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Deaf Students as a Linguistic and Cultural Minority: Shifting Perspectives and Implications for Teaching and Learning

MICHAEL HIGGINS, KENDALL DEMONSTRATION ELEMENTARY SCHOOL, GALLAUDET UNIVERSITY, AND AMY M. LIEBERMAN, BOSTON UNIVERSITY SCHOOL OF EDUCATION

ABSTRACT

Deaf children have traditionally been perceived and educated as a special needs population. Over the past several decades, several factors have converged to enable a shift in perspective to one in which deaf children are viewed as a cultural and linguistic minority, and the education of deaf children is approached from a bilingual framework. In this article, we present the historical context in which such shifts in perspective have taken place and describe the linguistic, social, and cultural factors that shape a bilingual approach to deaf education. We further discuss the implications of a linguistic and cultural minority perspective of deaf children on language development, teacher preparation, and educational policy.

It is estimated that for every one thousand children born in the United States approximately two to three are identified with a significant hearing loss, thus, deafness is classified as a low-incidence disability. As of 2012 an estimated 80,000 deaf and hard of hearing (D/HH) individuals between the ages of 3 and 21 were served under the Individuals With Disabilities Education Act (IDEA) (U.S. Department of Education, Office of Special Education Programs, 2014). These facts and statistics suggest that deaf students, like those with other identified disabilities, are viewed from a social, medical, and policy perspective as a group requiring specific accommodations. However, the very notion of deafness as a disability has been challenged from multiple viewpoints throughout history. From a different perspective, Deaf people can be considered a cultural and linguistic minority group, who use a fully formed language—American Sign Language (ASL)—and are members of a distinct minority culture. Consistent with this perspective we will follow the convention of using "deaf" to refer to the audiological condition of hearing loss and "Deaf" to refer to membership in a cultural group.

In this article, we describe how this alternative perspective of deafness has specific implications for the use of ASL as the first language of deaf children and the subsequent implications for their education. We begin with an historical overview of societal views of deafness and deaf education. We then present the linguistic and cultural minority perspective and describe how taking such a perspective has implications for the education of deaf students, the preparation of professionals who are being educated to work with these students, and large-scale change in societal attitudes and formal policy.

The field of Deaf Education today is in a state of substantial change. Worldwide linguistic research on signed languages has increased. This research has informed our understanding of human language and language acquisition, including the importance of early language exposure (Mayberry, Lock, & Kazmi, 2002), the core linguistic features that exist in language regardless of modality (Meier & Cormier, 2002), and the possible mechanisms of language evolution observed in the emergence of new sign languages (Sandler, Meir, Padden, & Aronoff, 2005; Senghas, Kita, & Özyürek, 2004). In addition, research on deaf students' achievement provides conclusive evidence that ASL fluency is a key predictor of the academic, linguistic, and social-emotional achievement of deaf students (Hoffmeister, 2000; Prinz & Strong, 1998). Deaf communities in the United States and around the world are experiencing a period of activism, striving for their human rights to language, education, and communication access. On the other hand, the influence of technology, specifically the increasing availability and popularity of cochlear implantation in deaf infants before their first birthday, has had a profound impact on the push for oral-aural education. The U.S. Department of Health & Human Services National Institute on Deafness and Other Communication Disorders (NIDCD) reported in 2011 that 42,600 adults and 28,400 children in the United States have received cochlear implants. Many have theorized that this increase is directly related to declining enrollment in residential and state schools for the Deaf in the United States.

The convergence of these two historical shifts—an increased awareness of sign language as a full human language and the rapidly increasing popularity of cochlear implants and oral approaches to educating deaf children has had the unfortunate consequence of dividing the educational landscape for deaf students. Our goal in this article is to shift the focus from political arguments regarding the "best" type of education for deaf students to a perspective of deaf students belonging to a linguistic and cultural minority group. Specifically, our goal is to illustrate how deaf students, like those in other cultural and linguistic minority groups, need exposure to an accessible and full language, in this case ASL, which then serves as the foundation for acquiring English in written and/or spoken form(s). Drawing upon both the English language learner literature and research on bilingual education, we present a perspective that has been promoted and understood within the scientific study of language acquisition and among members of the Deaf community, but largely ignored by both medical professionals and educational policy-makers.

