If you use ASL, should you study ESL? Limitations of a modality-based policy

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In this article, we argue that the current linguistic and educational policies affecting school-age US children whose native language is American Sign Language (ASL) should be changed. Concretely, we demonstrate that ASL-English bilinguals should be eligible for classification as English learners (EL). While this identification should remain optional in order to be responsive to individual differences and preferences, we argue that identification can result in increased educational services and access to appropriately targeted instructional support. We offer concrete programmatic and curricular solutions and articulate other consequences affecting various fields, including language policy.*

Keywords: American Sign Language (ASL), ASL-English bilinguals, education policy, Deaf, hard of hearing, children of deaf adults (Cadas)

1. Introduction. The term English learner (EL) is commonly used to refer to a child from a home where a language other than English is used. In this article, we also use this term to encompass dual language learners (DLLs), limited English proficient, language minority, bilingual, and other common terms referencing children who communicate in a language (or languages) other than English. A plethora of research has shown that while the demographics and experiences of ELs growing up in an English-dominant culture differ widely, these individuals have certain characteristics in common: (i) they often use a language that is typologically different (in terms of morphosyntax, phonology, semantics, and pragmatics) from English; (ii) they benefit from caregivers’ use of the native language (L1), rather than (only) the nonnative (L2); (iii) their L1, defined as ‘heritage’, requires support; and (iv) due to the differing proficiencies between their L1 and English, they are often misidentified for other services (e.g. special education) and may be excluded in some way by the mainstream school community.

Since Lau vs. Nichols (1974), children enrolled in US K–12 educational institutions are mandated to receive focused language support intended to address characteristics (i)–(iv). For instance, pre- and in-service teachers may have received professional training in the typological differences between English and the EL’s native language(s); both schools and state departments of education are encouraged to advise parents to preserve some use of the L1 in the home; and a number of states have embraced bilingual education and biliteracy as a marker of support of the heritage language of the EL.1 The US

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1 We assume the definition from a 2010 brief by the Center of Applied Linguistics:

a ‘heritage language’ is any language other than English that is spoken by an individual, a family, or a community. Heritage languages can include immigrant languages, spoken by immigrants arriving in the United States (e.g., Spanish); indigenous languages, spoken by peoples who are native to the Americas (e.g., Cree); and colonial languages, of the various European groups that first colonized what is now the United States (e.g., French and German). Heritage language speakers have various levels of proficiency and connection to the language and culture. (http://www.cal.org/heritage/)

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Department of Education explicitly articulates that other-than-native levels of English proficiency may mask or be masked by linguistic or other disabilities. These attempts to address mandated language support are meant to be a step toward improving the academic outcomes of ELs—a group that consistently performs below native English users across subject areas.²

Efforts on behalf of the US government and local educational agencies to improve outcomes for ELs are well documented. However, one type of student population has over the years not been included in policy discussions and therefore remains unaffected by the reforms and changes in the educational infrastructure that have otherwise—more or less positively—affected lives of school-aged ELs. These are users of American Sign Language (ASL) who are learning English. Literature has suggested that over 500,000 individuals use ASL as their L1 in the US, yet no data are currently available at the state or federal level that identifies children who fit such a profile as ELs. This exclusion is deliberate but unfounded, and the associated policy must be changed. Concretely, we demonstrate that ASL is not treated as a language in US laws, and as a consequence, ASL-English bilinguals are automatically counted as English speakers when they are more often English learners. We argue that EL identification can result in access to increased educational services and appropriately targeted instructional support. The claim is based on three arguments. First, the current policy is based on a premise that is no longer maintainable. Second, we demonstrate that children who use ASL as their L1 and are also learning English present a profile that is best likened to that of children using another spoken language as their native L1 and English as another language (learned simultaneously, 2L1, or sequentially, L2)—both of which are candidates for initial EL assessment/identification in schools. Finally, we argue that in the face of the vast variability in learner profiles, EL identification for ASL users—and consequent teacher training and programmatic implications—promises to yield significant returns for the education of signing students.

2. Far from the madding crowd: situating the discussion not around deafness. Bagga-Gupta (2017) describes research on sign languages and multilingualism in terms of three types of theoretical stances. The first two originate in, and are arguably exclusive to, the fields of deaf studies and deaf education. Position 1 advocates for a listening-and-spoken-language approach to the education of the deaf, dispensing with the need for sign languages either entirely or at least primarily. Position 2 is its opposite: researchers who subscribe to this view argue for the need of sign language in deaf education for a variety of reasons, chief among which are issues related to language deprivation (Humphries et al. 2014). Position 3, however, is of a different sort, and the starting point of theorizing is not the field of deaf education. Researchers operating within this position simply happen, for whatever reason, to use a sign language (e.g. ASL or Brazilian Sign Language (Libras)) as their research language; it might just as well have been a spoken language (e.g. Farsi, English, or Inuktitut). In what follows, we lay out arguments for a particular approach to the education of native/proficient users of ASL; however, we do so from position 3. The arguments we offer are independent of modality and hearing status and would apply regardless of the language under discussion. Yet it seems to us that if the arguments from position 3 parallel arguments from another position (1 or 2), this should be viewed as providing multiple types of evidence for a particular claim. In this, while our main goal here is to shed light on the inadequate

² Cf. https://nces.ed.gov/programs/coe/pdf/Indicator_CGF/COE_CGF_2013_05.pdf; in lieu of a full list of citations here, which would be unnecessarily large, we simply send the reader to a wide variety of publications available at www.cal.org/publications.
language policy for a particular population of ELs in US schools and to offer what we consider to be a reasonable solution, our proposal inadvertently aligns us with a certain position with respect to the education of the deaf. This, we think, cannot be helped, but offers the field of deaf studies and deaf education an independent set of eyes on an issue that has traditionally been solely in the purview of its specialists.

3. The problem: the current (non)language policy. The Every Student Succeeds Act (ESSA, 2015), a federal policy, identifies an EL as in 1.

(1) ‘an individual who, among other things, has difficulties in speaking, reading, writing, or understanding the English language that may be sufficient to deny the individual the ability to meet challenging state academic standards’ (Council of Chief State School Officers (CCSSO) Resource of ELs and ESSA, March 2016)

The official definition of EL (previously known as ‘limited English proficient’; LEP) in the ESSA, as in its predecessors, the Elementary and Secondary Education Act (ESEA, 1965) and No Child Left Behind (NCLB, 2002), has traditionally applied to spoken languages only—both foreign and indigenous to the US. While funding for English support services, and therefore EL identification, was originally tied to national origin status, following the Lau obligation under Title VI of the Civil Rights Act of 1964, the presence of indigenous languages of the Americas in the law has essentially made the point of national origin moot. This has been further made irrelevant by the steady increase in the numbers of ELs in US school districts whose national origin is, in fact, the US: 85% of pre-K to fifth grade and 62% of sixth to twelfth grade (Zong & Batalova 2015). The new iteration of the EL definition thus no longer makes any reference to national origin at all.

Yet in addition to the official definition of EL in the ESSA, schools have been given guidance regarding the application of the term ‘EL’ to children using ASL in the form of a letter coauthored by the former assistant secretary of education, Dr. Meléndez de Santa Ana, which refers to students with ASL as L1.

(2) ‘[a] student who uses ASL for primary communication due to deafness or hearing impairment … . For example, an individual whose native language was Spanish and who also had a hearing impairment and relied on ASL for communication, could be considered LEP … because his or her native language was a language other than English.’ (Letter to Title III directors, Jan. 27, 2011)

Despite the fact that the EL definition has changed with the passing of the ESSA, the letter from which the excerpt is cited in 2 remains the guiding document for states’ grant administrators. Two crucial points are of note here: on the one hand, for users of ASL, the policy remains focused on national origin, thus discriminating against the indigenous sign languages of the US. That is, an indigenous spoken language qualifies (as it should) as an L1—and its user as a potential EL—but an indigenous sign language does not.

