

Linguistic ecology and multilingual education

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Abstract

The fiftieth anniversary of Haugen's pioneering publication on the ecology of language provides an ideal opportunity to reflect on some of the promising new trends within recent research on multilingual education that centers linguistic ecology. The research explored in this article takes up linguistic ecology as a primary lens to understand a range of linguistic phenomena, particularly in contexts of dynamic change within the focus community. This article highlights three developments within linguistic ecology research over the last fifteen years that reflect the continuing relevance and contributions of this framework for multilingual education: (1) the focus on higher education, (2) translanguaging, and (3) rights and sustainability. The first section provides an overview of the defining aspects of linguistic ecology – its holism and dynamism – as well as foundational aspects of the ecology of language research in education and concludes with prospects for future research.

Keywords: linguistic ecology, higher education, translanguaging, language rights, sustainability

Linguistic ecology and multilingual education

The steady stream of troubling news and scientific reports of escalating urgency concerning the climate crisis serves as a reminder of our deep interconnection, the urgency to address complex challenges for collective well-being and our individual, as well as a communal responsibility to make needed change. The reality of our interdependency and shared responsibility constitute an ecological mindset that defines twenty-first-century life and a sense of global vulnerability. At the metaphorical level, an ecological sensibility applies powerfully to our efforts to understand the relationships between language, culture, and power. This sensibility permeates much sociolinguistic and applied linguistic

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research over the last half-century. The generative capacity of using ecology as a metaphor, perspective, and framework is evidenced by the ongoing expansion of research into multilingual education since Haugen first introduced the ecology of language framework fifty years ago (in 1972)². These ecological frames in language-education-related research help scholars appreciate the dynamism, interdependence, and holistic nature of understanding language's roles in society.

The fiftieth anniversary of Haugen's publication provides an ideal opportunity to reflect on some promising new trends within recent research on multilingual education that centers the ecology of language. The research explored in this article takes up linguistic ecology as a primary lens to understand a range of linguistic phenomena, particularly in contexts of education. This article highlights three developments within linguistic ecology research over the last fifteen years that reflect the continuing relevance and contributions of this framework for multilingual education: the growing attention to the linguistic ecology (1) in institutions of higher education; (2) in education-based translanguaging practices³; and (3) in relationship with language rights and linguistic sustainability. The first section provides an overview of the defining aspects of linguistic ecology – its holism and dynamism – as well as the foundational aspects of the ecology of language research in education before addressing these three developments and promising prospects for future research that remain to be explored and developed more deeply. These sections are followed by a discussion and conclusion.

Defining aspects of the ecology of language

In 1972, the linguist Einar Haugen defined the ecology of language as “the study of interactions between any given language and its environment [...]. The true environment of a language is the society that uses it as one of its codes [...]. Part of its ecology is psychological: its interaction with other languages in the minds of bi- and multilingual speakers. Another part of its ecology is sociological: its interaction with the society in which it functions as a medium

² To be sure, other scholars had raised ideas of language and ecology decades earlier (von Uexküll in 1934/1957 (Szabó & Duvfa, 2020), Trim in 1959, and Voegelin and Voegelin in 1964 (Christoffersen, 2013)) but Haugen is generally credited with bringing the ecology of language perspective into the mainstream scholarly exchange.

³ García and Lin (2017) provide a useful gloss of translanguaging as “the complex and fluid language practices of bilinguals, as well as the pedagogical approaches that leverage those practices” (p. 118).

of communication. The ecology of a language is determined primarily by the people who learn it, use it, and transmit it to others” (2001, p. 57).

Five decades after sharing these foundational insights about linguistic ecology, the defining, dual aspects of the framework – holism and dynamism – persist. The first aspect – holism – suggests a broadly inclusive understanding of the ecological environment of a language. While Haugen highlighted the psychological and sociological elements, Skutnabb-Kangas and Harmon (2017) extended further the understanding of the environment to include the physical environment. They “use ecology in its literal sense (i.e., not merely as a metaphor) to refer to the biological relationships of organisms (including human beings) to one another and to their physical surroundings” (p. 11). These three dimensions of the environment – the psychological, sociological, and physical – point to an expansive understanding of language ecology, which powerfully influences languages and speakers.