HISTORICAL CONTEXT

Identification and Intervention

A major development in recent history concerns the age of identification of hearing loss. Until the mid-1990s only infants at highest risk for hearing loss were screened at birth. As a result, deafness was often not identified until the age of two and a half or three and sometimes later. In anecdotes typical of this era, parents were often the first to suspect that their child did not respond to sound. They made loud noises out of the infant's line of vision and noticed a lack of response. In addition, parents often became concerned when their child did not appear to be developing language at a typical rate. This usually led to a visit to a general practitioner or specialist, however, even then it was not uncommon for parents to be reassured about the range of "typical" language development and sent home without a diagnosis. Only when the language delay persisted would parents be sent to an audiologist who would test the child's hearing and confirm the parents' suspicions of their child's hearing loss. The obvious consequence of this delayed identification was that deaf children were given no access to services and thus were not exposed to any accessible form of language in the early and critical years when language is typically acquired. As a result deaf children often entered school with extreme delays in language development, which had cascading effects on their ability to acquire literacy and other academic skills. Thus, late-identified deaf children consistently lagged behind their hearing peers with regard to academic achievement.

The problem of early identification was largely eliminated by the 1993 National Institutes of Health (NIH) recommendation that newborns receive early hearing screening and by the Newborn and Infant Hearing Screening and Intervention Act of 1999, which helped in the coordination and funding of statewide programs. Today, over 95% of children are screened for hearing loss at birth (NIH, 2015). Unfortunately, while early identification has now been achieved, identification alone does not guarantee that appropriate intervention will follow. It is at this critical juncture where opposing perspectives about the appropriate course of action are most influential. Adding to the complexity is the fact that "options" for communication (e.g., sign vs. speech) are often presented to parents as though they must choose one or the other approach to intervention. This false dichotomy often leads parents through a confusing and frustrating process where they receive mixed messages from various individuals and feel they need to choose a single communication method for their child. In some states, the early intervention process is the responsibility of a nonprofit group created by the state whose role is to present to parents a palette of all the different approaches used with deaf children, thus acting as a "funnel" for special-interest groups to contribute promotional materials supporting their particular educational approach. This process can be detrimental to families who are attempting to navigate conflicting information and make their own decisions as to what is best for their child.

Given that the setting in which parents encounter these intervention professionals early on is typically a medical one (e.g., a hospital, clinic, or audiologist's office), deafness is often presented from a medical view. This medically oriented pathway is rooted in a disability and impairment perspective in which the intent is to "fix" or "cure" the child's deafness with the overarching goal of functioning in a mainstream, hearing environment using a spoken language. The rapid advances in cochlear implant technology and the increasing popularity of cochlear implants in children at twelve months or younger has bolstered the perspective that the development of spoken language is the single goal of intervention for deaf children. The use of sign language is often either discouraged or suggested as a temporary tool to be used only until spoken language is acquired.

EDUCATIONAL PLACEMENT AND ACADEMIC ACHIEVEMENT IN DEAF STUDENTS

In parallel with the goal of treating deafness through the use of technology designed to make spoken language accessible, the traditional path of educational placement takes a similar deficit-oriented approach that has been detrimental to deaf children's achievement (Qi & Mitchell, 2011). At present deaf children are placed within the division of Special Education, and services are provided under the framework of the Individuals with Disabilities Education Act (IDEA), originally passed in 1975. Specific language in the IDEA has been extremely influential in placement decisions for deaf children, specifically the mandate that all disabled children are entitled to a "Free, Appropriate Public Education" in the "Least Restrictive Environment" (LRE) (U.S. Department of Education, www.ed.gov). The least restrictive environment is generally considered to be one in which children with disabilities are educated in mainstream settings alongside their non-disabled peers. While passage of the IDEA has had enormous benefits for many children with physical and developmental disabilities, it has been largely problematic for deaf children. Here the disability orientation begins to break down. For deaf children what is needed most is access to a natural language. When deaf children are placed in mainstream settings, that is, in classrooms where the majority of children are hearing, and instruction is provided in spoken language, deaf children are set up for almost certain failure. While supports in mainstream classrooms may include a large range of features including Frequency Modulated (FM) systems, note takers, interpreters, and others, deaf children in these classrooms inevitably miss out on the full range of communication, discourse, and interaction that takes place within the classroom (Padden & Ramsey, 2000). It then becomes a restrictive linguistic environment for these children.

