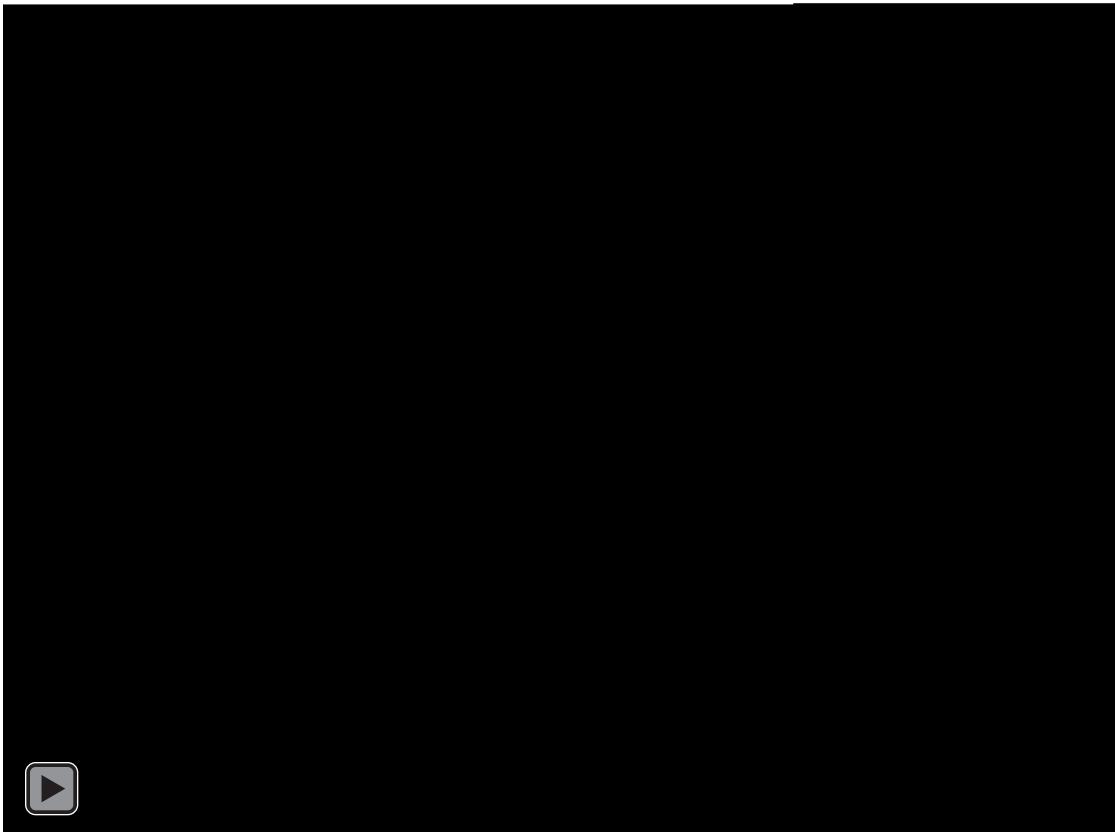


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### Six Arguments for Vygotskian-Pragmatism in Deaf Education:

#### Multimodal-Multilingualism as Applied Harm Reduction

Jessica Scott, Jon Henner, and Michael Skyer



### Abstract

Deaf education research and practice has not always lived up to the ideals of improving the lives of deaf students. In consequence, we constructed novel arguments that support deaf pedagogy using pragmatic ethics, which aim to increase benefit and decrease harm to individuals and society. The ideal of *harm reduction* asks the pragmatist to pursue the path of action that is least likely to result in injury to others. In addition to applying ideas that reduce harm, educators must also increase benefits for deaf students. Our analysis synthesizes Vygotskian perspectives on deaf pedagogy and pragmatic ideals about reducing harm and increasing benefit. We propose six arguments that enable deaf educators to think about and enact deaf-positive concepts and strengths-based classroom interactions. This includes using sign language, images, and text, among other modes, like speech. Our goal is reducing the threat of harm from language deprivation.

### **Synthesizing Vygotskian-Pragmatism: Harm and Benefits in Deaf Pedagogy**

Lev Vygotsky is one of the most impactful education researchers of the early 20<sup>th</sup> century. His empirical, theoretical, and philosophical contributions have irrevocably changed how people think about teaching and learning. What is less known among people aware of Vygotsky's more mainstream ideas (e.g., the zone of proximal development) is that some of his early research focused on deaf education. He advanced key arguments about the benefits of sign language and *polyglossia* (Vygotsky, 1993, p. 207). Polyglossic pedagogy is similar to modern-day multimodality; both are focused on a large range of forms of semiotic information, called modes (Skyer, 2020). Vygotsky championed the curricular and pedagogical uses of sign language, gesture, images, and text as modes that help deaf children learn (Mahn & John-Steiner, 2012). Contemporary multilingual and multimodal approaches to teaching and learning in deaf education are similar to polyglossia (Golos et al., 2021; Skyer, 2021). We argue that combining Vygotskian thinking with the philosophy of pragmatism provides the field with a means of



purposefully rebuilding deaf education to reduce educational harms, increase benefits, and provide opportunities for social, emotional, and academic development of students.

## Definitions

***Deafness.*** In this manuscript, we use the inclusive term “deaf” to refer to a range of hearing levels, from what might typically be referred to as hard-of-hearing, to profoundly deaf; we also include anyone who would benefit from being identified as *deaf* such as those with central auditory processing disorder, as we believe that all would benefit from the model proposed here. We recognize that the act of drawing borders around ‘deafness’ may exclude people who want to be included, and include people who do not want to be included (Young & Temple, 2014). For this reason, although we demarcate a tentative definition, we also deny the act of defining deafness with certitude.

***Multimodal-Multilingualism.*** One central tenet we explore throughout this article is *how* teachers can use multiple languages through and with multiple communication modalities in order to reduce the major harm of language deprivation (Glickman & Hall, 2019). This overarching argument aligns with Vygotsky’s view that it is essential to include natural sign languages, as opposed to artificially constructed sign systems (see Scott & Henner, 2020), in the education of deaf students. Knox and Kozlin (1987) write, “Vygotsky [initially] perceived [sign] language as a natural rather than cultural mental function. Later on, Vygotsky recognized that sign language constitutes a well-developed communicative system that forms an essential part of the polyglossal process of language acquisition by deaf students” (p. 3).