On the other hand, the focus of the policy is on the use of ASL because of deafness/hearing impairment. The funding-related instructions in 2 dovetail with the language from the following excerpt from the Census Bureau (italics are ours).

(3) ‘The three questions used to capture languages spoken and English-speaking ability are not designed to identify American Sign Language users. The current question design supports the 1975 amendment to the Voting Rights Act which prohibits discrimination against non-English language minorities when voting. The enforcement of the Voting Rights Act is focused on non-
English languages that are spoken by members of racial minority groups. The law does not address or provide for sign languages used by hearing disabled population. Thus, along with other sign languages and certain other languages that are not easily classified, the Census Bureau counts ASL speakers among those who speak English.3

We set aside the terminology—Deaf4 culture rejects the terms ‘hearing impairment’/‘hearing disabled’ wholesale, and ‘ASL speakers’ is simply inaccurate, since no speech is typically involved. Let us zoom in on the framing itself: the assumption underlying the excerpt in 3 is that ASL is used because of hearing loss. While this premise could be true, it certainly does not need to be: many individuals with typical hearing choose to learn sign languages. This is evidenced by the fact that among the vast number of languages offered in US K–16 institutions, ASL has recently rocketed to third place, after Spanish and French, in university enrollment (Goldberg et al. 2015, inter alia), and in 2017, 130,411 students were estimated to have been enrolled in ASL as a modern language course (fourth in popularity after Spanish, French, and Latin in K–12 schools).5 This false premise—that sign languages in general, and ASL in particular, are learned because of a disability status—has, we believe, largely contributed to the perception of the profile of its users, namely, that the linguistic needs of children using ASL in the home and requiring (temporary) English support at school will be accommodated via the funds allocated by the Americans with Disabilities Act (ADA, 1978). In other words, the linguistic support required is due not to multilingualism (per the ESSA’s definition of EL) but rather to disability (per the ADA). And precisely because of this premise, an entire population of L1 users of ASL has been overlooked by the policy.

The other point of focus is the ‘not easily classified’. We demonstrate, with the literature, that the past several decades of research have been able to put this issue to rest—sign languages in general and ASL in particular can be classified quite easily. In fact, research reveals differences between ASL and English that predict particular linguistic patterns in the languages of ASL-English bilinguals but L1 learners of ASL who grow up in US households; while they may fit the description, they are never assessed appropriately for English in order to ascertain whether they would actually qualify as ELs—that is, temporarily require English support. Further, it turns out that, for independent reasons, the profile of sign language (and thus ASL) users is much more heterogeneous than that of spoken languages. Thus, three goals emerge: (i) to identify populations that have been traditionally overlooked by the policy; (ii) to provide linguistic arguments that these populations should be covered by the policy; and (iii) to suggest programmatic implications. The path forward is admittedly complex but, we argue, it is the right one with regard to the goal of increasing the English proficiency of signing students.

4. A Typologically Different (from English) Language and Its Users. For a variety of reasons (see Compton 2014 and references therein), determining the number of native users of ASL in the US is a complicated matter. In this article, we identify three subgroups of ELs who are likely to have ASL as an L1.

(4) a. hearing children who have deaf/hard-of-hearing (D/HH) parents (also known as children of deaf adults (Codas))6

3 https://www.census.gov/topics/population/language-use/about/faqs.html
4 With the literature, we use the term ‘deaf’ to indicate hearing status and ‘Deaf’ to refer to the community/culture.
6 Since nonsigning D/HH children (using or not using amplification) primarily develop spoken English as their dominant/only language, they are not discussed in this article.
b. D/HH children who have D/HH parents (also known as deaf-of-deaf)
c. D/HH children who have hearing parents (also known as deaf-of-hearing)

First, let us turn to the language in question. By now it is well known and accepted by linguistics that ASL is a fully developed natural language, independent from English. While it is beyond the scope of this article to provide an overview of the literature on linguistic analyses of English and ASL, Table 1 demonstrates the typological differences between the two languages in terms of several comparable features. The list of generalizations in Table 1, while far from being comprehensive, demonstrates that ASL is significantly different from English in terms of both modality (signed vs. spoken) and specific language features, describable in terms familiar to spoken language linguists (see Sandler & Lillo-Martin 2006 for an overview).

<table>
<thead>
<tr>
<th>ENGLISH</th>
<th>ASL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obligatory argument suppliance</td>
<td>Argument omission</td>
</tr>
<tr>
<td>Adnominal adjectives are always prenominal</td>
<td>Variable position of adnominal adjectives</td>
</tr>
<tr>
<td>Sentences structured with subject first</td>
<td>Sentences structured with topic first</td>
</tr>
<tr>
<td>Information-seeking wh-items are clause-initial</td>
<td>Information-seeking wh-items may be clause-final or doubled</td>
</tr>
<tr>
<td>Subject agreement is obligatory; no object agreement</td>
<td>Subject agreement may be optional; object agreement</td>
</tr>
<tr>
<td>Spatial location of arguments not encoded</td>
<td>Spatial location of verbal arguments are encoded</td>
</tr>
<tr>
<td>Nouns are obligatorily encoded for number (singular/plural)</td>
<td>Nouns are not obligatorily encoded for number; instead the quantificational value is encoded elsewhere in the sentence</td>
</tr>
<tr>
<td>Nouns are preceded by (in)definite articles</td>
<td>Nouns can always be bare</td>
</tr>
<tr>
<td>Obligatory morphological encoding for tense and aspect</td>
<td>Optional morphological encoding for tense and aspect</td>
</tr>
</tbody>
</table>

Table 1. Typological differences between English and ASL.

It should then also follow that individuals learning both ASL and English, whether simultaneously (bilingual first language acquisition, 2L1) or sequentially (second language acquisition, L2), should exhibit the types of patterns observed in languages of multilinguals more generally. If they do, such patterns should (temporarily) result in identification as an EL, therefore ensuring linguistic support by a professional credentialed in L2-based methodologies. Plainly: like users of other (spoken) languages, users of ASL as L1 ought to be assessed for English proficiency and, should (temporary) English support be required, it should be provided by an L2 credentialed professional. Note that this is not reflective of the current state of affairs: in the latest data-collection cycle (2016), no state in the US represented ASL as one of the languages of the EL population in the state, despite an often-sizable signing community. This situation reveals yet another chasm between science and educational policy—something we hope to correct.

Mitchell (2005) estimates that approximately 360,000–517,000 D/HH use ASL in the home (subgroups a and b collapsed), only 3–4% of whom are Deaf-of-Deaf (subgroup b). Compton (2014) and Mitchell and colleagues (2006) further estimate the number of Codas in the US to range between 133,000 and 188,500 (subgroup a). Research indicates that each of these subgroups presents different language histories, profiles, and outcomes; overall, however, children growing up with ASL and spoken English share important similarities with children who are growing up in an English-dominant culture with two spoken languages at home (e.g. English and Spanish), including the link to social and cultural identities different from English-based culture. It is possible that the academic success of these subgroups is impacted by current policies related to the education of ELs, since schools are not mandated to provide them with explicit English lan-
guage instruction by professionals trained in teaching English to speakers/signers of other languages (L2 acquisition/TESOL).

In the next section, we provide an overview of research on the populations of interest. The majority of this research focuses on D/HH children and shows that metalinguistic awareness in both ASL and English plays a role in the development of both languages. Studies on Codas, while comparatively few, paint a telling picture as well: Codas growing up in signing households present as bilinguals, with profiles of language development and achievement similar to peers who grow up with two spoken languages.