Any assessment of the current status of achievement among deaf students will illustrate that the model described above is failing the vast majority of deaf children. For those children who do not have sufficient access to sound to perceive and acquire spoken language, placement in classrooms where they are linguistically isolated from their peers and do not have direct access to the language of instruction has had significant negative consequences. Deaf students are

widely cited as graduating from high school with an average reading level of fourth grade (Allen, 1986; Traxler, 2000). Academic performance in subject areas is similarly behind (Qi & Mitchell, 2011). Clearly, this model is not allowing deaf children to reach their full potential.

AN ALTERNATIVE APPROACH: DEAF STUDENTS AS A CULTURAL AND LINGUISTIC MINORITY

Beginnings of a New Movement

It is difficult to pinpoint a place and time where deafness began to be viewed from a cultural and linguistic minority perspective, but within Deaf communities, this awareness has always been present. Signed languages emerged from the Deaf community, which is an active and stable linguistic community (Baynton, 1996; Lane, 1992; Lane, Hoffmeister, & Bahan, 1996; Padden & Humphries, 1988, 2005). Nonetheless, we can point to key historical milestone seminal works that have led to more widespread understanding and appreciation of this perspective. We limit our focus to events that occurred in the United States, although similar progress has taken place in other countries, in some cases with greater success (Hermans, Knoors, & Verhoeven, 2009; Rydberg, Gellerstedt, & Danermark, 2009).

Perhaps the most important development over the past century has been the recognition and acceptance of natural sign languages, such as American Sign Language, as fully formed human languages distinct from, yet linguistically parallel to the surrounding spoken languages in which they exist. This recognition can be largely traced to the work of William Stokoe and colleagues (Stokoe, Casterline, & Croneberg, 1965). The first paper was *Sign Language Structure*, published in 1960, in which Stokoe presented his descriptive system for ASL that illustrated its status as a full and independent language. Soon after, in 1965, the first dictionary of ASL, *A Dictionary of American Sign Language on Linguistic Principles,* by Stokoe and his Gallaudet colleagues Carl Croneberg and Dorothy Casterline, was published. From there, linguists continued to seriously examine ASL and other natural sign languages, and later publications continued to describe and delineate the structure of ASL and the impact of modality on language. The publication of *The Signs of Language* by Edward Klima and Ursula Bellugi in 1979 is a prime example of such influential work. The body of research developed during this period of time described the phonological and grammatical features of ASL (Battison, 1978; Bellugi, 1980; Humphries, Padden, & O'Rourke, 1980; Newport & Meier, 1985; Padden, 1986, 1988; Supalla, 1986).

In parallel with the recognition of sign language came the growing acknowledgement that Deaf people view themselves as belonging to a distinct cultural group, bound by common experiences, a shared language, and a rich history of cultural practices and traditions. The practices of a linguistic and cultural community of signers can be regarded as indigenous practices that the people of this community engage in and share with each other over generations (Humphries, 2004; Reagan, 2004). While this view has long existed within the Deaf community, it is still largely unknown among the general majority population. Increased awareness was achieved through key publications that were generated from within the Deaf community. Examples include *Deaf in America: Voices from a Culture* by Deaf scholars Carol Padden and Tom Humphries in 1988; the subsequent volume, *Inside Deaf Culture*, by the same authors in 2005; Harlan Lane's *The Mask of Benevolence: Disabling the Deaf Community* in 1992; and *A Journey into the Deaf-World* by Harlan Lane, Robert Hoffmeister, and Benjamin Bahan in 1996.