***Harm Reduction.*** A central argument stemming from Vygotskian thought is to suggest that harms arising from disability are not located in the body or mind of a deaf or disabled person, but rather harm is created by a judgment imposed by the actions (or inactions) of other

people in the educational environment, furthermore, that we should aim to reduce these harms (Smagorinsky, 2012; Vygotsky 1993). For instance, there is no compelling evidence that the use of signing *systems* results in improved educational outcomes for deaf children (Scott & Dostal, 2019; Scott & Henner, 2020); there is also no evidence suggesting that providing sign *language* harms deaf students (Dye & Terhune-Cotter, 2021). Philosophical pragmatism, likewise, is concerned with reducing harm (Cherryholmes, 1999). Throughout this article, when we use the term “harm” and “benefits,” we are specifically referring to how these concepts exist relative to their consequences on deaf children. As a clear example of harm, we refer to methodologies of raising deaf children and teaching deaf students that are the likeliest to result in language deprivation, a consequence of withholding of sign language for young deaf learners.

Though there are other ways in which deaf educational experiences may be more or less harmful, we hold as a central tenet of this paper that depriving deaf children of sign language *is* materially harmful. Studies show that language deprivation results in physiological reductions in brain matter in deaf babies (Gulati, 2019). While “harm” may be a relative concept—brain damage is unambiguous. In contrast, we argue that the early inclusion of sign language is a benefit. We derive our value of sign language from the empirical studies which have identified positive effects of sign proficiency on other areas (e.g., Hoffmeister, 2000; Singleton, et al., 2004; Strong & Prinz, 1997; Lange, et al., 2013; Goodwin, et al., 2022). In the present paper, we explore how Vygotsky’s arguments about the social nature of deafness have helped to influence modern understandings about speech and communication modes, particularly in considering ways to avert harm from language deprivation. We want to note that although this idea is present in Vygotsky’s work, there are numerous disabled scholars and community members who, before

and after Vygotsky proposed this concept, have discussed, expanded on, adapted, and improved similar frameworks (e.g., Annamma et al., 2013; Ballin, 1998).

***Future Orientation.*** Another consequential Vygotskian argument is that an “educational system without definite, positive societal goals is impossible” (Vygotsky, 1993, p. 49). At least two lessons can be drawn from this belief. First, deaf educators should not only respond to identifiable problems in the present and consider how past actions may have led to these problems, but they also should think through any potential consequences of present changes that might shape the future. Colapietro (2011) writes, “The most effective—indeed, the only—way to make the future different from the past is to remake the present” (p. 161). As applied in education, pragmatic philosophy shifts the basic orientation from the past and present towards the future, and specifically, the process of reconstructing the present in the interest of an unseen future. Specifically, we think it is important to construct goals that reduce the harms done to deaf students who are nearly always minoritized in special education (Skyer, 2021), some multiply so (e.g., Annamma, et al., 2013). As an example, deaf educators need to consider changing pedagogical strategies to address changing demographics, such as the increasing numbers of deaf students with additional points of difference, who may be doubly marginalized.

A second lesson is that aspirational outcomes should be optimistic. For instance, while it is increasingly common to criticize language deprivation, what is less common are proposals for enriching the lives of deaf children or adults who already live with language deprivation. As one example, Holmes (2019) offers a 15-page itemized critique of three major United States laws that affect language deprivation, and only one short paragraph titled, “Actions by Teachers” (p. 276). We agree with Vygotsky: Deaf education should be infused with a future-oriented,

optimistic view rather than seeing deaf people as broken or in need of repair. These two major lessons align with the ethics of pragmatism, the second framework we use in our synthesis.

***Vygotskian-Pragmatism.*** Pragmatism is centered on examining the ideas that people have and the actions they take based on those ideas. Pragmatism supports analyses asking what the *consequences* of ideas and actions may be (Dewey, 1998; Peirce, 1878). In other words, pragmatism asserts that “beliefs are inseparable from actions, therefore the truth of beliefs should be evaluated according to their consequences” (Spencer, 2020, n.p.). The pragmatist ethos suggests that *how people act* is at least as important as *what they say they believe*. In deaf education, it is essential that the actions that result from beliefs are examined carefully, in and outside the context of a given belief structure. In our situation, a teacher who says they believe in the power of natural sign-based deaf education but fails to include classroom practices that center and value sign languages can be said to not actually believe in sign-based education!

There is evidence that Vygotsky explicitly engaged with pragmatism, including its focus on consequences, and, as we show momentarily, this framed his desire to reduce harm and increase benefits in deaf education. Among Vygotsky’s Stalinist critics were those who chastised his commitment to citing Western scholars, who they claimed were bourgeois (Shaw, 2017). Specifically, Vygotsky cited John Dewey, a leading U.S. pragmatist in *Defectology*. Like Vygotsky (1993), pragmatists aim to reduce harm and increase benefits, and this ethical interplay often occurs in educational contexts (Rorty, 2000), with vulnerable children who are subject to differentials in power (Cherryholmes, 1999). Both parts of our Vygotskian-pragmatic synthesis fit together well, since both historically and presently, pragmatism includes diverse perspectives, and also welcomes modern and postmodern ideas like feminism, civil rights, disability studies, and indigenous activism (Albrecht, 2002; Pratt, 2004; Seigfried, 1996; West, 1989).

Deaf education is a context in which scholars and practitioners can apply pragmatic pedagogical principles, especially by reducing harm (Skyer, 2021). Educational pragmatists seek to interrupt oppression and injustice in all its forms and increase beauty and freedom of inquiry in schools (Cherryholmes, 1999). As Vygotsky (1993) argues, “The oral method more than any other is unnatural for the deaf mute ... Instruction by this method contradicts the deaf child’s nature. [If] a method...forces us to treat the pupil cruelly... we must give this method up” (p. 118). Throughout this paper, we attempt to show how deaf pedagogy can benefit from overtly linking Vygotskian perspectives and the pragmatic ethos.

We call this synthesis Vygotskian-pragmatism. Synthesizing Vygotskian stances and pragmatic philosophical lenses is not an obvious solution, but it is one that analyzes prior harms and strategizes toward positive future outcomes for deaf children, including deaf-positive ways of knowing and being (Hauser et al, 2010). In a Vygotskian-pragmatic deaf education classroom, whether separate or inclusive, the ideal or typical learner is defined as deaf. That is, the generic assumptions are that deafness is normal and that the educational environment needs to be appropriately designed for the deaf student, rather than with an audist assumption that deaf students are inferior or need to change to suit the environment. As Vygotsky (1993) instructs, “For a blind or deaf child, blindness or deafness represent[s] normality, not a condition of illness” (p. 111). The consequences of this stance are multiple. For example, instead of asking teachers to adapt curricula that are originally designed for hearing children, the authors of this paper ask that teachers prioritize ways of acquiring language and knowledge construction that align with how deaf children already learn (Kuntze et al., 2014; Kuntze & Golos, 2021). DiPerri’s (2022) Bedrock Curriculum is a good example of a set of educational resources designed for deaf students and normed to deaf learning capacities.