4.1. Hearing ASL-English bilinguals (codas). Two findings have emerged in recent studies examining the languages used by hearing ASL-English bilinguals (Codas).\footnote{As an anonymous referee points out, many Codas receive variable input in sign languages as well—many Deaf parents have been told not to sign (and instead speak) with their children because they are told that signing will affect Codas’ learning English (cf. Chen Pichler et al. 2014; for a personal narrative, see Cohen 1994).} They present a similar profile to unimodal bilingual children growing up with multiple spoken languages, one of which is English: entering schools they may have stronger L1 skills in some domains and stronger L2 skills in others, but at this stage it is difficult to know for sure because Codas’ linguistic proficiency has not typically been assessed. The research that is currently available reports that though Codas’ L1 is signed, they may develop proficiency in spoken English before starting school, but their English is likely to be strikingly different in comparison with monolingual English speakers.

Much like what has been observed for children raised with two spoken languages, Codas growing up bilingually perform on par with or outperform monolingual English-speaking controls on some standardized assessments of spoken English (Davidson et al. 2013). However, similar to what has been found in learning spoken language combinations, the languages of ASL-English bilinguals exhibit crosslinguistic transfer—ASL influencing English production and English influencing ASL production (Berent 2013, Davidson et al. 2013, Koulidobrova 2012, 2014, 2016, Lillo-Martin et al. 2010, Lillo-Martin et al. 2012, Quadros, Chen Pichler, et al. 2015, Quadros, Lillo-Martin, & Chen Pichler 2015, Reynolds 2015). These crosslinguistic effects present in a variety of domains and have been shown to affect morphosyntax in terms of subject and object omission, word-order alternations, and tense/agreement morphology omission or nontarget suppliance—precisely what is typically found with other ELs (Gass & Selinker 2008, inter alia). In addition, arguably due to the uniqueness of bimodal bilinguals’ ability to use two languages simultaneously (Emmmorey et al. 2008), certain effects of crosslinguistic interaction that are unattested in spoken language bilingual production remain in the speech of ASL-English bilinguals well into school age (Koulidobrova 2012, et seq.). For instance, consider the example in 5 from Lex, a typically developing bilingual Coda.

\((5)\) CHI: How did __ tape it?

Target: How did you tape it? (Lex, 5;01.02; Koulidobrova 2016)

Three independent observations can be made about 5: one is that at the age of 5;01, a child growing up with English as one of his languages is omitting a subject. This is atypical because young English-speaking children exit the so-called ‘null-subject stage’ by the age of three. The second oddity is that the subject is omitted in a question, which is generally unattested with native speakers of English. And finally, that the subject is omitted by a bilingual altogether is notable, since a fairly robust literature shows that children learning a null- and a non-null-subject language simultaneously do not omit subjects in their non-null-subject language (see Hyams 2011 and references therein for the typical subject-omission paradigm for monolingual ELs, and Sorace 2011 for spo-
ken language bilinguals). Elsewhere, Koulidobrova (2013) has shown that Coddas as old as 6–6;04 accept null subjects in embedded contexts in English as referring either to the controlling DP in the matrix clause or to the discourse topic, as in 6.

(6) Arthur’s worried (that) __ will fall. (Koulidobrova 2013)

interpretation 1: __ = Arthur
interpretation 2: __ = another toy, the topic of discussion

Such data, among others, necessitate assessment of children’s English proficiency and the provision of English support, if required. As it stands, children exhibiting linguistic behaviors like that in 5 are referred directly to speech-language pathology services, which does not guarantee appropriate services. 8

Let us now consider the alternative: the linguistic behaviors exemplified in 6 are consistent with children’s access to ASL morphosyntax (Sandler & Lillo-Martin 2006, Koulidobrova 2017), which is typical of multilingual experience. What makes ASL-English bilinguals behave differently from spoken language bilinguals remains understudied, but one explanation (see Koulidobrova 2012, 2013, 2017, Lillo-Martin et al. 2014) relies on the uniqueness of the experience for the bimodal bilinguals in that they use their gestural modality for one of their languages. See Figure 1 for a sketch of the language architecture of a bimodal bilingual, reproduced from Emmorey et al. 2008.

This also means that the children need to learn how to navigate the multilingual multimodal experience during development (Lillo-Martin et al. 2014) and in the classroom (Quadros, Lillo-Martin, & Chen Pichler 2015, Singleton & Tittle 2000). Mather and Andrews (2008) observe that Coddas’ behavior in the classroom includes pointing, signing, using eye gaze, and getting in the visual field of the adults or other children when trying to participate in a conversation with others, which are markers of linguistic interaction in a signing community (Sandler & Lillo-Martin 2006) and manifest in adult communication strategies (Bishop 2006). More research is needed, but anecdotal evidence suggests that Coddas need support during the transition from the visually based context of the home to the aurally based context of school. Even though they may have

8 Let us take the unfortunate but real detour and add the following: speech-pathology services are not only inappropriate, but they are also significantly more expensive because they entail more assessment tools, more staff, and a longer treatment plan (since it is bound to fail).
experienced spoken English outside of the home, the transition to school presents unique demands.

Furthermore, satisfaction with communication at home and the communicative competency of peers is associated with positive social outcomes (Leigh et al. 2008, Roberts & Rickards 1994). Children who use a natural language comfortably with interlocutors demonstrate increased self-esteem (Bishop & Inderbitzen 1995). This ability is crucial for children’s global socioemotional development (Parker & Gottman 1989), while simultaneously fostering communication skills (Newcomb & Bagwell 1996) and aspects of cognitive development, such as perspective taking (McGuire & Weisz 1982). However, Codas often do not feel they fit in either hearing or Deaf communities and may struggle to participate in group conversations. Preston (1994) reports a pervasive sense of cultural marginality expressed by Codas, despite the bilingual proficiency of many of the informants. In large part, this marginality is due to the history of conflict between the two language groups and what Codas regard as a choice between two cultural identities—hearing vs. Deaf. In facing this challenge, in terms of language and culture learning, ASL-English bilinguals are unfortunately not unique; their experience parallels that of young ELs from a variety of linguistic backgrounds (Wright 2015).

Research predating our current understanding of language production by Codas has either implied or overtly stated that they should be considered candidates for speech-language pathology services (Johnson et al. 1992, Murphy & Slorach 1983, Sachs et al. 1981, Schiff & Ventry 1976, Schiff-Myers 1988). Such a practice is familiar but no longer acceptable for ELs whose L1 is a spoken language, but remains the case for children whose L1 is signed. Yet it is difficult to determine whether Codas are disproportionately referred for special education services because states do not report ASL or any other sign language as L1s. Consequently, no data are currently available that reveal the numbers of Codas in special education and related programs, but considering the fact that atypical (for English) linguistic patterns are predicted by bilingual literature to remain in the English of Codas, and that the default response on the part of the school in such a case is a referral, one can easily imagine the numbers being quite high.

Since ASL is (i), undeniably, a natural language, (ii) indigenous to the US, (iii) typologically different from English, (iv) acquired as L1 or L2 by hearing people, and (v) a language whose hearing users exhibit patterns that could potentially lead to difficulties in the reading/writing/speaking/listening of English, it follows that such users ought to be eligible for EL identification and, if necessary, consequent services.

4.2. Deaf ASL-English Bilinguals (D/HH). There are two types of data available in the literature on the assessment of both ASL (L1) and English (L2) by deaf signers: D/HH children growing up with ASL from birth (Deaf-of-Deaf), and D/HH children who are not exposed to fluent ASL from birth, having experienced a delay in acquisition of L1. The literature is large, and we do not attempt to review it here. Instead, we focus on the areas that make our point, the first of which is this: both groups are learning English, typically written, as L2 with reduced input. According to the ADA (1978), children in this category are eligible for academic support due to their deafness. Historically, the accommodation has ended here. But we argue, for all of the reasons outlined above, that these children are also eligible for potential English support by the ESSA, due to their status as L1 users of ASL.