The perspective and acceptance of deafness as a culture and of Deaf people as belonging to a linguistic minority group was evident not only in the publications cited above but also in historical events and milestones. Although a full description of the growing activism is beyond the scope of this article, a single event is illustrative. In 1988, Gallaudet University, the only four-year higher education institution for deaf students in the United States, became the focus of national attention when the Board of Trustees appointed a president who was hearing. Students protested the appointment of a hearing president in what became known as the "Deaf President Now" movement. Gallaudet students, supported by alumni, faculty, and staff, shut down the campus. The protest ended after several days with the appointment of I. King Jordan, a deaf person, as the first deaf president of Gallaudet. This historic event is often considered a turning point in the recognition of the equal status of Deaf people and the right of institutions and bodies intended to serve Deaf people to be administered by deaf individuals.

Deaf Culture Today

The issue of language access continues to be at the forefront of political, cultural, and educational movements concerning Deaf people today. New movements have arisen to promote positive Deaf identity. For example, the concept of 'Deaf Gain,' a term introduced by Bauman and Murray in the edited volume *Deaf Gain: Raising the Stakes for Human Diversity* (2014a) is described in a subsequent article (Bauman & Murray, 2014b) as follows:

> We have thus coined the term 'Deaf Gain' in opposition to 'hearing loss' in order to encompass the myriad ways in which both deaf people and society at large have benefited from the existence of deaf people and sign language throughout recorded human history. (11/13/14)

The rise in activism within the Deaf community is also evident in increased presence on social media platforms reflecting the growing grassroots movement (Facebook page Deaf Grassroots Movement) and an increasing number of strikes and protests demanding access to language. At several schools for the deaf, community members are demanding deaf superintendents and increased ASL services (e.g., Facebook page WPSD Hunger Strike for Deaf Children's Rights).

THE IMPORTANCE OF LANGUAGE

Language development in deaf children. Considering deaf children as a linguistic minority group requires that we understand the

task of language development in deaf children. Specifically, we consider the acquisition of ASL as a first language for young deaf children. When deaf children are exposed to ASL early and are given ample exposure to acquire ASL through interaction with skilled users of the language, development proceeds in a way that is largely parallel to that of typical spoken language acquisition in hearing children (Mayberry & Squires, 2006). For example, studies of the timing of the onset of sign production have revealed there is little if any difference in the onset of first words versus first signs, and that any difference is short-lived (Meier & Newport, 1990). Deaf children acquire ASL vocabulary following patterns that are similar to hearing children acquiring spoken vocabulary, with a preponderance of nouns in early lexicons (Anderson & Reilly, 2002). Studies of complex morphological structures such as classifiers have shown that deaf children may initially perceive and acquire such structures holistically, but as they develop they recognize them as multi-unit combinations and produce individual units before combining them into complex constructions (Schick, 1990; Slobin et al., 2003). Across many domains ASL knowledge is correlated with improved outcomes. ASL ability has a positive correlation with reading ability (Chamberlain & Mayberry, 2008; Hoffmeister, 2000; Prinz & Strong, 1998). Theory of mind and executive function are also related to ASL ability (Emmorey, Luk, Pyers, & Bialystok, 2008; Schick, P. De Villiers, J. De Villiers, & Hoffmeister, 2007). Socially, deaf individuals who know ASL are more confident than those who do not sign (Plaza-Pust & Morales-López, 2008).

At a time when there is an increasing tendency for deaf children to receive cochlear implants from an early age, it is necessary to consider the research that has led to important findings about the potential benefits of early sign language exposure on spoken language acquisition (Hassanzadeh, 2012). Despite increasing pressure placed on families with deaf children to use an oral-only approach following cochlear implantation, there is no conclusive evidence that the oral-only approach with a cochlear implant will lead to spoken language, reading, and other academic skills comparable to hearing classmates (Marschark, Rhoten, & Fabich, 2007). In fact, deaf children who are exposed to ASL from an early age have been shown to have better spoken language outcomes than children without early sign exposure (Davidson, Lillo-Martin, & Chen Pichler, 2014; Hassanzadeh, 2012).