Using a *norm of deafness* supports the need for a paradigm shift in deaf education, one that essentially extends the argument of Johnson et al. (1989). Instead of placing blame on deaf students, educators, or communities, we instead look to the systems of education that have not made this paradigmatic shift. We hope our synthesis is helpful for others and makes the world a more just, more beautiful, and more harmonious place. In short, our arguments examine how the Vygotskian (1993) perspective can coincide with educational pragmatism, both of which are cultural-historical in origin and optimistically future-oriented in outlook (Cherryholmes, 1999; Rorty, 2000). We do so in an effort to reduce harm and increase benefits, relative to their consequences on deaf students' development (Humphries et al., 2012).

*Positionality.* Before we engage with the Vygotskian-pragmatic perspective on deaf education below, we briefly discuss our positionalities. Jessica is a hearing, white woman who began to learn ASL as a high school student, and has worked in ASL-oriented deaf education spaces for her entire adult life. She also considers herself a philosophical pragmatist, and is oriented towards ensuring that deaf education classrooms are places that allow language and learning to flourish. Jon is a deafdisabled multimodal, cisgender white man focused on topics of language and disability justice within linguistics and education. Michael is a deaf and multiply disabled white person whose research focuses on the point of intersection between multimodal discourses and inequities in sociopolitical forces such as power in deaf education. Together, our stances and experiences are congruent with Vygotsky's interests in identifying and resolving dilemmas about polyglossia in deaf education.

### **Six Pragmatic Arguments for Harm Reduction in Deaf Education**

Below, we introduce six arguments that situate positive social goals that can guide future changes in deaf education. These goals were derived from our synthesis of the literature in

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several overlapping fields: Vygotsky's work on disability and deafness, research on the application of pragmatic philosophy to education settings, and research in multilingual-multimodal deaf education. Though this is not an exhaustive literature review, we employed methods of database searches in PsycInfo, Academic Search Complete, and ERIC using Boolean phrases such as "pragmatism AND education," "Vygotsky AND deaf," "deaf education AND bilingual OR multilingual." Where appropriate, we read secondary citations from relevant articles to obtain additional references. Articles were referenced below if they fell into one of the three specific fields noted above.

Below, we explain the six arguments briefly at first, then in-depth after. The six arguments presage a deeper discussion, which concludes our analysis about ethical relationships in our synthesis of Vygotskian-pragmatism. We think this synthesis may be useful for a wide range of readers, including teachers, students, and researchers in deaf education, and speculate that synthesizing these philosophies and applying them supports the major goal of reducing harm in deaf education and may significantly improve outcomes for deaf learners and their teachers. The six arguments are as follows:

1. Provide all deaf children and their families with plentiful and meaningful access to natural signed languages.
2. Create classrooms that are child-oriented and naturalistic learning environments based in multilingual-multimodal approaches to language development.
3. All teachers in deaf education need to achieve maximum levels of proficiency in natural signed languages to create accessible languaging environments.
4. Deaf children should have access to age-appropriate content taught to them by sign-fluent teachers, as well as the opportunity to discuss content with sign-fluent peers.

5. Opportunities to develop second (or multiple) languages, including spoken languages as heritage languages (e.g., languages of one's home or ancestry that might not be the language of school or the broader community; Montrul, 2010). These need to be included where (and when) appropriate through print or speech modes.
6. Barriers that keep deaf professionals out of the classroom must be removed (e.g., arbitrary requirements for teachers to be hearing, biased certification exams or entrance exams for university).

Overall, our six arguments can be summarized as follows: *Deaf educators should adjust what they do in the classroom to be deaf-positive, while considering how what they are teaching could affect their students by harming or helping them in the present and in the future.* There are three criteria that should be used to influence how deaf educators adjust their teaching:

- (1) *Does this action reduce harm for deaf students?* If it does not reduce harm for deaf students, then reject it.
- (2) *Does this action increase benefits for deaf students?* If it does not increase benefits for deaf learners, then reject it. Lastly,
- (3) *Are these assumptions of harm and benefits about deaf students based on assumptions of audism or ableism?* If they are based in audism or ableism, then reject them.

As Vygotsky (1993) states, “no theory is possible if it proceeds from exclusively negative premises” (p. 31). Therefore, we make every effort to remain grounded in positive statements that are empirically supported by the available research. Vygotsky encourages educators specifically to explore how social structures can create or remove barriers for deaf development (Smagorinsky, 2012). Vygotsky (1993) also asks educators to think about how they can remake deaf education with both the *needs* and *abilities* of deaf students in mind. Our deaf positive



educational stance does not center the hearing child as the ideal “normal” learner. One important avenue toward this end is the education of, or perhaps *re-education* of nondeaf people who, very often, know very little about deafness and deaf people (Smagorinsky, 2012).

We assert that one major function of deaf pedagogy is to prioritize a variety of ways to exchange information using modes that are readily understood by deaf students. Here, we emphasize that information exchange very often occurs through a variety of modes of language. In keeping with recent literature, we refer to this plurality of language modes by prioritizing the verb *linguaging* (Love, 2017). Colloquially, someone who is linguaging is “using” or “doing” language. ‘Linguaging’ differs from ‘communicating’ in that people, rightly or wrongly, often use ‘communication’ to describe forms of interaction they think are not quite language. The term *linguaging* forces our readers to focus on the concept of language and prioritize the role of language in deaf pedagogy. Deaf children are adept at linguaging when sign languages are prioritized early. In the optimistic spirit of Vygotsky’s deaf pedagogy (Skyer, 2020), we presently expand on the introduced six arguments proposed above that align with the goals of pragmatism and generate measures of evidence that support our claims, via a review of the relevant literature we identify next (Boote & Beile, 2005).

**Argument 1:** *Provide all deaf children and their families with plentiful and meaningful access to natural signed languages.*

To provide a multilingual-multimodal educational experience from a young age, deaf children and their families must be provided with in-home access to experiences and resources that center natural sign languages sourced from intact deaf communities. Increasingly, early intervention services provide experiences such as mentorship from deaf adults and access to play groups in natural sign languages (Hamilton & Clark, 2020). These mentorship opportunities

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should be both continued and expanded. Mentors provide guidance about language, cultural, social, and emotional resources that connect the home with deaf communities. Mentoring should include the immediate and extended family, and other community-based social networks.

Research shows that this approach to mentorship fosters sign language acquisition and other forms of multimodal languaging that acknowledges the dynamic, social nature of learning and development, and that supports the families' present needs, their deaf child's future needs, and enhance the wellbeing of the overall community (Gale, 2021; Gale et al., 2021; Skyer, 2020; Vygotsky, 1993).