The second defining aspect of linguistic ecology – dynamism – speaks to the ever-present change in the environment as well as the particular forces leading to those changes. While Haugen identified a non-descript “interaction” of speakers with the language environment, more recent scholarship (Mühlhäusler, 2000) expands the concept of interaction to encompass both the temporal and special impacts of the interface. Kramsch and Whiteside (2008) note: “An ecological analysis of multilingual interactions enables us to see interactions in multilingual environments as complex dynamic systems where the usual axes of space and time are reordered along the lines of various historicities and subjectivities among the participants” (p. 667).

These ecological changes, shaped by the influence of powerful ideologies and speakers, lead to an array of outcomes – language endangerment, loss, maintenance, growth, discrimination, shift, competition, and more. Hornberger (2003) played a central role in this advancing the understanding of the ecology of language as a metaphor in her work on ideologies in multilingual language policy and practice,

“in which languages are understood to (1) evolve, grow, change, live, and die in an eco-system along with other languages (*language evolution*); (2) interact with their sociopolitical, economic, and cultural environments (*language environment*); and (3) become endangered if there is inadequate environmental support for them vis-à-vis other languages in the eco-system (*language endangerment*)” (p. 296).

Reading language policy and practice for ideological influence reveals the powerful drivers of change and maintenance at the state, institutional, and personal levels.

A third defining aspect of linguistic ecology focuses on language itself. A changed understanding of “language” that informs linguistic ecology scholarship has emerged since Haugen’s pioneering essay. Understandings of language (Jørgensen et al., 2011, as cited in Creese, & Blackledge, 2015) have departed from conceptions of them as “separate, bounded entities to a view of communication in which language users employ whatever linguistic features are at their disposal to achieve their communicative aims as best they can” (p. 21). Language, as Halliday noted just four years after Haugen’s essay, is “a resource, a potential for thinking and doing” (1976, p. 22). In the linguistic ecology tradition, language continues to be understood five decades later, as a social construct, as “a social practice within social life that is inseparable from its environment” (Maphosa, 2021, p. 5).

Of final note, attesting to the continued vibrancy and relevancy of linguistic ecology is the new branch of linguistics – ecolinguistics – which emerged in the early 1990s and included the ecology of language. With its strong disciplinary home in applied linguistics and sociolinguistics, ecolinguistics generates a range of scholarship investigating the take-up of key ecological “parameters such as interrelationships, environment and diversity” (Fill & Mühlhäusler, 2001, p. 1). Fill and Mühlhäusler’s landmark 2001 *Ecolinguistics Reader* provided an important early collection of this scholarship, and Zhou (2021) and Zhang (2022) share useful overviews of recent developments in ecolinguistic studies generally.

The ecology of language in education

Researchers take up linguistic ecology to understand language and language users in a multiplicity of sites, from marketplaces to families with many spaces in between. This essay concerns research on the ecology of language in education, where much of the scholarship clusters around two vibrant lines: (1) ecology of language planning in education and (2) language ecology in the classroom. The first line builds on scholarship in the 1990s and early 2000s that focused on developing broad ecological frameworks of language policy and planning (LPP). With the conceptualization of the ecology of language as divided into tiers, or discrete ecosystems (Calvet, 1999), for example, scholars began to call for research within and across these respective policy spaces. In a landmark education article, Ricento & Hornberger (1996) introduced an onion metaphor to depict the layers of policy development and movement within LPP. The ideological and implementational spaces of each layer contained social actors and policies influenced by, and influencing, the linguistic ecology. While LPP research invites a variety of methodologies, much of the recent research is

qualitative incorporating interviews, document analysis, and observation. The ethnography of language planning and policy (ELPP), developed by Hornberger & Johnson (2007), afforded researchers with a specific, ethnographic approach exploring LPP layers (Hornberger et al., 2018).