Relevant to early intervention and education, a recent reframing of the need for access to a natural language suggests that instead of focusing on the deaf child's inability to hear and difficulty acquiring spoken language, the issue is one of language deprivation that results from the lack of language exposure during the critical period of acquisition (Gulati, 2003). Specifically, the burden of accountability is placed on those individuals responsible for the care and education of deaf children—educators, parents, and early intervention specialists—to ensure that deaf children receive appropriate and accessible language input from birth.

The impact of parental hearing status. Although there are strong arguments for ASL as deaf children's first language (L1), the language-learning situation in which most deaf children acquire language is unique. Over 95% of deaf children are born to hearing parents who have little prior knowledge of deafness or sign language (Mitchell & Karchmer, 2004). For this vast majority of the population, the language-learning context is highly variable and frequently impoverished. Deaf children who are born to hearing parents are first exposed to sign language at ages ranging from birth to adolescence (and some deaf individuals are never exposed to sign language). Through studies of deaf individuals who acquired their first language in early or late childhood or even in adolescence, researchers have learned that if a first language is not acquired during the critical or sensitive period, there are lasting differences in both receptive and productive language proficiency (Mayberry & Eichen, 1991; Newport, 1990). These differences between native and late learners persist even after years of experience with sign language, indicating that it is the age of accessible first-language exposure, not the amount of language experience, that leads to these deficiencies. Further, these differences do *not* appear in deaf or hearing individuals who learn sign language as a second language, confirming that it is the age of first language exposure that leads to these critical differences (Cormier, Schembri, Vinson, & Orfanidou, 2012; Mayberry, 1993; Mayberry et al., 2002). Recent research using both developmental and retrospective paradigms indicates that there are neural correlates of these effects of delayed first-language learning (Ferjan Ramirez et al., 2014; Leonard et al., 2012; Mayberry, Chen, Witcher, & Klein, 2011). Thus, when considering deaf children as cultural and linguistic minority language learners it is important to remember that these children do not always have the support for their native language at home to the same extent as typical minority language learners.

Generally, studies of deaf children with deaf vs. hearing parents tend to focus on the deficiencies and delays in children with hearing parents who do not learn ASL. For example, hearing parents have a harder time making their interactions visible to their children and creating moments of joint visual attention during interaction (Brooks & Meltzoff, 2005; Lieberman, Hatrak, & Mayberry, 2014; Singleton & Crume, 2010). Deaf children with hearing parents perform more poorly than deaf children with deaf parents on tasks relating to narrative ability, theory of mind, metalinguistic abilities, and other cognitive tasks (Rathmann, Mann, & Morgan, 2007; Schick et al., 2007). One understudied area of language acquisition among deaf children is the extent to which hearing parents who do learn sign language to communicate with their deaf children are able to provide sufficient access to sign language as an L1. It is likely that if hearing parents commit to learning sign language and becoming members of the Deaf community, providing rich opportunities for their deaf child to be exposed to signing peers and adults, their deaf children will not show the lags often associated with delayed first language exposure. Importantly, deaf adults can serve as mentors and role models for hearing parents (Delk & Weidekamp, 2001; Erting, 1992; Swisher, 1992).

IMPLICATIONS

What are the implications of thinking about deaf students as cultural and linguistic minority language learners? In response we consider the implications for classroom education, teacher preparation, and policy.

Implications for Classroom Education: A Bilingual Approach

Deaf children have multiple points of entry into the Deaf Education system, each with its own unique language, culture, and social context. Some children enter at birth through early start programs while others may not arrive until their teenage years, having little or no experience with deaf education. The background of deaf students mirrors that of American society with a wide range of ethnic backgrounds and socioeconomic statuses. More often than not, this variety leads to a wonderfully diverse classroom in which each student can learn from each other's unique experiences.