Choices in deaf education, such as those made by parents about intervention or placement after identification, are based on values about language, culture, and power, and are relative to knowledge about deafness, deaf people, sign language, and Deaf cultures (Snoddon & Murray, 2019). In an educational setting, conflicting beliefs might be held by students, parents, teachers, school administrators, and alumni regarding language use and the value of sign language. Specifically, many parents and educators (even if only implicitly) value English over ASL and argue that a deaf child should be coerced into the 'hearing world.' This may occur through subtractive forms of bilingualism or monolingualism focused on speech. Vygotsky (1993) writes, "it is impossible to measure [a deaf child] by the same standard used for a [hearing] child" (p. 68). If we consider Vygotsky's adage that deaf children should be thought of as normal, then sign languages are likewise the natural languages of deaf children. Deaf communities who value ASL's benefits can help families who seek to reinforce healthful deaf ways of knowing and being.

Conflicts in core values about deafness, and deafness' relation to multilingualism have profound consequences on the overall language development of deaf children (Hall et al., 2017;

Skyer, 2021; Valente & Boldt, 2016). This consequentiality is also important to the Vygotskian pragmatist. Increasing access to natural signed languages and providing families with accurate, culturally relevant information regarding sign language development in deaf children has the potential to reduce conflict in values and beliefs regarding unsubstantiated assertions. A primary unsubstantiated supposition is that there is a clash among spoken, signed, and printed languages in deaf children's minds. Reducing conflict can improve the educational lives of deaf children from early ages, such as through depictions of healthy deaf adult role models. Increased social and cultural harmony is a general benefit that all stakeholders should seek out and support.

**Argument 2:** *Create classrooms that are child-oriented and naturalistic learning environments based in multilingual-multimodal approaches to language development.*

Modern educators often favor child-oriented rather than teacher-oriented approaches to learning (Lange, 2018; Monkevičienė et al., 2013). We embrace and expand this approach with our second principle regarding child-oriented multilingual-multimodal learning opportunities. This tenet does not *only* mean promoting the use of a natural sign language in the classroom—(though it does mean this)—but it also aims to create spaces designed *for* deaf children; specifically, deaf education contexts that provide for holistic social, environmental, and linguistic information through multimodality, such as through images, print, tactile communication, and objects. Creating inclusive spaces for diverse deaf children shows that deaf children are *valued*.

Valuing the lived experiences of deaf people and the language modes and perspectives that being deaf brings to the world lends itself to valuing multilingual-multimodal instruction (e.g., Mounty et al., 2014). As De Meulder and Haualand (2021) write, the ideal situation for deaf people is one in which all information is accessible. Yet, they note that communication is dependent on an interplay of agents and environments: Not every deaf person signs. Not every

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deaf person has the physical ability to sign. Not every deaf person is sighted. Our goal therefore is to increase multimodality because multimodality maximizes the potential for deaf people to language, especially when intersectionality multiplies the potential for imbalances of power and barriers that many deaf students face in schools (Skyer, 2021). It's true that Vygotsky was keen on developing verbal speech in deaf students, yet a close reading of *Defectology* and other volumes in his research corpus reveals Vygotsky's interest in a wide range of mediated forms for information exchange, including gesture and drawing. He also explicitly claims that deaf educators should look for areas of strengths that can be expanded. Three examples together show how Vygotsky supports deaf pedagogy using sign languages as a critical first foundation, using multimodality and multilingualism as cornerstones and buttresses to its initial structure.

First, Vygotsky (1993) notes that disability propels development via compensation and creativity:

Along with a physical handicap (sic) come strengths and attempts both to overcome and to equalize [it] precisely. These tendencies give uniqueness to the development of the handicapped child; they foster creative, unendingly diverse, sometimes profoundly eccentric forms of development...The [pedagogic] study of compensation reveals the creative character of development (p. 33).

Secondly, Vygotsky (1993) notes that sign language is a positive force in deaf pedagogy:

What a liberating truth for the pedagogue! [Deaf] education has neglected the positive forces created by [this disability]...using every possible means available to him (sic), a deaf child works out ways to overcome the isolation [caused by deafness]. Our education system has sidestepped this issue, and the deaf without any instruction and [even] in spite

of it, have created their own language. [Deafness is] a strength...the alpha and omega of social education for [deaf] children (p. 57-8).

Third, and finally, Vygotsky (1993) is direct in his assessment of the limits of speech-language instruction. In its place, he extols the virtues of polyglossia (multimodality), as a beneficent workaround to the problems of monomodality. He writes,

[T]he need arises to reexamine the traditional theoretical and practical relationship among various kinds of speech in deaf-mute children and particularly required is a reexamination of the relationship between mimicry (sign language) and written language...polyglossia [is] the mastery of a variety of forms of [language. It] is unavoidable (p. 298).

Multilingual-multimodal instruction may require creative approaches to identify and evaluate effective ways that individual deaf children learn through polyglossia and sign language, and, separately, requires new work to orient teachers' practices to these areas of strength. By designing multilingual-multimodal instruction through a deaf-child-oriented lens, the resulting instruction is centered on what Skyer (2020) calls positive differentiation, defined as "differences [that are] assets to deaf educational development" (p. 580).

In the context of nondeaf children's symbolic play, Vygotsky (1978) suggests that learning is an interaction among various semiotic modes, many of which contribute generally to the development of higher mental functions. Many developments of this kind use language either directly or indirectly. Vygotsky suggests that individual modes of representation can be scaffolded from one to another, for example, "[speech] leads directly to written language" (p. 111). Vygotsky (1978) extends this developmental inter-modal interaction to include drawing. Elsewhere in the same volume, he explains that sign languaging by deaf children extends beyond the biological instinct to seek social interaction.

Vygotsky (1993) states that a broad sweep of cognitive and social abilities in deaf children are enabled from a foundation of sign language. By teaching with the perceptible modes, including drawing and sign language, sign languaging knowledge encourages abilities and competencies. This is in contrast to oral-only methods in deaf education that, along with Vygotsky (1993), we think accentuate debility (Puar, 2017), which differs from disability in that it emphasizes that social structures create harmful conditions. To explicate an implied message, a plurality of modes is useful and encourages development, but must be centered on the primary acquisition of sign language, which unlike spoken language, is directly and fully perceptible and can enable creative language development and generalized cognitive and metacognitive benefits in deaf youth.

**Argument 3:** *All teachers in deaf education need to achieve maximum levels of proficiency in natural signed languages to create accessible languaging environments.*

A preponderance of research in multilingual-multimodal deaf education focuses upon the language development and proficiencies of students (e.g., Freel et al., 2011), and educational interpreters (e.g., Schick et al., 2006); however, there is relatively little research on the language proficiencies of teachers (Luft et al., 2022; Skyer, 2021). Often, schools advertising deaf education teaching positions list *minimal* levels of sign language proficiency that are expected from the candidate, such as a required baseline score on a communication test or inventory (e.g., a score of 3.0 on the American Sign Language Proficiency Interview). One of the authors of this study was warned by a mentor that attempting to measure the language proficiencies of deaf educators would mean that the schools would not approve any research request, as there were so many underqualified teachers with poor sign language abilities. Deaf children deserve to be in a

community of adept language users who share the same language modalities and values about sign languaging.