Within education research, the linguistic ecology metaphor contributes to an action-oriented paradigm. As Groff (2017a) notes, several scholars (e.g., Hornberger, 2002; Skutnabb-Kangas & Phillipson, 2008) have articulated a concern about power imbalance in LPP and diminishing language diversity. Hornberger (2002) presents her continua of the biliteracy ecological model as a “heuristic for addressing the unequal balance of power across languages and literacies...” (p. 38). The model suggests that shifts in the power relations within and across the four continua of biliteracy – contexts, development, content, and media – can assist in “opening up implemental spaces for multiple languages, literacies, and identities in classroom, community, and society” (Hornberger, 2002, p. 45). Mühlhäusler (2000) likewise envisions a necessary strategy to support linguistic diversity in his concept of ecological language planning. He suggests, “the aim of ecological LP thus has to be to maintain and enhance linguistic diversity wherever possible and to decrease the need for management. Maintenance of single languages requires constant interference and management – restoring language ecologies will minimise management need over time” (p. 359).

In scholarship from the mid-1990s onward, these scholars began to call for an agentive stance for teachers and students. Collectively-oriented action in schools and beyond constitutes a key part of current LPP conceptualization. Mühlhäusler (2000) embraces the most holistic vision of group involvement: “Ecological LP sees its task as one involving *all* [emphasis added] inhabitants of a language ecology rather than a task for a specialist group of managers. This means that promotion of critical language awareness is a precondition for successful planning” (Mühlhäusler, 2000, p. 360).

The second line of research that takes up linguistic ecology departs from language planning and focuses instead on the “ecological microsystem” of the classroom, or “classroom ecologies” (Creese & Martin, 2003; Jaffe, 2007). Within education, a tradition has developed to focus on the ecology of language research at the primary and secondary classroom levels. Within these spaces, an “ecology of learning,” or ecological understandings of language learning (van Lier, 1995, 2004, 2010), are taken up more generally. Creese and Blackledge (2010) note linguistic ecology helps to frame and recognize the “interdependence of skills and knowledge across languages” (p. 103). This ecological approach considers the learning process, the actions and activities of teachers and learners, the multilayered nature of interaction and language use, in all their

complexity and as a network of interdependencies among all the elements in the setting, not only at the social level but also, at the physical and the symbolic level (van Lier, 2010, p. 3).

Current second-language acquisition (SLA) research gravitates toward this ecological microsystem framework. Creese & Martin's (2003) edited volume, *Multilingual classroom ecologies: inter-relationship, interactions, and ideologies*, merits mention here since it ushered in the twenty-first century with a defining collection of chapters focusing on ecology and diverse language-related phenomena within schools. Across a range of country contexts, contributing authors brought us into multilingual classrooms and educational settings to uncover underlying ideologies and spotlight teacher-student interactions. Researchers have also begun to look beyond the immediate microsystem to an "ecology of learning" in linguistic landscapes beyond the classroom, or "learning-in-the-wild," to understand better the role of the broader environment in language learning (Szabó & Dufva, 2020).

Sites of primary concern: institutions of higher education

A defining development of recent linguistic ecology research in education is the increased attention to the ecology of LPP in post-secondary settings. As mentioned in the above section, a significant, foundational strand of language ecology research focuses on primary and secondary schools. While this research continues (see, for example, Ferreira-Meyers, & Horne, 2017; Warren, 2018), studies focusing on the post-secondary level helps us to appreciate the particular and some of the shared expectations, possibilities, and pressures of these different educational levels when foregrounding language ecology. These studies in institutions of higher education (IHEs) point to distinct institutional policy directions, as well as the creative student and educator responses, particularly in the context of internationalization. As with several studies at lower levels of schooling, much of this research indicates a gap between multilingual student practices and monolingual institutional ideologies within formal education. Recent scholarship points to the ways English, so often perceived as an "anchor" in the globalization process and "perception as a world language" (Earls, 2014, p. 160), has transformed IHE linguistic ecologies. The status of English and its role as a medium of instruction (EMI) or role in an English-medium degree program emerges as a recurrent force influencing educational decision-making, policy appropriation, and student involvement. The complexity of EMI in increasingly multilingual, international universities has led to some scholars to call for a reconceptualization of EMI with a new label – English-medium education in multilingual university settings (Dafouz & Smit, 2021).