9 This is not true, for example, for Deaf-of-Deaf children with cochlear implants, growing up bilingually, as discussed in Davidson et al. 2013.
Given that over 95% of DHH children are born into hearing families (Mitchell & Karchmer 2005) and that caregivers of Deaf-of-Hearing children begin learning ASL after discovering that their child is deaf, the majority of the children’s language models are either nonexistent or inadequately sophisticated—thus providing input that may be likened to the input young English-hearing learners may receive from nonnative caregivers (Fillmore 1991). Conversely, fluent, (near-)natively signing parents offer rich language input, comparable to the quality of input hearing children raised in hearing families receive (Knoors & Marschark 2012, Werker & Tees 1984). The advent of universal hearing screening for newborns has made possible the early identification of many more DHH children than in the past. This program of early hearing detection and intervention is implemented by hospitals as a part of their birthing program. This initiative is important so that early-intervention professionals can provide support to DHH children and their families to ensure timely language development. Often, if not typically (Johnson 2006, Johnston 2004, Mauldin 2012, 2014, 2016), the medical system suggests that parents of DHH infants consider cochlear implantation and speech-only ‘intervention’ programs. Rarely does early detection lead to information sharing with families about sign language and how it supports the typical process of language acquisition and the development of English phonology (Montrul 2008, Preisler et al. 2002, Yoshinaga-Itano 2003, 2006). What is more, many of the assessments administered to DHH children as a part of early intervention programs, early education programs, and education during the early years of mainstream elementary school focus on spoken language development, audiological profiling, and English vocabulary knowledge. However, a focus on systematic progress in English morphosyntax—the marker of increase in language proficiency, as is well known in the L2 literature—remains missing. Further, assessment tools for tracking ASL development are not widely used. This, of course, is an independent problem and also plagues education of bilingual hearing children of most L1 backgrounds (Bedore & Peña 2008, Solano-Flores 2008, inter alia). It is therefore likely that the emerging proficiencies of students developing ASL and English simultaneously are misidentified by systems for early intervention, and that approaches to language development are informed by research related to difficulty with language acquisition rather than dual language acquisition, which may in fact be more appropriate.

Overall, development of ASL (L1) by children who are exposed to the language from birth (subgroup b) parallels acquisition of a spoken language (e.g. English) by typically developing hearing children in terms of morphosyntax (Chen Pichler 2012, Corina & Singleton 2009, Goldin-Meadow & Mylander 1998, Maller et al. 1999, Mayberry & Squires 2006, Newport & Meier 1985, Sandler & Lillo-Martin 2006), vocabulary (Anderson & Reilly 2002, Novogrodsky, Fish, & Hoffmeister 2014), and phonology (Lillo-Martin 2000, Novogrodsky, Caldwell-Harris, et al. 2014, inter alia). In this, DHH students with timely access to a signed L1 present like hearing bilingual children with timely access to a spoken L1. When it comes to their L2, however, something else must

10 As a referee points out, the parallelism is not entirely complete: hearing spoken-language bilinguals are also surrounded by other linguistic models—something that the DHH child does not have.

11 Mauldin (2016) discusses specific cases involving cochlear implant specialists and Spanish-speaking families of DHH children. She reports hesitation on behalf of the specialists to work with the children, being unsure of potential success in the acquisition of English. Recall that Compton (2014) estimates that 21.9% of DHH children in US K–12 schools are growing up in Spanish-speaking households. As a referee points out, the type of linguistic hegemony that affects the signing community may not be comparable to any other bilingual configuration. This issue deserves special attention outside of this article.
be said: the measures typically employed in assessing their success are hardly comparable to hearing L2-learning scenarios. This is because D/HH children are being assessed on learning both language and literacy simultaneously: their L2 learning is measured (almost) exclusively via literacy. Thus, we turn to these findings next.

Research related to typically developing hearing students suggests that what predicts literacy development of not only spoken L1 but also L2 is phonological awareness (Sparks et al. 2011 and references therein). The same has been suggested in studies examining reading outcomes for D/HH children (see Bochner & Kelstone 2015, Mayberry et al. 2010). Phonological awareness, however, is not to be equated with decoding. Decoding is most commonly defined as using knowledge of letter-sound relationships (built on the implicit assumption that the learner can actually hear the sound itself) to read printed words versus the learner’s ability to disambiguate phonological information. The latter is independent of both the language examined and the ability to hear, and is a result of one’s metalinguistic skills used for language decoding. These skills are developed early—at the initial stages of natural language acquisition. For signing D/HH children, this means that success on phonological assessments of their L1 (ASL) is expected to predict success in their L2 (English), comparable to typically developing hearing children (Chamberlain & Mayberry 2000, Crume 2013, Henner et al. 2016, Schirmer & McGough 2005, inter alia). Those who lack L1 skills perform poorly on assessments of English when compared to Deaf-of-Deaf and hearing children, both in word learning, verbal cognition, target morphosyntax, and reading fluency (Corina et al. 2013, Hermans et al. 2010, Hoffmeister 2000, Holzinger & Fellinger 2014, Kuntze 2004, Marschark & Wauters 2008, Mayberry 2007, Traxler 2000, Wauters & de Klerk 2014). Unsurprisingly, to the degree that the properties of English literacy are taught explicitly, success in word learning and literacy learning is exhibited (Baker 2010, Padden & Ramsey 1998). In other words, D/HH children benefit from explicit language instruction, much like hearing ELs do (Ellis 2001, 2002, Lyster 2004a,b).

Recent literature has revealed that profiles of ELs in US K–12 schools vary; consequently, acquisition of English may be impacted by additional factors, including socioeconomic status (SES), disability, and parental education level. According to the 2010 report by the Gallaudet Research Institute (2011), of 32,334 D/HH children, 38.9% were identified as having an additional disability. Out of 37,828 D/HH children, 17,426 (46%) were White, with the second largest group being Latino—traditionally an EL-identified population—and 38.2% were classified as economically disadvantaged. Less is known about the migrant status of the families, but of the 31,226 children for whom such data are available, 22% are born into either migrant or indigenous families. While the data cited here pertain to pre-K–12, among the children whose demographic information is available in the report, 11,548 (43.4%) are eight years old or younger. And as the profile of the US EL child is changing, so also the profile of the D/HH attending a US school: according to Compton (2014), 47% of D/HH K–12 schoolchildren in the US use both ASL and other sign and spoken languages (21.9% being Spanish) in the home. This observation alone leads to the following conclusion: such children are expected to require extensive English support in multiple ways. First, because they are not usually able to access a natural language directly (but rather through script), D/HH learners should arguably have even more instruction in English as L2 than other ELs. Second, since such a large group of D/HH L2 learners of English (L1 users of ASL)

12 Note that the previous section does not report data of this sort because systematic data collection on Codas has never been done and the comparable data are therefore unavailable.
have received a significant delay in L1 with consequences for L2 (see above), it is all the more reasonable to ensure that such individuals are (i) assessed for English proficiency (since English is, in fact, not their L1), (ii) identified as EL if necessary, and (iii) offered English support services in line with L2 research. Currently, for none of these children is English instruction by TESOL-qualified professionals listed among the services provided. While it is possible that these services are classified under ‘other’, we note that these are provided to only 10% of 18,840 children.