We propose that rather than think in terms of *minimum* requirements, deaf school administrators should think in terms of *maximizing* the language proficiency of its employees. This strategy would naturally include teachers but should extend to others working within the school, such as classroom aids, paraprofessionals, nurses, secretaries, counselors, bus drivers, and cafeteria and custodial staff. Schools should make it a community-wide endeavor to provide opportunities for *all* to continue to learn about the varied languages used in the school and give targeted support for them to improve their sign languaging. Such opportunities could include formal/structured arrangements, or informal/unstructured ones. Examples include classes by trained ASL teachers (preferably those who are deaf), or workshops like those provided for interpreters on skills such as receptive and productive fingerspelling. It can also include paid mentorships with native sign language users, or other compensated opportunities for novice signers to regularly practice their language skills with each other. Alternatively, opportunities might come in the form of flexible social events with signers who have a range of proficiencies, or events specific to a sign learner's communication context (e.g., a bus driver practicing greeting and interacting with individuals posing as children getting safely seated or exiting a school bus).

Providing support for *all* individuals in the school and community will generate new opportunities to continue to grow in their ability to language with ASL (and/or additional natural sign languages from school members and communities). It also has the potential to directly and immediately reduce harm (such as eliminating confusion and anxiety) and increase benefits to children (such as having direct conversations with varied individuals in school). This benefit

occurs by extending students' opportunities for meaningful communication and opportunities to learn from all the adults in their lives, not just a few teachers who sign. These meaningful language interactions must be school-led and community-led, and likewise adequately funded and provided with sufficient material resources, rather than by depending on teachers and staff, including those who are deaf, to teach and learn on their own, using unpaid time and uncompensated effort.

**Argument 4:** *Deaf children should have access to age-appropriate content taught to them by sign-fluent teachers, as well as the opportunity to discuss content with sign-fluent peers.*

As we noted above, one of the primary implications of multilingual-multimodal deaf education is the need for all adults working with students to be fluent users of *at least* two of the classroom languages (Shantie & Hoffmeister, 2001). However, fluent language models in school are only the beginning of meeting deaf children's educational needs. Multilingual-multimodal education must consider both the present needs of students and their future trajectories as not only learners, but citizens (Skyer, 2020). Vygotsky's (1993) defectological imperative requires all teachers and students in deaf pedagogy to have ample opportunities to participate in legitimate cultural activities. Students need to have access to curricular content and experiences that are aligned with what excites them (Kuntze et al., in press) and that allow for these skills and interests to change as students age, develop, and mature. We contend that this mainly occurs in the twin processes of instructional planning and curriculum design.

Instructional planning (and the reflection on pedagogy it entails) must also account for autonomy and agency in the social development of individual deaf students and for collectives of deaf learners (Feinstein & Peck, 2008; Santini, 2015). Vygotsky (1993) explains a novel approach that contemporary schools could revive:



Our schools are developing an experiment in the self-organization of deaf children. The children create a student self-government, composed of [cultural commissions] which totally envelop the children's lives. Living skills, social behavior, initiative, leadership qualities, [and] collective responsibility grow and strengthen in this system (p. 120).

By planning and reflecting this way, that is, by involving deaf students in the operations of everyday classroom decision-making, the potential harm from misaligned classroom instruction is reduced. These spaces should create opportunities for students to engage in meaningful communication with both peers and adults, which will construct and sustain comprehensive linguistic inputs, alongside meaningful outputs, and interactive experiences that build knowledge socially, cognitively, and metacognitively (Curtain & Dahlberg, 2016; Krashen, 1985; Vygotsky 1978).

Vygotsky (1993) also notes the dilemma of curriculum in special education: "In special schools, we can no longer be satisfied with simply a limited version of the public school curriculum or with the use of modified and simplified methods. The special schools [must] confront the task of positive activity, [and create] forms of work which meet the special needs and character of its pupils" (p. 47-8). Adults fluent in the languages of instruction are essential for supporting students as they navigate new concepts using the language(s) that are most accessible to them through positive differentiation (Skyer, 2020; Vygotsky, 1993) and creative instruction (Shantie & Hoffmeister, 2001). In this way, students can be supported with age-appropriate curricula and adept peers who can collectively develop abilities that will serve them over their lifespan both in and outside of school. Curriculum and instruction of this sort will not only expect and anticipate language differences but would also *value* the diversity of experiences and strengths that each child brings to the collective learning task and society as a whole.

**Argument 5:** *Opportunities to develop second (or multiple) languages, including spoken languages and other heritage languages (e.g., languages of one's home or ancestry that might not be the language of school or the broader community; Montrul, 2010), need to be included where (and when) appropriate (such as through print or speech modes).*

Opponents of multilingual-multimodal instruction often frame those who support signed language-based pedagogies as being wholly “against” spoken languages or print literacy (e.g., Christensen, 2010). This perspective is inaccurate. Generally, advocates for signed language pedagogies do not support speech if it comes at the expense of signed languages; but they may not be opposed to the presence of spoken language as one component of a deaf child's balanced education. Deaf students who have some auditory access and the desire to learn the dominant spoken language (such as spoken English) should be afforded a chance to do so, as students in the bilingual/bimodal program at the Kendall Demonstration Elementary School are (Nussbaum et al., 2012). There should also be purposefully designed opportunities for those in the U.S., for example, who come from homes and backgrounds where English is not the dominant language (e.g., families who speak Spanish in the home) to have opportunities to learn these languages, too (Baker & Scott, 2016). Often the opportunities to learn additional languages, in print, through speech, or in sign, are not provided to deaf students at any point in their education experiences (Kang & Scott, 2021). Likewise, the gap between languages of the community and those of the school can be overcome by the purposeful inclusion of heritage languages as one part of a holistic multilingual deaf education (Golos et al., 2021).

Positive differentiation (Skyer, 2020; Vygotsky, 1993) has the potential to not only build on student language strengths but also to show students that their school values all the languages they know and want to learn. This reduces the potential for harm that might occur when one's

language and culture is marginalized (Chaka, 2021; Gast et al., 2017). Moreover, differences in deaf cognition are not barriers to learning other languages, and multimodality can be leveraged to support deaf students learning different languages (Hladík & Gura, 2012). While we do acknowledge that spoken language can and should be included in education of deaf students *when appropriate*, we emphasize here that the prioritizing of spoken language as often occurs, often leads to language deprivation (Hall et al., 2017). Our Vygotskian-pragmatic vision of deaf education prioritizes the early acquisition of sign language first and foremost.