Recent IHE linguistic ecology research underscores the importance of recognizing agency in higher education language policy. While post-secondary institutions across the world might similarly embrace EMI to some degree, the development and directions of these policies reflect institutionally-specific dynamics. In dissecting LPP agency in one Brazilian university, Finardi and Guimarães (2021) take up the concept of types of actors and their power (as proposed by Baldauf, Chua, and Zhao) – *people with power, people with expertise, people with influence, and people with interest* (p. 159). In their research on learners' (micro-level) perceptions of a government (macro-level) program to advance internationalization through post-secondary foreign-language education in their university (meso level), they found policy disjuncture – the university failed to develop a coherent approach that connected these four categories of people and three levels. Finardi and Guimarães (2021) suggest that a coordinated, cross-level approach will “represent the way forward for successful LPP...[by] paying attention to the mechanisms by which the policy is coordinated while respecting the agency of the actors involved in LPP” (p. 172).

In contrast with the lack of coherence in developing LPP in Brazil, current research also points to the ways it is successfully negotiated across the university, classrooms, and individuals. Goodman (2018) (citing Beacco et al., 2010) invokes the relevancy of the meso, nano, and micro levels in identifying the particular university/school, individual, and classroom levels in LPP in an eastern Ukrainian private university. She found language policy and planning, in this case, the decision to offer an EMI program, emanating from the higher education institution or meso level rather than the national government or macro level. The state, while retaining its regulatory charge over the institution, played a secondary role in governing language decisions in this private institution. In finding that “national policy seems to silently yield to individual and institutional preferences” (2018, p. 48), Goodman underscores the agency, and power, of the meso and micro levels.

Linguistic ecology research in universities also reveals the ways languages other than English play crucial roles, particularly in contexts of institutions with increasingly international student bodies. Two studies bring attention to the ways national or continental languages remain vital and have emerged as important for intercultural communication, particularly among students. In research on the roles of German and English in an English-medium degree program in Germany, Earl (2014) found that within the program's ecology, “a high degree of clustering takes place...along common nationality lines so that local/regional languages common to each groups' members are used for intra-group communication” (p. 161). While English remains the primary language of instruction, German retains a crucial role as a “scaffolding tool for rapport

building” and as the working language for German-speaking students in the program (p. 167). Knowledge of German in this context, therefore, assists with integration and, as such, international students have positive attitudes toward learning it. A South Africa-based study highlights the crucial role of regional languages in education. Wildsmith-Cromarty & Conduah’s (2014) research on the positive response to the introduction of Swahili, though it was not the dominant language of any of the students, as an optional language for the Bachelor of Arts degree at a university in KwaZulu-Natal in South Africa illustrated, in part, the ways group identities intersected with understandings of language use. Immigrant students favored learning Swahili either as a language of intercultural communication within South Africa or as a language of African unification. Local South African students, in contrast, perceived the value of Swahili as an Africa *lingua franca* facilitating travel on the continent. In both these cases, linguistic ecology research helps to reveal the ample institutional space and support among students for a diversity of languages (other than English) to serve a significant role in intercultural communication and integration.