5. **Interim summary: signers learning English are multilingual.** Overall, studies on the language development of hearing (Codas) and D/HH children who are raised with ASL as an L1 mirror the findings of studies about the development of children raised with L1s other than English who are first introduced to English in pre-K or elementary school. For example, literature on spoken language acquisition demonstrates that children tend to acquire some domains of L2 with more ease than others. Young L2 learners may be indistinguishable from native speakers in terms of phonology but exhibit effects of cross-language interaction in morphosyntax (Montrul 2010, Rothman 2009). Similarly, children in the Binational Bimodal Bilingual database (Chen Pichler et al. 2013, Chen Pichler et al. 2014) may appear indistinguishable from monolingual English speakers in terms of phonology, but their English reveals knowledge of ASL in terms of morphosyntax. This suggests that L1 users of ASL parallel young ELs from immigrant or indigenous cultures in many ways. EL services for children acquiring a spoken language other than English in their home environment are available from an early age (pre-K and up). Given the similarities in development among young ELs using two spoken languages and young signing ELs, extending these services to children entering educational institutions with a signed language as L1 suggest that they would be supportive of language learning. We thus see EL status as a potential way forward that would support the language and academic learning of ASL-English bilinguals in US K–12 institutions.

Instead, due to the identification of deafness as a disability, ASL is required to be viewed by states as only an accommodation for a disability rather than an L1, irrespective of the student’s hearing status. The outcome of this perspective is that, unlike spoken languages, the status of signed languages is questioned or ignored in educational policy making. A plethora of research has demonstrated that sign languages (of which Ethnologue lists a minimum of 130) are natural languages independent from the ambient spoken languages in every respect: vocabulary, syntax, morphology, phonology, semantics, and pragmatics (see Sandler & Lillo-Martin 2006, inter alia). These languages are ancestral in that they constitute part of the cultural identification of a particular community and are passed from older generations to younger generations. Much like spoken languages, signed languages exhibit variation and change, which can be traced diachronically. Yet in many nonlinguistic circles, the ‘medical model’ prevails, which we suggest has contributed to the view apparent in educational policy. In the Department of Education’s collection of data on primary languages of ELs in K–12 schools, there is currently no way of reporting students’ knowledge of any sign language; instead, the student’s language is coded based on the spoken language of their (former) country of citizenship—the language of which may be unknown by a signing EL. This policy remains despite the fact that ASL satisfies the ‘foreign language’ requirement in K–16 institutions in forty-nine states, and the American Council on the Teaching of Foreign Languages (ACTFL) outlines both instructional and assessment strategies for ASL as it does for

13 This is similarly problematic with respect to languages indigenous to the US territories.
Spanish, Arabic, Mandarin Chinese, and other spoken languages. Yet neither hearing (Cadas) nor D/HH users of ASL are recognized as a language minority and thus do not have access to the financial mechanism that secures support for EL services and program development (e.g. Title I grants typically used to fund many of the EL services in US K–12 schools). As a result, language assessment for newly enrolling students in K–12 schools is open (though not mandatory) for children whose L1 is a spoken language (other than English) but not for children whose L1 is signed. This, we argue, is a policy that must be corrected. From this claim, two separate implications arise.

Various philosophies and approaches guide pedagogy for the education of ELs. In concert with other research on additional language learning, and in spite of the variability in available results, it is our belief that a dual language program will prove most effective for ASL-English learners. For both D/HH and hearing signing children this means schools that implement a bilingual approach to education. Some (though very few) such programs already exist, both in the US (the American School for the Deaf, California Schools for the Deaf, and PS47 in New York City), Europe (Becker & Krausneker 2017), and Asia (Tang & Yiu 2015). But as is the case with bilingual education of hearing children learning multiple spoken languages, much of the academic and language outcomes of the students depends on the type of bilingual programming the school adopts—for example, transitional (the goal of which is to ‘move’ the learner from L1 to L2) or dual language (the goal of which is to maintain both, etc.)—and its implementation, which too is not homogeneous. In the next section, we articulate the view best supported by research on L2 learning; that said, we are cognizant that the ideal picture may not be feasible or may be fraught with independent problems due to the larger social concerns of the educational system (Flores & Rosa 2015). Yet there is one characteristic all bilingual programs (should) have in common: instructional focus on the target language. ASL-English bilinguals, especially those without previous exposure to English, need to receive contextualized instruction about English: its grammar, its phonological peculiarities, its vocabulary, and its sociolinguistic norms, while still making constant comparisons between their first language and English in order to help develop their metalinguistic awareness in both L1 and L2.

The most striking feature of most state standards for academic subjects is that they presuppose literacy. Only after some amount of language has been acquired can effective instruction in literacy or any other subject area proceed. The most effective instruction involves exposure to ample amounts of language (immersion) with support from qualified language-teaching professionals who are able to aid the learner in progressing through language and literacy development simultaneously. In other words, without instruction in the language, instruction in literacy in that language is, while possible, significantly obstructed. Ideally, ASL-signing children must improve their ASL (especially if L1-delayed) and receive explicit instruction in English as L2 while learning all of the content delineated in the new core standards. In what follows, we outline a few potential programmatic alternatives. As a brief preview: in line with the general literature on the acquisition of additional languages during a child’s school years, we advocate dual language programs. However, we also realize that such programs, for a variety of reasons, may not be feasible. Therefore, we offer an additional option. This option, incidentally, relies on the fact that one of the most robust findings regarding lack of success in L2 learners across various bilingual programs in the US is the absence of adequate teacher preparation (de Jong 2011, García 2009, Ng & Wigglesworth 2011, inter alia).

6. Programmatic implications.
6.1. The desired solution: a dual language program. Much research on bilingual learning of spoken languages supports dual language instruction, the goal of which
is maintenance of both languages (vs. transitional bilingual programs, for example), but the success of each such program depends on a variety of factors, such as its parameters and teacher preparation (de Jong 2011, Garcia 2009, Ng & Wigglesworth 2011, inter alia). By the same token, the success of bilingual ASL-English programs is variable. The fact that many signing students do not achieve linguistic proficiency in ASL (L1) nor written or spoken English (L2) reflects the intricacy and variability not only of the population but also of the learning contexts. However, programs that support the development of both ASL and English for signing D/HH children, including two-way dual immersion programs for D/HH and Codas and nonsigning hearing children interested in ASL as a modern language (as in Tang & Yiu 2015), are theoretically a supportive approach to language learning, which in turn supports academic learning. Below we review the reasons for this, many of which mirror the argumentation provided in the literature on spoken language bilinguals.

The rationale for pursuing bilingual dual development for signing children (Coda or D/HH) is based on the following considerations. First, use of ASL increases the likelihood of building a strong foundation in an L1. Second, proficiency in reading and writing is more attainable with a stronger foundation in an L1, which has been found to lead to more successful acquisition of L2. And finally, for D/HH children in particular, spoken English is typically not fully accessible.

The relationship between language capacity and the trajectory of social-emotional development is bidirectional; thus, it is not possible to adequately understand the unique language needs of signing children without also considering the culture of signing and the culture of visually based living. The emergence of ASL, just like any language, as Hutchins (2014:37) explains, ‘is a cognitive process that takes place in an evolving cognitive ecosystem that includes a shared world of objects and events as well as adaptive resources internal to each member of the community’. Its evolution in a visually based social context created built-in ‘affordances’ (Gibson 1979, van Lier 2004) that make ASL effective for communication in the visual modality and natural for children to acquire through the visual mode. Signers arrange their world, behavior, and norms in ways that are conducive to living and communicating in the visual modality. In constituting Deaf social identities, social organization, and cultural values, the sociocultural view of Deaf people emphasizes the centrality of natural signed languages and shared experiences, not degree of hearing loss (Baker & Battison 1980, Meadow 1972, Washabaugh 1981); thus, a lack of exposure to ASL and Deaf culture means less opportunity for healthy development of identity and self-esteem (Bishop & Inderbitzen 1995, Corenblum & Annis 1993, Parasnis 1996, Wilkens & Hehir 2008). This extends to the hearing offspring: by learning ASL as an L1, they are enculturated into the signing culture (Padden 2006, Preston 1994, Singleton & Tittle 2000). For instance, as noted above (§4.1), in a large study on Codas, Preston (1994) reports a sense of cultural marginality despite the fact that many of the informants were proficient bilinguals, due largely to the history of conflict between the two language groups and what Codas regard as an artificial choice between hearing and Deaf cultural identities (see Leigh 2009 and references therein). As previously discussed in §4.1, anecdotal evidence indicates that Codas struggle with various aspects of the transition from the home to the school, and often feel that they do not fit in. These are issues crucial to children’s global socioemotional, cognitive, and communicative development.

