf students from the requirement that schools raise the test scores of *all* students to proficient levels by 2014. Even teachers of deaf students who complain that it is unreasonable to expect these students to perform so well so soon, if at all, must acknowledge that the insistent optimism of No Child Left Behind with respect to the potential proficiency of deaf students and other students with disabilities is, from one point of view, a refreshing contrast to the prejudices and stereotypes of the past. It must also be admitted that by not backing away from the requirements mandated in No Child Left Behind for “Adequate Yearly Progress,” the federal government is forcing teachers of deaf students and state departments of education to consider every possible approach that might realistically be pursued to meet the law’s goals. Even if 100% proficiency on state tests by 2014 is an unrealistic goal for all deaf children, any breakthrough in research or educational practice that might significantly improve this population’s typical academic achievement patterns by that date would be encouraging.

Most American academic achievement tests, including math word problems, are developed in written English. The simplest explanation for deaf students’ difficulties with the tests in their printed form is that deafness diminishes or precludes a person’s ability to associate words on the page with well-known speech patterns (Kelly & Barac-Cikoja, 2007). This very specific problem is generally not correlated with basic intelligence. Some profoundly deaf people have to a significant degree managed to overcome this difficulty, and researchers at Gallaudet University and elsewhere are working now, in a Science of Learning Center on Visual Language and Visual Learning (VL²), recently funded by the National Science Foundation, to determine how an individual can become a proficient reader without relying on hearing. It is hoped that if this research can shed light on the methods used by skilled deaf readers, some of that skill can be taught to other deaf people. In the long run, this research could lead to improved results for larger numbers of deaf students on statewide assessments.

One solution to deaf students’ testing difficulties that may yield positive results would be for states to adopt more liberal and generous policies with respect to the accommodations used during testing. In some states (South Carolina perhaps setting the most striking example), students who are deaf may take a range of possible forms of a standard grade-level test (see Foster, this volume). For one thing, items deemed by specialists in deaf education to be biased against deaf students are routinely replaced with items measuring the same intellectual construct that do not have that bias. Also, they are given additional time, if needed,

to compare difficult-to-understand items on the printed forms with the same items carefully translated into ASL or a form of Signed English on DVDs before choosing responses on the printed form. The exact accommodation used depends entirely on the accommodation the student typically receives during instruction. A student accustomed to Cued Speech, for example, may be administered the test in that way according to the requirements of a carefully prepared script for a test administrator trained in Cued Speech. Such accommodations have the effect of removing from the deaf student much of the stigma attached to this disability. They enable deaf students to demonstrate what they know in a way that is not obstructed by the manner in which they are asked to demonstrate their knowledge.

Although we will speculate in this book's Afterword on some initiatives that might make statewide, standards-based testing more accessible and fairer for deaf students, our goal as editors is not to dictate how the current age of accountability must be managed. We have attempted, rather, to assemble information we hope will be helpful to policymakers, teachers, school administrators, parents, and others concerned about the education, welfare, and future of deaf students.

A NOTE CONCERNING THE TERM *DEAF STUDENTS* AS USED IN THIS BOOK

Many readers of this volume will be surprised by the rarity of the adjectival phrase "deaf and hard of hearing" in these pages. We, the editors, chose to use the single word *deaf*, largely because it is less wordy, making the book easier to read (we hope). But there were also other, more substantive reasons for simplifying this descriptive term.

Moore (2001) defines a "deaf person" as "one whose hearing is disabled to an extent that precludes the understanding of speech through the ear alone, with or without the use of a hearing aid" (p. 11). He defines a "hard of hearing person" as "one whose hearing is disabled to an extent that makes difficult, but does not preclude, the understanding of speech through the ear alone, with or without a hearing aid" (p. 11). By those definitions, both deaf and hard of hearing students could be, and in fact are, included under our umbrella term *deaf students*. Our use of the term *deaf students*, however, can be taken to refer to both categories only to the extent that hearing loss has made the understanding of speech so difficult that an IEP has been required to help find placements and accommodations to overcome barriers to learning that might result from the hearing loss. Before the late 1980s, the term *hearing-impaired* was used to capture the same group of students who were educationally challenged as a result of hearing loss. That term fell into disfavor, however, because of its emphasis on deafness as an impairment.

We assume that an unknown number of hard of hearing students may be managing to hear their teachers and internalize spoken English well enough to have escaped the reporting system that brings data with respect to these particular students to the attention of research scientists at the Gallaudet Research Institute. For example, the data on deaf students taking Stanford Achievement Tests, dis-

cussed in Chapter 2 (Mitchell) of this volume, are based on test results for students whose hearing loss was severe enough to prompt school personnel to request information on norms for deaf students as a way of interpreting the test results. This population, which we refer to as “deaf students,” is the group we are discussing throughout this book.

Chapter 13 of this volume, by Pat Moore, includes charts that contrast test results for “deaf” and “hard of hearing” students attending the California School for the Deaf. By our definition, both groups would fit under the general term used in the title of this book. Those charts show that these hard of hearing students, though performing on average at levels higher than those of the deaf students, are nevertheless experiencing significant educational difficulties that may be largely attributable to their hearing loss. (Some may have additional cognitive difficulties.) The placement of such students at schools for the deaf nationwide underscores our view that it is reasonable to include such students in the overall scope of this book’s concern and to include them in the general category of “deaf students.”

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