Our experiences in deaf education focus on the United States, but choices about heritage languages will certainly differ in other geographical or political contexts. For example, Catalan is a community language of the Basque region of Spain; it may be an important addition for deaf youth who already learn Spanish and Spanish Sign Language—Lengua de Signos Española [LSE]—in schools. Readers interested in this concept may refer to Fox Tree (2020), who offers a good contemporary example in Guatemala, in this South American context of indigenous deaf education, there are several community and national sign languages that exist and are used in different contexts. Vygotsky directly advocates for sign language bilingualism, but its connection to and his support of heritage languages can only be indirectly inferred (Zaitseva, Pursglove, & Gregory, 1999).

**Argument 6:** *Barriers that keep deaf professionals out of the classroom must be removed (e.g., arbitrary requirements for teachers to be hearing, biased certification exams or entrance exams for university).*

Many of the arguments described here assume the presence of professional deaf adults, such as teachers and caseworkers, in classrooms with deaf children. Unfortunately, the existence of deaf adults in deaf education classrooms is not a given, despite long-standing calls for

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increasing the number of deaf teachers (Andrews & Franklin, 1997; Shantie & Hoffmeister, 2001). The argument for recruiting deaf teachers pre-dates the current “teacher shortage” that exists across the U.S. (in general education and in deaf education). There is evidence that deaf students experience barriers to accessing higher education (Lang, 2002; Noble, 2013) that may result in unemployment or underemployment (Perkins-Dock et al., 2015; Punch, 2016) that are related specifically to accessibility to instruction or workplace accommodations. In the U.S., there is a mismatch between Federal and state laws that complicate the evaluation of language and communication competencies of teachers-in-training and in-service teachers in deaf education (Luft et al, 2022). It is absolutely imperative that administrators and institutions remove audist practices, such as discrimination in hiring, lack of support services, and the emphasis on biased standardized testing that keep deaf adult professionals out of classrooms with deaf children (Andrews & Franklin, 1997). We believe that keeping deaf professionals out of deaf education perpetuates harm.

There is an old yarn among residential deaf school students that goes like this: *I thought I would die before I got old, since I had never seen a deaf adult. I assumed they all died.* Present approaches that do not provide meaningful opportunities to learn sign language from highly proficient, preferably deaf, adults carry too great a risk for future language deprivation (Caselli et al., 2020; Koulidobrova & Pichler, 2021). A Vygotskian (1993) stance would also include the concurrent harm of social deprivation (See: Skyer, 2023, this volume). Our solution to rectifying this problem is, of course, easier said than done, but the challenge does not change the necessity of the action. Members of hiring committees in schools can begin by advocating for or prioritizing qualified deaf applicants in recruitment and hiring decisions. They can also work with local and state officials to develop fair certification practices. Administrators and

recruitment officers in teacher education programs should also recruit, retain, and champion deaf students as potential future deaf educators. Advocating for more deaf faculty and staff can support deaf students during K-12 education by providing them with increased numbers of fluent sign models and cultural models, thus reducing the harm of potential language deprivation. It will also provide these deaf students with additional future pathways to employment as adults and an important way for them to give back to deaf communities, should they desire to support them. While we recognize that this is idealistic, we believe that deaf educational planning requires an optimistic ideology that is deaf positive and future focused. Follow up studies could be designed to construct, enact, and evaluate actions based on these recommendations.

### **Harms and Benefits in Deaf Education: Past, Present, Future**

To reiterate, deaf children are often underserved by the deaf educational system. In some ways, we speculate, inadequacies of service are due to the (mostly) hearing agents within the system who refuse to begin educational planning with the linguistic competencies, biological abilities, and communicative inclinations of deaf children firmly in mind (Hoffmeister, 2000; Kuntze, 1998; Skyer, 2020). Vygotsky noted this: “the bilingualism of deaf people is an objective reality, and education cannot close its eyes to the fact that, by driving sign language out from the permitted means of communication between deaf children, a huge part of their social life and activity is destroyed” (1983, p. 217-218, as cited in Zaitseva, et al., 1999). Modern research about language deprivation exemplifies this claim.

Withholding perceptible sign languages in the early years of development results in *lifelong and irreparable harm*, including lasting physical neurological damage in deaf youth (Hall et al., 2017). Vygotsky also commented on this critical dilemma. Zaitseva and colleagues (1999) write, “Vygotsky saw the denial of sign language as restricting the general intellectual

development of deaf children; [to quote Vygotsky (1983, p. 215)], that ‘which we take away from deaf children in communication will also be deficient in their thinking process.’ It is notable that Vygotsky uses the phrasing that he does: *take away*—or said differently—to deprive deaf students of sign language is to directly hold back deaf students’ intellectual development - a risk also noted by modern researchers (e.g., Humphries et al., 2012).

Language deprivation is a particular risk when the focus of education is on trying to limit which modes of language a deaf child can have based on phonocentric, hearing-dominant norms, including the focused on technological remediation, and listening and speaking, which generally occur at the expense of multilingual-multimodal approaches to communication. Audism persists because, to use Smagorinsky’s (2012) term, there has yet to be a comprehensive *re-education* of the nondeaf. We want to reiterate that hearing society, particularly those in charge of educational planning, policy, and placement in deaf education, needs to make changes in order to reduce harm done to deaf students.

Research attempting to demonstrate the ‘superiority’ of oral pedagogies (e.g., Geers et al., 2019; Mayer et al., 2021) also often uses problematic methodologies that promote sampling errors, commit ecological biases, and lack generality. For example, these noted studies rely on the careful selection of participants who are successfully able to *perform hearingness* in ways that are almost indistinguishable from the idealized hearing child (see Henner & Robinson, 2021). Said more directly, deaf students who are not able to *perform hearingness* are left out of the studies. This unrepresentative sampling of deaf populations has been used as the basis of educational planning that have resulted in widespread inequities in terms of educational, linguistic, and social outcomes for deaf adults (Garberoglio et al., 2019). In the worst cases, it results in the lifelong and negative neurological implications of language deprivation of children

(Gulati, 2019; Hall et al., 2017; Henner et al., 2017). In sum, the Vygotskian pragmatic framework we propose does not care about producing deaf adults who can language in a select few speech modes ‘well enough’ to please hearing society or these assessors’ phonocentric frameworks (Bauman, 2008; Skyer, 2021). Instead, our framework aims to begin with intact abilities and then expand them using multimodal-multilingual pedagogies.