The goal of many bilingual programs for D/HH students has been largely about the development of proficiency in both ASL and written English through the use of both languages during instruction of all subjects (opportunities for the development of spoken English proficiency vary by program and are often decided on an individual basis). An important distinction between D/HH learners and other ELs is that many D/HH children do not have full access to the language of the home and the ambient environ-
ment, or at least not the same access that typically hearing children have (Kushalnagar et al. 2010). This is because the spoken language is not fully accessible due to the etiology, and rich sign language exposure is limited because the vast majority of D/HH individuals are born into nonsigning hearing families. As a result, many D/HH children, implanted or not, arrive at school without a fully developed signed or spoken language. Their development of English in school is impacted by this delay in first language acquisition (Novogrodsky, Caldwell-Harris, et al. 2014). In addition, D/HH children with hearing parents face special challenges: not enough resources have been allocated for hearing parents who want support in creating a home environment that fosters ASL development. Research is needed to find ways for parents to shift to more visually based forms of communication that will give the family the foundation for learning ASL.

As with young ELs with a spoken L1, the task of learning to read and write for D/HH children is best described within an emergent literacy framework which theorizes literacy development as an ongoing process that starts before children are exposed to formal literacy instruction (Sulzby & Teale 1991, Teale & Sulzby 1989). Early experience with books/print and talking about texts builds the foundation for later literacy success (Dickinson & Tabor 2001, Whitehurst & Lonigan 2001, inter alia). Literacy development requires language competence in order to understand texts as well as access to adults to communicate with so that rich and meaningful discourse and various literacy events become possible. Research on the reading progress of D/HH children with early exposure to ASL (e.g. those with deaf parents) shows that their developmental stages are similar to those of hearing children, even though they take place in a different (i.e. visual) modality (see Mayberry 2007, Morford & Mayberry 2000, Musselman 2000). In addition, Deaf-of-Deaf children consistently outperform Deaf-of-Hearing children on measures of literacy acquisition (Hoffmeister 2000, Kuntze 2004, Mayberry 2007), and those who were exposed to signing earlier also do better than those who were exposed to it later (Kuntze 2004), thus providing evidence that knowledge of ASL, or a strong L1 foundation, is an asset for learning to read and write. Written English is accessible for D/HH children in ways that spoken English is not, and many D/HH people learn English only in written form. For D/HH, the process of learning to read and write is more a task of learning a new language that is based on orthography, rather than a task of mapping print onto spoken language. Its development is a product of engagement in communication in the written mode as well as recreational reading.

High-quality language and literacy interactions with adults who can communicate well with D/HH students are essential for students’ academic success. The very nature of written English, which is used chiefly in nonsocial activities such as silent reading or writing for an unseen audience, seems to preclude opportunities for its use in a social milieu. However, even though written English is formatted for communication on paper rather than communication through the body, it can be brought into the social sphere through social mediation. One way of doing this is to call children’s attention to print in the environment (e.g. Bennett-Armistead et al. 2005). In an emergent literacy preschool classroom (see Erting & Pfau 1997), before children are able to read, they learn about concepts of print (e.g. that print, images, and text on a page or on the walls all have meaning). But the likelihood of actually learning written English through reading is dependent on whether children have adequate communicative access to others to facilitate their comprehension of written texts (Kuntze et al. 2014). Teachers stimulate discourse during read-aloud sessions, ask children open-ended questions, answer the students’ questions, and encourage children to talk about print throughout the day in various contexts.
Social mediation gives children the requisite scaffolding to achieve a deeper, broader understanding of texts. This supports language development by supporting the acquisition of new vocabulary, knowledge, and the more mature or complex syntactic structures that are by-products of comprehension and rich discourse (Cole & Griffin 1986, Luke & Elkins 2000). One of the most important activities related to social mediation in support of emerging literacy skills is reading aloud (Trelease 2006). Reading ‘aloud’ in ASL provides the teacher with an excellent forum for making stories fully accessible by conveying them in the visual mode. By utilizing both languages (signing in ASL and pointing to printed English in the book), the teacher not only makes the story comprehensible but also helps children begin to make connections between words in print and meaning as communicated in ASL. Subsequently, higher-order thinking skills are nurtured when children have access to a communicative system that enables complex discussion about cause/effect, implied meaning, metaphors, symbolism, logic, and narrative structure of the stories either told to them or that they read. Incorporating those strategies during the early years of school provides a foundation for future literacy success.

In contrast, very little is known about strategies and practices for supporting the bilingual development of Codas. Like D/HH children, Codas grow up in a visually based environment; unlike D/HH children, however, they have access to spoken English. The strategies and practices for supporting children from non-English homes can conceivably apply to Codas, but there is an important difference: Codas’ L1 is visually based and their L2 is aurally based. Strategies for supporting Codas’ efforts to learn English and to do well in school need to include visual strategies and practices to help them with the transition to a new, aural-centric learning environment. It also means that the school should consider the orientations and skills that the Codas have as a result of having developed language in a visually based environment.

Many ELs who happen to be heritage learners of another language (e.g. Spanish) tend to perform better on certain measures of proficiency in English than they do in their heritage language. These individuals have often received exposure to English early in development and phonologically may not be distinguishable from native speakers, while presenting as LEP in other domains. However, their heritage language may suffer—while children acquire language early, many linguistic aspects continue to develop in childhood, and these aspects require rich and varied input. This type of input is typically not available in a heritage language situation, and thus learners’ linguistic profiles can be described as ‘no longer L1 but not yet L2’ (Laleko & Polinsky 2016, Montrul 2008, et seq.), which complicates acquisition of L1 and L2 separately but increases learning through both languages. For the same set of reasons, Codas and cochlear-implanted D/HH children growing up bilingually have recently been described as heritage language learners (Compton 2014, Palmer 2015, Reynolds 2015). And much like the hearing immigrant caregivers of young ELs, many caregivers of hearing or cochlear-implanted children have been either explicitly or implicitly discouraged from exposing children to rich linguistic input in their L1—that is, ASL (Chen Pichler et al. 2014, Preston 1994). As a result, many Codas and implanted D/HH children may not perform on assessments of ASL on par with Deaf L1 signers (Palmer 2015, Reynolds 2015, Spencer & Marschark 2010, inter alia) and may also benefit from support in ASL. 14

14 This of course is an empirical question—to our knowledge, no longitudinal data collection and assessment of ASL skills of Codas in a dual language program has ever been done.
signing children require rich input in their L1 (ASL), and as ELs, they also require explicit and authentic instruction in the L2 (English).  

6.2. OTHER-THAN-DUAL-LANGUAGE PROGRAMMATIC POSSIBILITIES. For all of the reasons the field has previously argued bilingual education to be the preferable model for multilingual children, we too have advocated for the same. We recognize, however, that many states/districts/schools will, or can, not adopt such a model for a variety of reasons. Setting aside the debate over the reasons, we outline here two additional programmatic options that stem directly from the main claims of this article.