Research at the post-secondary level also illustrates the ways languages index multiple important identities for students. In the South African research mentioned above, the appeal of Swahili learning for students also lies in its work to advance a transcultural identity of contemporary South African society as well as a sense of African unity (Wildsmith-Cromarty & Conduah, 2014, p. 641). The supporting link between identity cultivation (or maintenance) and interest in language learning at the IHE does not, however, always materialize. Manan & David (2014) found that Pakistani undergraduate students’ local languages served as important identity carriers and markers, though literacy levels in these languages were low. Drawing on Hornberger’s continua of biliteracy, the researchers, observed that students mapped greater economic value and pragmatic value to Urdu and English than their local languages. As such Manan and David (2014) conclude that “conditions look unfavorable for the local/regional languages on both real and conceptual fronts. Practically, the local languages are on the retreat in the academic realm, with declining literacy levels; there also emerge tentative explanation and negative perception toward the introduction of the regional/local languages in the schools. The only spheres where the languages are considered worth using are the micro level – oral and private domains like the home... (p. 218).” In picking up the action-based thread within the ecology of language research, Manan and David call on a broad collective to address this “skewed language ecology in the educational landscape” (2014, p. 219) in which Urdu and English flourish and are supported at the expense of local languages.

Translanguaging

In the current ecology of language scholarship, researchers have increasingly looked to the concept of translanguaging as a way to understand the dynamic relationships with language policy, shifting language status, and the language resources educators and students bring to the learning process. The focus on translanguaging in linguistic ecology research extends from primary schools to university classrooms. Translanguaging – incorporated within linguistic ecology research as a framework, lens, or perspective – moves away from existing concepts of language as a bounded and discreet category. Instead, as mentioned earlier in the article, language is understood as a fluid and dynamic practice and process. In this way, a sharp turn is made from concepts and categories like monolingual and bilingual. Instead, researchers are attentive to capturing the dynamic and complex language work of students and educators and their diverse discursive practices (García and Wei, 2014). Creese and Blackledge (2015) aptly note that “Translanguaging starts from the speaker, rather than the code or language, and focuses on empirically observable practices” (p. 28). Scholars suggest that translanguaging, as a pedagogy, can work to incorporate the language resources of minority speakers and begin to address power imbalances often found in classrooms. Within this context, the individual and collective interdependence of linguistic skills works as a key factor in the co-construction of knowledge.

One strand of linguistic ecology research centering translanguaging finds that universities unevenly meet the flexible, multilingual practices of students. In higher education institutions with a range of medium of instruction policies, researchers reveal responses policies, at times, informed by enduring monolingual mindsets. In Rafi and Morgan’s (2022) research on translanguaging pedagogies in English-Medium Instruction (EMI) private and mixed (e.g., Bangla, bilingual, or balances Bangla-English) universities, they found that the EMI universities “reduced the agentic power of the teachers and students. Both the teachers and students struggled to make sense of English materials in EMI classrooms, affecting spontaneous class participation and necessitating additional counselling hours for clarification” (p. 14). In this case, the lack of flexible language practices within the EMI context poses a “critical challenge[s] to its [the Program’s] legitimacy and efficacy” (Rafi & Morgan, 2022, p. 16). Goodman (2016) found much greater pedagogical flexibility in her ethnographic research in a Ukrainian university where translanguaging practices “were fluid, according to not only the choice and purpose of the languages but also the mode of communication” (p. 66). The acceptance of translanguaging did not work, however, to equalize language status or power. Goodman notes

that the “positioning of these languages is fraught with power issues. While students and teachers at Alfred Nobel [a private university in eastern Ukraine] have a choice in the language of oral classroom communication, writing was expected to be in Ukrainian. English was privileged over Russian, Ukrainian, and additional foreign languages as an expected medium of instruction. However, these constraints and hierarchies shifted from one language to another based on the communicative event at hand, and, often, were connected to the use of one or more languages” (p. 66).

This research points to the challenge of moving away from institutionalized tradition and fully embracing translanguaging or pluralistic language policies. This Ukrainian case reveals the persistence of particular language expectations even within a more permissive context of translanguaging.

