ORIGINAL ARTICLE

WILEY ✦ ACTFL
AMERICAN COUNCIL ON THE
TEACHING OF FOREIGN LANGUAGES

Looking ahead: Future directions in, and future research into, second language acquisition

Diane Larsen-Freeman

Challenges

How can the field of second language acquisition/development help learners to cope with the complexity and dynamism of the world we live in? An ecological approach that is considerate of the learning context and learners' individual differences and that teaches them to adapt and make use of access-creating affordances offers a logical choice.

University of Michigan and University of Pennsylvania

Diane Larsen-Freeman (PhD, University of Michigan) is Professor Emerita of Education and Linguistics, University of Michigan, Ann Arbor, and Visiting Senior Fellow, Educational Linguistics, University of Pennsylvania, Philadelphia.

This article begins by situating modern-day second language acquisition (SLA) research in a historical context, tracing its evolution from cognitive to social to socio-cognitive accounts. Next, the influence of the zeitgeist is considered. In this era of rapid change and turmoil, there are both perils and opportunities afforded by globalization. In addition, what globalization is bringing to the forefront is a need to grapple with the complexity of the world. It follows then that we need to think differently about SLA. I suggest that this thinking take two directions. The first is that the researchers in the field adopt an ecological perspective, whereby the relations among factors are what is key to elucidating the complexity. I offer as an example over-coming the bifurcation between research on individual differences and research on the SLA process. Doing so ushers in a person-centered, humanistic dimension of SLA. A second, related change is the renewed awareness of the importance of context and of the nature of constraints that

shape any particular context. Language learning does not occur in an ideological vacuum but rather is affected in a serious way by prevailing beliefs in the society at large. I therefore make the case for language researchers to be more mindful of the social injustices that exist in the world concerning language learning and use, and I indicate several of the ideologies and myths that deserve to be challenged accordingly. Before concluding, I discuss the implications of these two changes for issues of language assessment, research, and teaching.

1 | INTRODUCTION

The theme of the commemorative issue in which this article appears is about looking ahead. I have been invited to address this theme by identifying future directions in, and future research into, second language acquisition (SLA).[1] I happily tackle this assignment, but first I must give a nod to the past—to see from whence the discipline of SLA has come. As I tell my own students, it is important to understand ideas at the time they originated. Next, I identify some directions that I believe SLA theory and research are moving toward. Before concluding, I discuss the implications of SLA theory and research for language testing, research, and teaching.

2 | THE HISTORY OF THE FIELD

2.1 | A cognitive beginning

As far as the past in SLA is concerned, most scholars credit Corder (1967) and Selinker (1972) with publishing landmark articles that helped establish the modern-day study of SLA. Corder's speculation that there existed a "built-in" learner syllabus and Selinker's positing of an interlanguage (a language spoken by learners that is intermediate between their first language [L1] and the second language [L2]) ignited the imagination of many scholars, who were inspired, as Corder and Selinker had been, by Chomsky's (1965) claim of the existence of a universal grammar (UG).

It was the time of the cognitive revolution in linguistics, psychology, and other disciplines, and the field of SLA followed suit. Excitement mounted when there were reports of acquisition orders that appeared to be impervious to native language influence. Such claims were revolutionary, given that the language teaching field had just been in the embrace of behaviorism, which attributed most successes and failures to positive and negative "transfer" from the native language. Then too, for recent transplants from teaching like me,[2] a natural syllabus meant that I could teach harmoniously, in concert with my students' natural proclivity, a welcome prospect indeed.

For several decades thereafter, research efforts went into searching for common acquisition orders and sequences of development, the former consisting of different grammatical structures and the latter of regular patterns within a given morphosyntactic domain, such as negation and question formation. Successes led Krashen to hypothesize that there existed a natural order of acquisition (Krashen, 1982). Much of this work was done with English, but a major research undertaking in Germany (the ZISA project; see Meisel, 1977) added evidence that untutored learners acquired German word order rules in a clear sequence.

To be sure, there were warnings to the contrary, such as reports of greater variability than universality (Tarone, 1983) and my own caution against assuming that learners had no individual agency when it came to managing their learning process (Larsen-Freeman, 1983). There were other voices too, reminding us of the pervasive influence of the L1 and the other languages that learners spoke[3] on both the rate and route of development. In any event, many scholars operated within a cognitivist paradigm and continued the search for rule-governed learner performance. What is more, although pedagogical grammar rules were different from theoretical constructs in linguistics, such as X-bar grammar, the teaching of grammar through rule induction or deduction were common classroom practices, persisting to this day despite the objections of many (Larsen-Freeman, 2015b). Certainly, much attention in SLA is still given to the application of UG to SLA, form-focused instruction, task-based language teaching, input processing, output production, noticing, and the interface between explicit and implicit knowledge (e.g., Cook, 1985; R. Ellis, 2006; Long, 2014; VanPatten, 1996). (See Toth & Moranski (2018) for a current discussion of some of these issues.)