In light of the argument that L1 users of ASL ought to be eligible for English support services in K–12 schools, it seems to us that teachers of English as an additional language (a.k.a. ESL)—those explicitly charged by school districts with improving outcomes in English as L2—should now be mindful also of a particular contribution of signers (of ASL and other sign languages) to the ESL classroom. This change in the classroom profile is technically trivial: nothing in principle changes in the current credentialing of such a professional, save the additional information on the uniqueness of bimodal bilingualism. This uniqueness is revealed in two ways. First is that, in comparison with unimodal bilinguals (e.g. Spanish-English, Japanese-French), bimodal bilinguals tend to codeswitch less and code-blend more (Emmorey et al. 2008, inter alia), and perhaps due to the availability of two articulators, allow various crosslinguistic patterns previously unattested in other populations (see §2). But the ability to differentiate between L2 influence and linguistic impairment is already in the wheelhouse of the ESL teacher.  

Second, teachers now also need to consider that the children in their care have been raised in a culture that has been doubly oppressed: both linguistically and in terms of ability, and yet have likely been able to ‘pass’ for a nonmember of the minority community their entire life (Brueggeman 2006; see also Brune & Wilson 2013). With this addition—to be implemented during the initial coursework in L2 acquisition—working with hearing children who use a sign language as L1 requires no other type of preparation by the ESL teacher.

With respect to D/HH children, matters appear more complex. However, we would like to suggest that this is only an appearance, and a solution is at hand. First, let us consider the difference between hearing and deaf ELs. Though knowing the L1 of one’s students typically helps, language teachers are generally not expected to possess such knowledge; their students will rely on hearing for phonological stimulus and feedback, which will lead to eventual learning. This, for obvious reasons, is different for D/HH students, who cannot be taught by ESL teachers directly without reliance on the L1. D/HH students are, of course, already eligible for an interpreter by the ADA (§1). What is now needed is an additional module during interpreter training: interpreters must ensure that they not interfere with the language acquisition process of the D/HH learner by correcting errors. But then again, this simply means that the skill required of an interpreter is professionalism—which precludes interference. In other words, once again, 

15 Here we purposefully abstain from defending a particular type of a dual language program for sign-speech bilinguals, of which, much like in spoken language bilingualism, there exist a variety. A recent study by Becker and Krausneker (2017) surveys dual bimodal bilingual programs in thirty-nine European countries. As expected, results vary and depend on teacher training, legislative/community support, existence of a formalized curriculum, evidence-based practices, and funding.

16 Ultimately, awareness alone is not enough: the teacher must be equipped with necessary assessment tools, which remain desperately lacking in the fields of both unimodal and bimodal bilingual language acquisition.
nothing new is being added to the credentialing, though admittedly it does require an addition to the initial preparation.

Finally, in many states/districts/schools, signing D/HH (with or without cochlear implants, Deaf-of-Deaf, and Deaf-of-Hearing) children in mainstreamed contexts receive services by the Teacher of the Deaf (ToD) if stated in the student’s Individual Educational Plan (IEP). The requirements for ToD state certification and/or licensure vary by state, but often include requirements that indicate proficiencies in literacy and content methods and pedagogy, methods of ASL or speech development, language development, audiology/speech training, and so forth. In addition to state requirements, university programs establish their own criteria related to teacher candidate proficiencies. Some such programs include training in L2 acquisition, but this is far from a norm. The other type of service such students ordinarily receive is speech therapy. To our knowledge, no state requires speech pathologists to also be credentialed in methodologies associated with L2 learning. Preparation of such professionals ought to include coursework in L2 acquisition and methodology, and in the field, these individuals should ideally be co-teaching with ESL teachers. Such a move would not only ensure the cross-pollination of knowledge across faculty, but would also allow for more integration into the student body within both the EL and the D/HH communities.

7. Curricular recommendations.

7.1. Linguistic development to be reflected in curriculum. Emerging evidence suggests that opportunities for language development must exist as part of the core instructional program—not merely in addition to or in parallel with it. This may require a reframing of both the goals of content instruction to include the development of metalinguistic awareness and the mechanisms of classroom interaction to emphasize opportunities for student interaction. ‘Regular’ core instruction must not only provide access to content in multiple modalities in order to reinforce students’ developing conceptions, but it must also leave room for explicit comparisons across languages and modalities as students interact with new words, ideas, and information. First, hearing and D/HH students using ASL need to have access to new information and new practices (e.g. writing processes, mathematical processes) in ASL so that they can use existing ASL competency to support understanding, learning, and development in (written) English. The practice of presenting, rehearsing, and reinforcing new information in multiple modalities is not unique to linguistically diverse classrooms—it is a key feature of a variety of learning theories. It seems to us that the theoretical constructs already available on the market can easily be reframed to accommodate the importance of multiple representations of content for students who are working between languages and modalities as learners (e.g. translanguaging; García 2009, inter alia).

Second, explicit comparisons between what students using ASL understand and can communicate in ASL and what they understand and can communicate in English must be made in order to develop students’ metalinguistic awareness. That is, constant comparisons between the two languages contribute to students’ understanding of each language as well as to their understanding of the structures and functions of each. Given the diversity of ASL users’ early language exposure, we cannot assume that they will have enough proficiency in ASL to use it as a language for learning. Therefore, it is important to provide language instruction about ASL as well—explicitly teaching the signs, structures, and functions of ASL alongside other academic content, so that students develop their knowledge of ASL and new content simultaneously. This is a well-defined path in bilingual education for spoken language learners (de Jong 2011) and should be utilized to the
fullest for D/HH students. Still, explicit instruction in ASL within core content instruction, while necessary, is not sufficient to fully develop ASL or any language. This requires a large volume of additional natural exposure and opportunities for interaction in the target language within and outside of classroom settings. Thus, instruction should be coordinated in ways that develop both ASL and English, while creating space for D/HH and Coda students to interact with fluent ASL users and language models in a variety of settings. Teachers can support language development and content acquisition in classrooms by organizing instruction to include student interaction.

Finally, and crucially, children acquiring both languages should be assessed appropriately at every juncture for each language, using the tools appropriate for L1 (ASL) and L2 (English).

Other characteristics of successful instruction in/for additional language, much discussed in the literature on spoken language acquisition over the past forty years, include increasing opportunities for dialogue, paired or small group work, and interactions facilitated by a teacher; all of these can scaffold students’ uses of language to communicate about content and provide opportunities for practice and feedback, which support growth, confidence, and transfer. Thus, the aforementioned suggests that dual language programs are likely to be just as successful for bimodal language acquirers as it is for ELs whose L1 is a spoken language. In such a program, foci on metalinguistic awareness and interaction are absolutely crucial for at least one group of learners—the D/HH—who do not have access to English input outside of text and may, in addition, have experienced language delay. The former focus highlights issues involved in students’ understanding of how languages work and relate to one another, which further predicts how efficiently and fully students will develop proficiency in first and target languages. Building metalinguistic awareness requires exposure to and explicit comparisons of languages as ways of representing and communicating content. The latter focus allows students learning two or more languages, especially those who have experienced a language delay, to have rich opportunities to use language in the context of learning—whether their learning focuses on language itself or on the language of particular content areas.

As is also true for ELs using spoken language, the levels of D/HH students’ and Codas’ proficiency in L1 (ASL) may vary greatly. For example, hearing ELs with a spoken L1 may know more than two other languages, which, according to research, is beneficial for additional language learning. Some learners’ languages are typologically similar to English and thus the learner may progress in acquisition of English more rapidly than the learner whose L1 is typologically different. As with ELs whose first languages are spoken, ELs whose L1 is a sign language present different profiles, and thus instructional methods must be diverse—but all such methods must be informed by theories of second language acquisition.