Like all other students, the goal of education for deaf students is the development of linguistic, academic, and social competence. If we are to view deaf students as a cultural and linguistic minority we must think about how to educate them in a way that both supports development of a foundation in ASL as a first language and provides rich instruction that uses ASL to develop English as a second language (Hoffmeister & Caldwell-Harris, 2014). Thus, a model based on bilingual education is relevant. In many ways, Deaf ASL-English bilinguals are similar to hearing bilinguals. For example, scans using Functional Near-Infrared Spectroscopy (fNIRS) of brain activity in both bilinguals and monolinguals show that the bilingual brain is more efficient at processing information for both the Deaf and hearing bilingual (Jasińska & Petitto, 2013, 2014; Kovelman, Baker, & Petitto, 2008; Petitto, 2009; Petitto et al., 2012). Furthermore, this processing of information takes place in the same areas of the brain regardless of hearing ability (Kovelman et al., 2008; Petitto, 2009; Petitto et al., 2000).

Despite the similarities between ASL/English bilinguals and bilinguals of two spoken languages, there are also important differences. First, ASL does not have a written form, so when students first encounter English they are encountering not only a new language but a new modality as well. Second, given that the vast majority of deaf children do not receive rich ASL exposure from their parents, there are varying degrees to which the "home" or L1 language is truly supported outside of the school setting. Cummins (1979) describes the developmental interdependence hypothesis put forth by Bowen in 1977 as follows:

> There is an interaction between these aspects of L1 development and initial medium of instruction. Medium of instruction may be irrelevant for children whose knowledge of L1 is well advanced. However, for minority language children who have not been exposed to a literate L1 environment prior to school the initial medium of instruction may be vitally important. Such a child's L1 vocabulary concept knowledge may be limited, there may be difficulty assimilating decontextualized language, and little insight into the fact that print is meaningful and that written language is different from speech. (p. 279)

If we consider the home language of Deaf children within the framework of Cummins' theory we have a highly atypical situation, in which the L1 is not the original language of the home, and the deaf child's parents usually have no prior experience with the language. So, while a bilingual approach is relevant, the differences between bilingualism in the same modality and bilingualism in languages with different modalities must be considered.

Metalinguistic awareness. During the preschool years, metalinguistic awareness is a key ability to foster (Smith, Andrews, Ausbrooks, Gentry, & Jacobowitz, 2013). This can be done through a variety of language games, as well as creating connections between the ASL alphabet and the written English alphabet. Storybook sharing is an effective approach to supporting early language development, allowing for connections to be created between the reader's language and the printed word. Deaf parents can be helpful as role models in the way they share and interact with children during joint book reading (Spencer, Swisher, & Waxman, 2004).

Connecting ASL to written English. Deaf children can be taught to make connections between ASL and English print at a young age. While hearing children may use phonological coding as one approach to early word decoding, for deaf children phonological coding is not highly predictive of reading skills (Mayberry, del Giudice, & Lieberman, 2011). Instead, overall language ability tends to predict reading ability in this population. Deaf children use alternative strategies to master English spelling, including recognition of orthographic patterns. Often this leads to the correct use of the first and last letters and then to attempts to spell words as a whole instead of building from blocks of sound as hearing children do. It is important that teachers understand the strategies deaf children use when they encounter English orthography and build on these strategies to develop competence (Padden, 1993).

To make these important connections the teacher can use a variety of techniques. Features of ASL that lend themselves to making connections to printed English include fingerspelling and initialized signs (Haptonstall-Nykaza & Schick, 2007; Padden & Ramsey, 2000). Fingerspelling relies on a one-to-one correspondence between an alphabetic letter and a manual sign, thus it can be used as a bridge between ASL and English. Furthermore, fingerspelling ability in deaf children is highly predictive of reading ability (Stone, Kartheiser, Hauser, Petitto, & Allen, 2015). Teachers can also make use of techniques like "chaining," which involves making explicit connections between ASL and written English. For example, the teacher might fingerspell a word, point to a written English word, and fingerspell it again. A variation is to sign a word, then make the explicit connection to a visible written English equivalent before signing the word again. A conceptual-based translation rather than a strict word-for-word alternation between ASL and English is appropriate. When there is no single sign for an English word, then

compound signs may be used to offer the proper concept to the deaf student. These techniques help children make explicit links across modalities (Humphries & MacDougall, 1999).