Research foregrounding linguistic ecology and translanguaging also explores learning contexts where it is adopted as a formal practice. This scholarship, in part, takes up the question Creese & Blackledge (2015) pose: “If languages are no longer viewed as separate entities, (how) should educators develop pedagogy that incorporates the complex, mobile language repertoires and identities of their students?” (p. 21). In Zheng’s (2021) study of an English-Chinese immersion class (4th/5th grade), we gain a window into a school that explicitly encourages and builds its pedagogical practice around translanguaging. The learning space was “reconstructed” as “multimodal, dynamic, and agentive” (p. 1330), resulting in creative learning. Zheng recommends that teachers help to “raise their students’ critical awareness of translanguaging through reflective activities that create meaningful discussions on classroom expectations of translanguaging, the significance of translanguaging, and ideologies associated with different languages” (p. 1336). In advocating the enhancement of students’ critical awareness and appreciation of translanguaging, Zheng supports the continued social justice work embedded in much of the translanguaging and linguistic ecology traditions to advance linguistic diversity and address power imbalances.

Rights & sustainability

A final key strand within recent linguistic ecology scholarship focuses on language rights and sustainability efforts, particularly for the most vulnerable and marginalized languages and speakers. Scholars like Skutnabb-Kangas (2011, 2018) have advocated for the recognition and realization of international and national linguistic human rights within and beyond education systems. From China to Zimbabwe to India, linguistic ecology research points to communities where state-level rights and recognition of languages, for various reasons, do not

result in shifts in educational policy. The holistic analyses of linguistic ecologies point to the challenge of realizing these rights in schools around the world, given the fierce endurance of language hierarchies and persistent monolingual ideologies.

Recent linguistic ecology research attentive to realizing language rights paints a troubling picture. In China, Ping (2016) points to international and domestic conventions that should work to protect Uyghur-language education from the pre-primary through the university levels. Instead, the dominant one-state-one language-one nationality ideology in China has increasingly undermined the bilingual-education inroads and shifted schooling toward Mandarin monolingualism. In this case, decreased Communist Party support has weakened existing protections and supports for Uyghur-language education. In Zimbabwe, in contrast to the situation for the Uyghur, language rights are strengthening rather than dissipating, but only on paper. Maphosa (2021) follows the period after the 2013 amendment of the Zimbabwe Constitution to guarantee equal treatment for its 16 official languages and the 2015 application of the new curriculum to support these languages. With a focused study on the policy to use the Kalanga language as a new medium of instruction and as a subject, she finds that among other factors, existing language ideologies about the superiority of the dominant languages – Ndebele and English – stubbornly persist despite the shifting legal framework and new curriculum. Further, Maphosa discovers that few individuals have the social agency or interest to initiate a Kalanga-oriented education system. Weak social mobilization around Kalanga education undermines a shift in language-in-education policy; while “some individuals and social groups...are trying their best to promote the teaching of Kalanga, the general Kalanga community is either indifferent to the cause or not willing to lobby for the language” (Maphosa, 2021, p. 13). Groff (2017b) also draws attention to the importance of language rights and constitutional protection in her macro-level research on language-in-education planning in India. In her examination of local, minority-language perspectives in Kumaun (Uttarakhand region), she finds the lack of constitutional recognition for the language detrimentally shapes local practices in schools. Some ideological space at the classroom level allows for multilingualism despite national-level policies, but not enough for a systemic change. The ecological analyses of Uyghur, Kalanga, and Kumaun education illustrate the delicacy of realizing and securing language rights in education.

Linguistic sustainability and sustainable development for language minorities have also gained the attention of language ecology researchers. Choi (2021) identifies long-standing ideologies of assimilation and linguistic nationalism in South Korea, generating an educational system that promotes linguistic

homogeneity and threatens the increasing number of language minority students in the country. These students, largely the children of foreign workers and international marriages, are channeled into Korean submersion classes, which violate their educational and linguistic rights. Choi advocates for bilingual education, which could work as a “transformative ecological force” by bringing in “sustainable development for students where they can develop their voice and appreciate their diverse backgrounds. It can also lead to a change in the negative social attitudes and discriminatory discourses against language minority students. In other words, the promotion of bilingualism can break down the remnant of a monolingual and monoethnic tradition and lead to the emergence of a multilingual and multicultural society where diversity is appreciated, and the linguistic and educational rights of minority language students are secured” (Choi, 2021, p. 12).