7.2. Time expectations for attaining English proficiency. To our knowledge, no data currently exist that can reliably address this issue. This is because no data on school-aged children with ASL as L1 have ever been systematically collected, precisely due to the policy we are arguing against here. But at the very least, one can expect the following: the rate of progress in English and the heritage language for hearing signing children (Codas) can be compared with what is known about other ELs whose L1 has the status of a heritage language.

Similar observations could be made of early implanted signing D/HH children, although with the variable success of implantation and speech training, they should be expected to rely on their L1 more and for longer than other heritage learners—their rate of progress in English may be compared to that of typical hearing learners of English as an
additional spoken language. Finally, the rate of improvement in English proficiency for nonimplanted D/HH children who do not have ASL as a fully developed L1 should be expected to be significantly slower than the other groups because nonimplanted D/HH children access English via literacy, and D/HH ELs are delayed in their L1, which, as research shows, carries consequences for development in L2. However, at the moment no English L2 instruction is mandated for ELs using ASL, further contributing to the increased timeline for acquisition of English.

8. Conclusions and implications. In this article, we have discussed a particular language policy that has reigned over a specific type of bilingual population: ASL-English bilinguals. We have argued that this policy is misguided; being not only outdated but also based on something other than a linguistic difference, it deprives ASL-signing children both of an ability to use their L1 as a bridge to English (their L2) and of effective instructional methodologies of L2 learning. In other words, under the current policy, everyone loses.

ASL is a natural language that is distinct from any other spoken or signed language (Sandler & Lillo-Martin 2006, inter alia). It is neither English in a different modality nor grammatically structured in a manner that has a one-to-one mapping with English (across modalities). It is recognized as a non-English language and in at least forty-five states is taken for high school and collegiate credit to satisfy a modern (a.k.a. foreign) language requirement. Since it is historically related to French Sign Language, its national origin lies in language communities outside of the US, some of which are in countries where English is neither the national nor a local spoken or written language. Additionally, from the earliest stages of its development in the US, ASL has been influenced by local signed languages that predate the arrival of the Europeans on the continent—such as Plains Indian Sign Language—with 38–55% lexical similarity (Davis 2010). Thus, ASL may be viewed as a language of national origin (rather than English-based) and as closely related to the Native American signed languages. Today it is a language of a community indigenous to the US with its own cultural traditions and literature (see e.g. Monaghan et al. 2003).

As a natural first language, deaf and hearing children learn ASL from deaf adults, fluent signers, and deaf peers. While their national origin is within the US and their parents may be fluent in English in addition to other languages (as is the case in many multilingual families in the US), these families should exercise their constitutional right to choose a non-English language for primary or sole use in their home with their children—that is, their home language may be a language other than English. The preservation and primacy of a non-English language, including ASL, in the home is honored fully under the law, and there is no expectation that this honor should be rescinded because individuals using the language are in a nation that has been dominated by English for centuries. Learning English fluently is a desired outcome of schooling for all children in the US regardless of which language is predominantly or solely used in the home.

From the discussion above it seems clear that ASL-signing children should qualify for an English language assessment aimed at deciphering their level of English proficiency and, if needed, ought to be instructed as ELs. This observation carries three immediate consequences. First, these children are currently identified haphazardly at best—only if they present as having a disability. Therefore, no systematic data are presently available for examination of linguistic and other development of school-age hearing vs. D/HH ASL-English bilinguals (as compared with, for example, other language groups or the same language group at different ages). Second, while children with access to spoken English (both Codas and cochlear-implanted D/HH) with ASL as
L1 will be able to be instructed with the use of traditional ESL methodology, much of which relies on listening and speaking, instructing nonimplanted and/or signing D/HH students requires that TESOL-qualified professionals amend their teaching practices so that they no longer primarily rely on oral/aural skills. Studies have shown that such an amendment promises to improve outcomes for other hearing ELs as well (e.g. individuals with auditory-processing disabilities). Research has shown that in US K–12 schools, 9% of all ELs are also identified as having a disability, and 8% of children with disabilities are classified as ELs. Some states see higher concentrations, and the numbers continue to grow. For example, in Connecticut in 2014–2015, 18% of ELs were identified as having disabilities. This number had grown 36.1% over the previous five years. Thus, it is apparent that pre-service teacher-preparation programs need to consider including the teaching of English as an additional language to children with disabilities, including deafness. Third, we recommend that states ensure that their assessment materials of English as L2 remain valid without reliance on oral/aural language. These materials could then also be used for foreign D/HH wishing to study in US K–12 schools and colleges/universities.

Further, much research on spoken language bilingualism shows that improvement in L1 skills leads to improvement in L2, including L2 literacy. This set of findings directly relates to English education of Cadas and signing D/HH children. Increased support for the heritage language of signing children with any amount of access to spoken English is expected to lead to the outcomes recorded in the literature on balanced bilingualism: better performance overall in both languages as compared to other forms of bilingualism. For D/HH children without access to spoken English, strengthening ASL will provide rich linguistic input, which promises to equip them with diverse metalinguistic tools for English. The aforementioned (and all of the evidence we have articulated throughout) points in a particular direction: while this article had an entirely different goal from the ones articulated by positions 1 and 2 (see §2), the arguments we have presented independently align with position 1. This, we hope, offers the field of deaf studies and deaf education additional evidence for programmatic and curricular decisions that may have been previously overlooked.

While the focus of this article has admittedly been the educational well-being of ASL-signing children, we hope to have shown that the curricular choices created for them by the US Department of Education (see 2) reflect implicit and explicit biases. Among such biases is one ‘hidden’ in plain sight in 3 above. As we have pointed out, sign languages are both easily classified linguistically and are used by both hearing and deaf people with a variety of (dis)abilities, yet during the 2017 data-collection cycle, Connecticut was the first and only state in the US to consider ASL (or any sign language at all) an L1 for identification purposes (Megan Alubiki Flick, p.c.). The lack of interest on behalf of state and federal departments of education in the existence of the relevant data is likely to be connected to the fact that for the purposes of general information about its citizens, for example (i.e. the Census), the US does not consider ASL users to be a linguistic group—that is, ASL to be a language. Below, we reproduce an excerpt from 3.

(7) [T]he Census Bureau counts ASL speakers among those who speak English.18

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18 https://www.census.gov/topics/population/language-use/about/faqs.html
This we find most peculiar given that many states have been gainfully employing teachers of ASL as a modern language in a K–16 system for a number of years and, we suspect, drawing revenue through tuition (see §3).

According to the World Federation of the Deaf, over seventy million D/HH people use a sign language as L1;\(^{19}\) this number has been approximated to be around half a million for ASL (Mitchell 2005), but does not reflect the full picture regarding the use of ASL for all of the reasons articulated in the article—for example, no data have ever been collected on Codas, using the L1 status as the variable—and thus the number is likely to be much higher. The language is the third or fourth most popular language course in US schools, and yet according to the Census Bureau’s interpretation of the 1975 amendment of the Voting Rights Act, it does not count as a language at all, thereby contributing to the environment of exclusion that the Deaf/hard-of-hearing community has faced for many years. Whether this interpretation serves as one of the direct underlying causes of the type of educational planning we have shown to exist for signing children (both deaf and hearing) in the US is unclear, but we strongly suspect that a change in the federal policy with respect to the interpretation of the 1975 Voting Rights Act in 3—to simply treat sign languages on par with spoken languages—is likely to also create an impetus for the US Department of Education to amend its practices regarding education of signing children in the manner that has been observed with other linguistic groups. It seems that the next step is clear: what is needed is systematic treatment (by federal policy) of ASL as a language rather than a mode of communication for people with a disability. In our view, this move requires nothing new. It simply involves the withdrawal of the outdated amendments to the existing documents, such as the ‘dear colleague’ letter to Title III directors (the excerpt in 2) as an addition to 1. This change, however, we hope to have cascading effects toward ensuring equitable education of children whose L1 is ASL.

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