### **Rejecting Monolingual-Modality and Embracing Multilingual-Modality in Deaf Education**

The best way to teach deaf children has been a contentious issue for years (Moores, 2010; Skyer, 2021). Researchers and practitioners (see Humphries, 2013; Johnson et al., 1989), largely fall into one of four pedagogical-developmental camps: a) speaking and listening exclusively, (e.g., LSL, Oralism, etc.) b) a combination of spoken languages with the support of artificially-constructed signing systems, (e.g., Total Communication, SEE, MCE, etc.), c) bilingual and bicultural, and d) multilingual-multimodal pedagogy including and centered on one or more natural sign languages (e.g., ASL, etc.). Naturally, there are variations within these broad categories, and the idea of “bilingualism” itself in deaf education is mired in controversy (Valente & Boldt, 2016).

Arguably, with the advent and uptake of hearing aids, cochlear implants, and sound fields, members of the first two camps (a and b, above) have become more committed to the stance that the education of deaf children should focus exclusively on local spoken languages that are dominant in a given context (e.g., English in the U.S.). The logical consequence is that sign languages are either 1) not used at all or 2) only introduced later, when spoken language does not develop as desired. In the two sections that follow, we provide a detailed set of rationales for rejecting both numbered stances, each taken in turn. In them, we argue that from a

harm-reduction stance, monolingual-monomodal deaf education is unethical (Christensen, 2010; Hoffmeister, et al., 2022; Johnson et al., 1989; Skyer & Cochell, 2020).

### **A Rationale for Rejecting Monolingual Deaf Pedagogy**

From a Vygotskian perspective, monolingual and monomodal deaf pedagogy is antithetical to reality (Knox & Stevens, 1993; Vygotsky, 1983, as cited by Zaitseva et al., 1999, p. 11; Vygotsky 1993). “In practice,” Vygotsky (1993) writes, “instruction in oral speech has produced deplorable results, [in deaf students] this forced method turns out to be unacceptable, by its very nature it dooms speech to atrophy” (p. 69). Researchers who support monolingual (e.g., focused on spoken English) deaf pedagogy often aspire to demonstrate that signed languages can disrupt what they speculate is a natural, essential progression to spoken language and print literacy skills (see Giraud & Lee, 2007). Recent works by Mayer et al. (2021) and Geers et al. (2019) demonstrate that carefully controlled quasi-experiments require a disproportionate level of control and still only produce some desired effects. For example, these studies require: 1) carefully selected deaf children, 2) from specific sociocultural-economic groups, 3) who are outfitted with specific technologies, 4) and are raised in highly controlled environments, 5) that use exclusively use spoken language tradition, and 6) intentionally bracket or deprive sign language. The aims of steps 1-6 are designed by researchers to avoid so-called *interference from the manual modality*. In result, researchers sometimes find that these meticulously controlled deaf students can reach researcher-determined goals in speech, speech clarity, and print literacy abilities. For example, there is some limited evidence suggesting that deaf students trained (not taught) through oralism are merely *passing* as hearing, that is, these students can make some limited use of speechreading or speak with a minimal deaf accent (Harmon 2013; Scott & Dostal, 2019; Scott & Henner, 2020). If oral reproduction of isolated



phonemes, for example, were the only goal of deaf education, then the aforementioned children are successful, in a very limited way. In several instances, Vygotsky (1993) provocatively calls such utterances from orally trained deaf students *dead speech*.

Yet, as educational variables, people are naturally chaotic. And cohorts of deaf children exhibit enormous diversity that likely outpaces measures of diversity when compared to nondeaf populations (Luckner, 2018; Wolbers et al., 2022). The monolingual-monomodal studies cited above lack ecological validity, as the world is large, dynamic, and chaotic; and researchers cannot *control for* development, and the world cannot and will not *select for* key human traits as variables the way researchers with narrow definitions of empiricism might. Given extreme linguistic, cultural, and educational diversity, we support multilingual-multimodal ways of pedagogy that include natural signed languages as a necessary and foundational accounting of naturally existing heterogeneity and diversity. This framework also is purposeful in its accounting for the myth of homogeneity which is rife in deaf educational research (Holcomb et al., 2019; Holcomb & Lawyer, 2020).

Opponents of natural signed languages attempt to point out that it is very rare that sign languages are the default languages of the home, since the bulk of deaf children are born or become deaf in hearing, spoken language-focused households (Mitchell & Karchmer, 2005). However, deaf advocates have long argued that deaf communities are a secondary sociocultural home for deaf people (Eckert, 2010). To accommodate deaf children's primary and secondary homes, educational decision-makers should grant deaf students plentiful opportunities to learn both the languages used by their families, and the languages used by local deaf communities.

### **A Rationale for Rejecting the Sequential-Failure Model**

There is another theoretical error that leads to harm done to deaf children that deals with the sequencing of language modes. The error is likely an implicit bias. To our knowledge, this idea has yet to be named or explored in depth in the research literature. We call this process *the sequential-failure model of language exposure*, wherein deaf children are exposed solely to the preferred dominant language (e.g., spoken English) only until significant evidence accumulates indicating that this language mode is not being acquired; at which point, as a move of desperation, a form of manual signing (an artificial sign system or sometimes a natural sign language) is added. In these situations, educators and other professionals who work with deaf children do not consider multilingual-multimodal education until only *after* monolingual-monomodal education has first failed.

What we identify as the problem is this: Advocates for the sequential model explicitly wait for failure before making a positive change. That is, they use a limited theory of language development that is at odds with empirical reality and neglects a critical or emic understanding of deaf reality. Ultimately, in the sequential-failure model, an initial pedagogical strategy of monomodal-monolingualism first must fail before educators pivot to tactics that use sign language. And, at this point, sign language functions as a mere “back-up plan,” and one that is poorly planned and often badly executed. Research on language deprivation in deaf youth shows that the sequential-failure model is folly and harms the language development of deaf children in the long-term (Hall et al., 2017).

Advocates for the sequential-failure model of language exposure often exploit a pervasive belief without empirical support that multilingual-multimodal approaches to languaging may “confuse” deaf children; they suppose that signing will “delay” or “disrupt” the development of spoken language and listening skills (Giraud & Lee, 2007). Giraud and Lee go as

far as arguing that *any* exposure to sign or multimodal language can *corrupt* the deaf child's brain and make learning a spoken language impossible. Not only does research lack evidence that sign languages interfere with learning spoken language, but there is in fact a large corpus of research to support the opposite notion; that learning a sign language actually benefits spoken language acquisition and reading in print language modes (Hall et al., 2019). To be clear, we are not advocates for the sequential-failure model of language exposure. We are advocates for a multilingual-multimodal deaf education that aims to provide the most complete access to perceptible and comprehensible language for deaf children, founded on rich empirical evidence, which we explore next.