Research points to the promise of “transformative ecological forces” leading to possible linguistic sustainability outside of formal education. Siragusa’s (2017) research on the Vepsian-language revival, for example, finds that students’ online messaging practices promote language vitality and hold the potential for inter-generational language transmission. Among other sustaining practices, Vepsian youth use new technologies (i.e., VKontakte, like a Russian Facebook) to include and exclude others based on their language choice for writing on their VKontakte wall. Students did not translate Vepsian messages into Russian and, as such, “subverted unequal social relations” (with non-Vepsian speakers) and “reinforce[d] more prestigious social positioning of communicative practices” by using Vepsian (Siragusa, 2017, p. 84). In part, Siragusa’s research suggests the need to expand conceptions of linguistic ecology and education to include online spaces.

Future directions

Paradoxically, retrospectives also invite predictions about future pathways: how might the ecology of a language subfield develop, and what changes might unfold in this area of research over the next 15 years? One area of needed attention concerns the language ecology of refugees and displaced people. While scholars have begun investigating this phenomenon (Hatoss, 2013; Nilsson & Bunnar, 2014), an urgency exists to understand better the linguistic ecology and education of these affected populations. The ongoing crises in Syria, Afghanistan, and Ukraine speak to the “new normal” of these mass-scale migrations. The ongoing war in Ukraine – with 5.2 million refugees and millions of internally displaced people (as of June, U.N.H.C.R., 2022) – tragically reflects the immediate need to research these developments through different phases of

migration and across a variety of country contexts. These studies might be able to assist, most immediately, in helping to shape effective educational responses across all levels. Promising directions in recent research conceptualize the arc of the refugee-educational experience. Nilsson and Bunnar's (2014) research on newly arrived students in Sweden has resulted in the development of a "post-migration ecology" concept. They argue that one of the central understandings of "post-migration ecology" is "that the reception and inclusion of migrant students in schools' pedagogical and social frameworks cannot be fully understood by focusing only on individual social backgrounds, traumatic experiences, or the search for best practices and teachers' skills. Rather, we need to understand how individual experiences and trajectories are embedded in and conditioned by broader social contexts at different points in time, and how these interact and overlap" (p. 401).

Language ecology research with refugee and displaced populations likewise raises crucial methodological questions around sensitivity and care as their potential trauma experiences likely define these groups' experiences.

The second area of potential inquiry focuses on better understanding the affective aspects of linguistic ecologies in education. Attention to the rise of climate anxiety, particularly among youth, points to the potential to more deeply understand the responses, feelings, and attitudes, particularly among youth, as linguistic ecologies change. Research concerned with the affective dimensions of the "classroom environment" (Özyildirim, 2021) or "classroom ecology," meaning the "habitat, the physical niche or context with characteristic purposes, dimensions, features, and processes that have consequences for the behavior of occupants in that setting" (Memari & Gholamshaki, 2020, pp. 3–4) could inform this line of scholarship. This inquiry would concentrate on the emotional aspects of interacting with language in a particular ecology.

Reflections

These new directions in language ecology and education research collectively provide evidence of both the enduring barriers to supporting multilingual education as well as the agentic power of plurilingual students and educators to reimagine new policies and practices in support of linguistic diversity. As discussed in the opening section of the article, the ecology of language framework, or perspective, draws holistic attention to individual (and group) interactions in the environment broadly conceived along sociological, psychological, spatial, and temporal lines (Haugen, 2001; Kramsh and Whiteside, 2008). The scholarship included in this article, in part, reveals environments – from Brazil to China – where notions of language hierarchies and monoglossic cultures