2.2 | A social challenge

Countering Chomsky's linguistic competence with his own term, communicative competence, Hymes (1972) asserted that competence was made up not only of grammatical knowledge but also of social knowledge—knowing how to use utterances appropriately. Subsequently, a more functional view of language informed much research in SLA. This research focused on social practices such as the acquisition of illocutionary acts, e.g., requesting and apologizing, and the structure of conversation, with its focus on turn taking, adjacency pairs, and repair. In this category I also place all the work done on the nature and acquisition of written and spoken discourse and genre. Although perhaps not directly attributable to Hymes and to this research agenda, the proficiency movement's focus on functional language in foreign language teaching was consistent with this line of thinking (Byrnes & Canale, 1987).[4]

In addition, in the late 1990s, there emerged from the periphery a challenger to the dominant cognitive view of SLA. In 1997, the *Modern Language Journal* published a lead paper (Firth & Wagner, 1997) and a number of commentaries that reflected a deep division in the field—between those who favored the extant cognitivist focus on SLA and those who challenged this view by maintaining that the process was essentially a social one. Another issue of the journal followed in spring 1998, expanding on both positions. Adherents of the cognitivist approach were quick to point out that their input/interaction approach did not ignore the social. In fact, they wrote that interaction between a learner and another was key to the learner receiving comprehensible input from which the learner could infer the structures of the target language. However, in the same issue the social side responded with what appeared to be a more radical interpretation of their position. Issues as fundamental as the product of the language learning process distinguished the two sides (i.e., the cognitivist stance that acquisition results in a change in a mental state vs. the social position that learning is a change in social participation; see Larsen-Freeman, 2007). In any event, it is fair to say that although the divide persists, the field has shifted in the direction of acknowledging the significance of

the social in SLA. Indeed, since the turn of the 21st century, social approaches have flourished: linguistic anthropology, sociocultural theory, conversation analysis, and language socialization (see, e.g., Duff & Talmy, 2011; Lantolf & Thorne, 2006; Markee & Kasper, 2004; Watson-Gegeo & Nielsen, 2003). This does not mean that these approaches originated during this period but rather that they began to attract a larger constituency that had hitherto been absent.

2.3 | A sociocognitive process

Of course, even among these social approaches the cognitive is not ignored. For instance, socioculturalists see social relationships as mediating learners' cognitive development. However, there is a relatively new phase in the evolution of theories concerning the SLA process, which is explicitly a combination of the two: sociocognitive theories of SLA—theories that see a need for balance between cognitive involvement (which includes "embodied cognition") and social interaction (see Atkinson, 2011). Few would reject such a combination; however, the more compelling question is not just that both are involved, but rather how the two relate. My own commitment to a complex adaptive view of language and learning takes the form of complex dynamic systems theory (CDST), which argues that language development occurs at the nexus, or intersection, of the two (e.g., Larsen-Freeman, 2017b; Larsen-Freeman & Cameron, 2008a).

CDST is a metatheory in a family of "emergentist" theories (N. C. Ellis & Larsen-Freeman, 2006). Other theories in the fold include usage-based linguistics, cognitive linguistics, connectionism, and systemic functional linguistics. These theories view language as a dynamic system that is constantly being transformed through use. When applied to language acquisition, learning is conceived to be a semiotic process whereby learners seek to interpret and make meaning by adapting and innovating their linguistic resources, including nonverbal, graphic, and visual modes (Kress, 2009), in interaction with others in a particular situation. Frequently occurring and perceptually salient patterns in regular, recurring contexts of use are noticed and adapted by learners to the present situation, often a process of bricolage. In so doing, learners' resources are stretched, modified, and with iterative encounters and use, remembered. Notice that unlike cognitive approaches, sociocognitive approaches favor patterns over rules as the object of learning,[5] and like some of the social approaches before them, sociocognitive approaches blur the boundary between language use and its acquisition.

While chronology has served as an organizing principle in this discussion of SLA, it also gives the misleading impression that one phase replaced the previously dominant one. On the contrary, a great deal of SLA research is being conducted concurrently in each of these cognitive, social, and sociocognitive areas, accompanied by more and more neurobiological research on the brain and language as well. In addition, characterizing the history of the field in this synoptic way also overlooks many other critical contributions. Finally, although from this perspective the field may seem fragmented, and certainly scholars do pursue one of the above with more enthusiasm than others, I expect in an SLA future that there will be some common themes addressed.[6]

3 | THE ZEITGEIST

Imagining more thematic coherence is somewhat speculative, of course, although I can say with more certainty that the zeitgeist is inevitably going to influence contemporary intellectual pursuits. The zeitgeist is one of rapid change and turmoil, and none of us can be immune to the natural and political threats or social injustices it presents. In a more salutary light, the compression of time and space that

technology affords, the opportunities for international travel and careers in a global society, and the chances for ordinary citizens to lead transnational lives have made the advantages of knowing another language more apparent. Given the polarity of the zeitgeist, amidst "the increasing complexities of language use in a global society . . . it is clear that simple answers to the question, 'how does one teach language?' (or 'who are learners?') will not be forthcoming" (Kibler & Valdés, 2016, p. 110). It is equally obvious that seeking answers in SLA research amidst such complexity will require a new mode of thinking. Human (2015, p. 2) noted,

> *What current processes of globalization and global warming are bringing forth is a need to develop means by which we can better understand the complexity of the world around us, which is not reducible to some central or single essence.*

4 | FUTURE SLA

Framed by past work in SLA, as well as a worldview in which language is more prominent, SLA researchers have undertaken newer lines of inquiry that are likely to carry us into the future. There are two such foci to which I draw attention in this article.