### **Vygotskian-Pragmatism *is* Multilingual-Multimodal Deaf Education**

In strong contrast to widespread anti-deaf biases, Vygotsky (1997) argues that it is only cultural habits that sustain deficit beliefs about deafness and disability. He writes “[a] great cultural experiment...showed that it is possible to read with the fingers and speak with the hand [it also] discloses the whole conventionality and mobility of cultural forms of behavior” (p. 228). Elsewhere, Vygotsky (1993) is more pointed and suggestive of pragmatic ideals for improving deaf pedagogy through multimodality and multilingualism:

Psychological research, both experimental and clinical, agree in their demonstrations that polyglossia (that is: the mastery of several [modes] of [language]) is an unavoidable and fruitful method [in] pedagogy for the deaf. In connection...radical changes should be made [to] the traditional view about the competition among a variety of [modes]. We must also pose the theoretical and practical question concerning their coordination and structural composition at various stages of [deaf students'] learning. (p. 207)

Multilingual-multimodal deaf education (in Vygotsky's terms, "polyglossic") classrooms provide rich *and comprehensible* language access to deaf learners. This availability *first* requires acquisition and fluent use of a natural sign language, ideally from fluent members of the same or similar and intersectional communities. By design, this would include congruence in students and teachers, as examples: deaf teachers educating deaf students, and Black deaf teachers educating Black deaf students (among other groups) (Givens, 2022). *Second*, it would require a plentitude of accessible opportunities to learn to read and write (and speak, when/if desired) using wider community and heritage language(s) in learner-centered classrooms. In the U.S. context, this means a focus on written and potentially spoken English alongside student heritage languages like Spanish or Navajo in the US. *Third*, it requires the careful selection and implementation of multimodal communication environments that are designed for deaf students' sensory abilities, designed by linguistically and culturally competent teachers. This would centralize semiotic tools that are visual for sighted deaf students and tactile modalities for deafblind or deaf students with visual disabilities.

We place our faith in deaf children, where monolingual-modalists do not, that they can acquire a broad range of languages and modalities as needed and to their individual abilities and desires. A Vygotskian-pragmatic approach also supports educating deaf children in settings that afford them the opportunity to develop fluency in a natural sign language from the earliest age possible (preferably at birth and preceding matriculation in school, and certainly no later than early childhood), to minimize the otherwise near-certainty of language deprivation, and establish a strong linguistic foundation that can, but need not, support the acquisition of additional languages and language modes later (Hall et al., 2017). Vygotsky (1997) argues that children can develop multiple languages from a young age and may benefit from multilingualism.

Time and again, Vygotsky (1993) makes bold proclamations about the future of the field, about what can happen and what must. In deaf education, one could argue that, at least historically, the conceptual orientation is often toward the past, focusing on outdated statistics, assumptions without basis, and approaches to instruction that have existed for years but failed to produce results that have tangible changes in quality-of-life metrics for many deaf people (Garberoglio et al., 2014). To re-focus the field of deaf education toward the future allows for a creative imagining of what *could be*. This future-oriented work—this deaf positive ideology—must prefigure a plan for how to reach these goals. It is a failure of imagination to claim that something must be one way only because some other way has not been tried (e.g., arguing that teachers of the deaf need to sign in English in order to support learning English text).

There, too, is a social and human cost that is too great to calculate that co-occurs with deaf children who experience language deprivation. As many others have noted, a major source of potential harm originates from denying deaf children the opportunity to acquire sign language from an early age (Humphries et al., 2012; Hall et al, 2019). Thus the environment (and not the deaf child) must be changed. Deaf pedagogical environments, we assert, should begin from birth with a foundation in acquired sign languages, with the inclusion of additional languages and communication modes happening soon thereafter. Therefore, this is the most reasonable approach in deaf education to greatly reduce the potential for harm of language deprivation.

### **Conclusion**

It is preferable to provide access to all children who are born deaf or become deaf with education in a natural signed language. There is an absence of evidence that providing access to signs will delay development in a child that ultimately does (or does not) use speech (Hall et al., 2019). There is also no evidence that providing access to sign languages harms language or

social development. While there is evidence that sign language learning positively impacts literacy and makes the learning of a future spoken language possible, there is also compelling evidence that withholding sign language from a deaf child can cause long-term, often irreparable harm (Hall et al., 2017, 2019). The synthesis of Vygotskian and pragmatic perspectives that we have constructed argues that the best approach to reducing potential harms to deaf students occurs through the intentional work of confronting past errors in deaf education and deaf research by changing the present to work towards a better future.

Vygotsky (1993) noted how harmful exclusionary oralist practices are: “[The method] requires exceptional cruelty [...] It is suitable for the instruction of pronunciation and articulation, but not for teaching speech because it results in dead, artificially produced, and totally useless speech.” (p. 118). Vygotsky (1993) also forcefully argues that

[deaf] pedagogy cannot close its eyes to the fact that expelling [sign language] from the domain of [language and] communication permitted to deaf children also eliminates a major part of their collective life and activity [and] exaggerates and expands the fundamental obstacle to their development (p. 207).

Our pragmatic orientation to Vygotskian deaf pedagogy laments the centuries of harm done to deaf students, but also considers the negative effects of language deprivation on society and schools. Not only does withholding sign language harm the deaf child, but it also harms the communities and families of which deaf children are part. These harms can be reduced with one action that is also a benefit: increasing multimodal and multilingual (polyglossic) deaf pedagogy.

Therefore, we conclude that the most ethical approach to deaf education that reduces harm must come from a place of optimism about the potential for deaf students’ learning and the ethical duty of the families and classroom teachers to build upon the (language and other)

strengths of students through deaf positive stances and creative actions based on them. Our claims are oriented toward a future that we reasonably believe might result in better outcomes and opportunities for deaf children. We believe that this approach must include and prioritize exposure to ASL or other natural signed language from birth. This assertion is based on plentiful research (Hoffman & Andrews, 2016; Humphries, 2013; Johnson et al., 1989).

In Vygotsky's (1993) estimation, deaf students' language differences are strengths to build upon rather than weaknesses to diagnose and treat. A Vygotskian-pragmatic classroom values the diverse language experiences of deaf students, prioritizes varied sign language(s) and other perceptible discourse modalities, and builds educational interactions around meaningful opportunities to use, explore, and play with a plurality of comprehensible modes, which enable deaf students to learn. As a hypothetical consequence of our framework, we propose that our future-oriented goal should be an education system that prioritizes producing well-rounded deaf adults who belong to intact, growing communities, and who can use the full range of languages and modalities that are afforded to human societies, and who do not experience unnecessary barriers to becoming citizens, even teachers themselves. As Vygotsky (1993) argued, social acceptance and equitable participation in deaf education are capable of producing the positive self-concepts that are a necessary part of living a fulfilled, self-directed life, no matter what bodily differences might characterize an individual. Our detractors, perhaps like those in Vygotsky's time, may glumly counter that ours is an idealized philosophical construct. We counter with this: in the face of aggrieved harm, and in the present context of systemic failures in deaf education, it is not only pragmatic, but *necessary* to be radically optimistic about the future.

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