stubbornly persist. The post-secondary turn of much of the new research in language ecology and education reveals that institutions of higher education – despite their ever-increasing international commitments and student bodies – in many ways share the “monolingual habitus” (Gogolin, 1997), or “the deep-seated habit of assuming monolingualism as the norm in a nation” (p. 41), of primary and secondary school environments. In the IHE-focused cases included in this essay, we find a “monolingual habitus” even when the medium of instruction shifts to English. Manan and David’s (2014) research in Pakistan and Rafi and Morgan’s (2022) study in Bangladesh, for example, both underscore the ways institutional commitments to English-medium instruction leave little room for incorporating local languages or the students’ abilities in them (i.e., through translanguaging). Even the persistence of language expectations and hierarchies of use within the more permissive context of translanguaging shared by Goodman’s Ukrainian-based research (2016) points to the challenges of transforming educational environments. Collectively, these cases reveal the complex cultural work to transform the long-developed and maintained ideologies supporting monolingual and dominant-language educational systems. Stuart Hall (1988) powerfully captures the residual power of these ideologies in his attention to common sense in cultural practice, which reflects “the traces of previous systems of thought that have sedimented into everyday reasoning” (p. 55).

Recent findings also point to the combined challenge of gaining *and* maintaining instructional room for multiple languages in policy and practice. Rather than the teleological arc of policy development resulting in more multilingual schools once supportive legislation is in place, we are reminded of the delicate ecological interactions along temporal and spatial lines. Dynamism is, after all, a defining aspect of linguistic ecology. The backslide of access to Uyghur-language education in China (Ping (2016) and the lack of social mobilization in Zimbabwe to embrace a Kalanga-oriented system (Maphosa, 2021) illustrate the fragility of these multilingual gains. Groff’s (2017a) research reveals the tepid gains for Kuman-language instruction in India at the classroom level due, in large part, to the lack of constitutional recognition for the language serves as a reminder of the ways policies move (or stumble) across institutional layers (Hornberger & Johnson 2007). We see across these cases the ways policy manipulation and negotiation over time and space risk multilingual advances.

In addition to the barriers created by institutional and governmental cultures to multilingual education found in these ecological studies, researchers also identified students and educators as engines of resistance and change. The creative capacity and persistence of these policy actors speaks to their crucial agentive stance already identified by linguistic ecology researchers at the turn

of the century (see, for example, Mühhläuser, 2000). Recent research attests to the power, and capacity, of students and educators to reimagine new education policies and practices in support of linguistic diversity. In this essay's cases – from Ukraine (Goodman, 2016) and the United States (2021) – we learn about intentional strategies to support translanguaging and how these policies leverage learners' multilingual and multimodal resources. We see how translanguaging policies serve as an instructional strategy to advance students' learning and create more inclusive and tolerant environments. We also see the ways plurilingual university students, for a variety of reasons, will willingly take up *regional*-language learning, like Swahili in South Africa (Wildsmoth & Conduah, 2014), to advance intercultural communication and integration. Finally, students' use of virtual space to sustain non-dominant languages, as explored in Siragusa's (2017) research on the Vepsian-language revival, highlights the creative capacity to use spaces outside of traditional educational environments to sustain language diversity.

Conclusions

In conclusion, the 50th anniversary of Haugen's ecology of language framework offers an important opportunity to reflect on how it has led to powerful understandings of language diversity in educational settings from a holistic and dynamic perspective. Insights into the language ecology of policy and planning research, as well as classroom ecologies, remind us to contextualize relationships and ideologies as we seek to explain practices. The current research developments spotlighted in this article, including attention to higher education, translanguaging, and rights and sustainability, speak powerfully to the ways a linguistic ecological perspective opens crucial insights into the ways language policies operate across levels and within diverse educational contexts. The scholarship points to persistent barriers to embracing multilingual education, including enduring monoglossic ideologies and language hierarchies, as well as the fragility of policy gains. Research points optimistically to the power of translanguaging pedagogies and students' creative capacity to recognize and sustain language diversity. Finally, research foregrounding linguistic ecology and education serves as a call to action to address the ecological imbalance. This is a delicate process, however, since it involves "...navigating the tense, precarious duality that requires one to intervene in multiple ways but with care for the ripple effects of every change made. An ecological view nevertheless seems to offer the best avenue for understanding in depth the specificities of place that strategic intervention demands" (Weaver-Hightower, 2008, p. 162)

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