Writing development. To support writing development, it is important to offer substantial positive reinforcement and opportunities for practice. The writing environment should include examples of functional and meaningful text for students to use as models. The daily writing time should be a social experience with positive interaction between the teacher and the other students. Finally, teachers should promote a sense of authorship in their students and encourage them to create works of their own by modeling and guiding the critical tasks of writing until students are able to work independently or in small groups (Dyson, 1993).

If a bilingual approach to the education of deaf children is to be implemented in practice, it is critical for teachers of the deaf to be educated to achieve this goal, the focus of the next section of this article.

Implications for Higher Education/Teacher Preparation

Creating bilingual classrooms for deaf students requires teachers who understand and appreciate this approach to educating deaf students as members of a linguistic and cultural minority group (Simms & Thumann, 2007). In this section we consider the skills, competencies, and approaches that are required to teach deaf students within a bilingual perspective. As with the larger system of public education, the use of a bilingual approach necessitates a paradigm shift from a special education or disability-oriented framework to a perspective in which the child's first language is recognized and valued (Garcia, 2009). To become competent in using a bilingual approach teachers need access to high-quality and culturally sensitive education and opportunities to practice under the tutelage of a master bilingual teacher.

One major shift in perspective is to encourage and support deaf individuals to become teachers of the deaf. Teachers who are deaf serve as both linguistic and cultural role models for their students and often have specific skills they can leverage in their teaching (Shantie & Hoffmeister, 2000). In one study that compared two classrooms of deaf students—one at a residential school and one in a mainstream setting—fingerspelling was more prevalent among deaf than hearing teachers (Humphries & MacDougall, 1999). This high use of fingerspelling suggests a greater level of fluency in ASL. Less-fluent signers may be uncomfortable with their vocabulary and tend to use the simple signs they know instead of trying to convey more complex ideas that may require fingerspelling.

Deaf students learning from a deaf teacher understand that they share membership in the minority community. The teacher can serve as a point of entry to the community and a resource for families. Moll's theory of funds of knowledge is informative with regard to other resources in the community (Moll, Amanti, Neff, & Gonzalez, 1992). These researchers affirm that minority communities have their own wealth of knowledge they cherish and pass on through the generations. Funds of knowledge are found in the Deaf community as well, especially with regard to access to information about events where Deaf people gather and how to find programs or resources, such as vocational rehabilitation that can help pay for college.

A successful teacher preparation program prepares teachers to manage a classroom and also helps them to understand how to empower students and their families to succeed beyond the classroom. For deaf students, among the most critical accomplishments is learning strategies for navigating through a hearing world. Often, each hearing person a deaf individual meets will have little to no experience interacting with a deaf person. Therefore, responsibility often falls on the deaf individual to ensure that the communication process goes as smoothly as possible.

If deaf students are to be seriously considered as members of a linguistic minority, their teachers need to be competent in ASL, the L1 of their students. Developing ASL competence through teacher education is critical, particularly for hearing teachers. As studies of bilingual education reveal, it takes at least a year for students to develop social competency in a language, and an average of five to seven years to develop academic competency in a language (Cummins, 2008; Hakuta, Butler, & Witt, 2000; Klesmer, 1994; Snow & Hoefnagel-Höhle, 1978; Thomas & Collier, 2002). If this finding is applicable to adults learning ASL as an L2, this may be a major obstacle facing teacher education programs that are completed within two years. Only deaf teachers or hearing teachers with five-to-seven years of ASL experience will be able to model academic level discourse in ASL. Thus, teacher education programs must take ASL knowledge seriously, either by requiring a level of proficiency in ASL prior to entrance or by providing a comprehensive study of ASL within the program. Along the same lines, schools appointing teachers to serve their deaf students must consider and evaluate candidates' ASL proficiency as a condition of employment. In addition, consideration must be given to the fact that if the only time a teacher in a bilingual classroom for the deaf uses ASL is in the classroom, it becomes very difficult to attain the level of fluency that is of real benefit to students.

Teacher education program planners must consider both the type of education they provide and the type of certification students will have at the time of completion. While most programs provide a degree in Deaf Education that leads to licensure in Special Education, it is important to consider whether a license in English Language Learning, Dual Language Learning, or Bilingual Education would be more appropriate. These programs would not only be consistent with a bilingual approach but also acknowledge the full range of ability in deaf students, from those who are intellectually gifted to those who require the services provided by Special Education.

Implications for Policy

Considering deaf students as cultural and linguistic minority learners has important implications at the policy level because policies are typically created by the majority-culture language users. In the case of the Deaf community, it is hearing people who decide what is

best and codify their beliefs in policy statements. This process takes place with minimal feedback from the Deaf community. Certain existing laws, such as the Americans with Disabilities Act (ADA), can be leveraged to achieve the rights of the Deaf community. It is crucial for deaf students to be explicitly taught their rights and how to advocate for them; for example, the right to effective communication, whether it is an ASL interpreter at the doctor's office or real-time captioning in a courtroom. Not only should students be taught their rights, but they also should be given opportunities to practice in real-world contexts and to observe deaf adults demonstrate effective ways to claim these rights.

Deaf children's access to language must be framed in terms of a human rights issue, and thus, language deprivation becomes a matter of serious neglect. This perspective is becoming more widespread, illustrated in publications such as "The Right of the Deaf Child to Grow Up Bilingual" (Grosjean, 2001) and *The Human Right to Language: Communication Access for Deaf Children* (Siegel, 2008). Deaf children, like all children, have the right to an accessible language, which for them is ASL (Bauman, 2004; Humphries et al., 2013; Nover, 1995). In many ways, the social pressures against educating deaf children bilingually echo those in the larger U.S. culture. English-only approaches are often favored over dual language programs, despite the fact that abundant research shows optimal outcomes for children when there is reinforcement of the L1 (e.g., August, McCardle, & Shanahan, 2014). There are several perceived barriers to acceptance of ASL for deaf children (Reagan, 2011). Many ethnic-majority families in the United States have grown up with only one language, English, instead of learning multiple languages at the same time during childhood. This lack of experience may skew their perspective when considering educational approaches for their child.

One way to achieve wider acceptance and exposure to the alternative paradigm is to ensure that research on language development in deaf children is widely disseminated across professions and in venues and publications that reach a broad readership of parents, professionals, and policy makers. Of note is a set of articles recently written by a cohort of deaf academics regarding the importance of sign language for deaf children and published in sources specifically directed toward medical professionals, linguists, and policy makers (Humphries et al., 2013). In addition, the role of sign language must be advocated and explained clearly to physicians and physicians in training (Humphries et al., 2015; Napoli et al., 2015).

Paradigms and policies do not shift easily. Deaf children have been viewed from a disability and special education perspective throughout the history of this country. Unfortunately, this framework has largely failed deaf children, and reading and other academic achievement levels of deaf students remain alarmingly low. At the same time, Deaf culture has been recognized, ASL has been shown to be a fully formed language, and deaf youth are coming of age at a time when activism and movements for language and human rights are on the rise. Deaf children with access to ASL from an early age outperform deaf children without such access on cognitive skills, language ability, and reading achievement (Chamberlain & Mayberry, 2008; Hoffmeister, 2000; Rathmann et al., 2007). Acknowledging deaf children as a linguistic and cultural minority is a matter of social justice. This change will have far-reaching effects not only for deaf individuals; it will also have enriching effects on a larger scale as we recognize and celebrate deaf individuals as contributing to the multicultural fabric of our society.

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Michael Higgins is a teacher in the Kendall Demonstration Elementary School at Gallaudet University. Mr. Higgins can be reached at michael.higgins@gallaudet.edu.

Amy M. Lieberman is an assistant professor in the Deaf Studies Program at Boston University, School of Education. Dr. Lieberman can be reached at alieber@bu.edu.