4.1 | An ecological orientation

The first line of inquiry has to do with ecology—a fitting focus, given the precarity of our planet. Rather than seeking to understand complexity through reductionism, which has been the way in which many disciplines have operated for centuries, the world today requires a more holistic, ecological, and relational systems account as a complement. This means that while some SLA researchers will continue to identify new variables, others will not simply focus on one component of a complex developing system but rather will look at the changing relationships among many of them. As an ecological theory, CDST recognizes that SLA does not take place in static isolation from what is happening in the temporal and spatial environment in which it is situated. Rather, it is emergent from and dynamically interconnected with the environment. Ecological theories are systems theories; because systems consist of interconnected components, a change in any internal or external component of the developing system affects the others, often in unanticipated, nonlinear ways.

This ecological orientation paves the way for the future. It not only expands the explanandum but also consolidates our efforts at the same time. Research on individual differences provides an example of the latter. From the inception of the field of SLA, there has been a bifurcation of research efforts, with some researchers concentrating on the basic process of SLA described above and others considering why it is that L2 learners exhibit differential success. With regard to the question of differential success, important research has been conducted that investigates individual differences, such as aptitude, age, attitude, and motivation. Newer items have been added more recently, e.g., willingness to communicate, learner anxiety, identity, emotions, beliefs, and learning strategies. It is no exaggeration to state that more than 100 dimensions in which learners differ have been identified, and I expect the list to grow longer in the future.

However, with holism as a complement to reductionism, I can foresee a time when the bifurcation between questions concerning the SLA process and those of differential success ends. Concomitant with this move, I predict that more research will examine the *individual* learner operating in a spatial-

temporal context. Thus, rather than concentrating on one of the two areas, process or learners, researchers will undertake the study of the relationship between the process and the individual learner (Kramsch, 2002), recognizing the unique developmental trajectory of each individual. Indeed, SLA research has increasingly taken this path while seeing variability in learner performance as offering significant insights into the SLA process (e.g., de Bot, Lowie, & Verspoor, 2007; Larsen-Freeman, 2006b).

Furthermore, focusing on individual learners in context redirects research to a more person-centered frame of reference, which I expect to herald a new phase in SLA research that addresses what language learning affords for the transformation of self. Languages are not only acquired or learned, but "lived" (Ros i Solé, 2016). The learner is not merely a combination of variables (Benson, 2017). A disavowal of the "universal learner" and promises to usher in a new person-centered era in SLA research.

4.2 | The importance of context

A second related change is renewed awareness of the importance of the sociopolitical context and of the nature of constraints that shape any particular acquisition context. Language learning does not occur in an ideological vacuum but rather is affected in a serious way by prevailing beliefs held by others, including the general public. For this reason, it seems that the zeitgeist warrants SLA researchers and theorists challenging unhealthy ideologies (see also Ortega, 2005, 2017), and I expect this theme to be pervasive in SLA research to come.[7]

5 | THE MONOLINGUAL BIAS

From the standpoint of language, it is now clearer than ever before that the "one nation, one language" equation may never have applied, and certainly can no longer be considered true in many countries, including the United States. The growth in the number of non–English speakers in the United States (especially Hispanics; see Krogstad, 2016) and the dispersion of immigrant populations from urban centers where they have traditionally resided to rural areas make possible greater contact with speakers of other languages. The monolingual bias can thus be easily discredited by an increasingly rich body of work that confirms that many people (1) grow up with two or more languages—at least one language used in the environment and one the language of the home, (2) use multiple languages for a variety of purposes, and (3) lead transnational lives in which they find they need to add one or more languages to their mother tongue. Indeed, globalization has contributed a heightened awareness of the reality of multilingualism, with perhaps the United States unique in still holding onto a monolingual ideology with regard to its language education policies (Roca, 2003).

Despite recent anti-immigrant moves, then, there are signs that the façade of monolingualism is crumbling, including (1) the resurrection of bilingual education in California, Utah, Arizona, Delaware, and Massachusetts (Larsen-Freeman & Tedick, 2016); (2) the Seal of Biliteracy (see Davin & Heineke, 2017); (3) greater public awareness of the advantages that multilingualism confers, such as increased cognitive flexibility (e.g., Kroll & Dussias, 2017) and metalinguistic awareness (Jessner, Allgäuer-Hackl, & Hofer, 2016); (4) the popularity of the dual-language instructional model among parents who see knowledge of another language giving their offspring an edge in the job market; and (5) even a renewed appreciation for the way that the humanities contribute to a greater understanding of what it means to be human and to lead a balanced and meaningful life, to which a more person-oriented approach to SLA research may contribute. I am

struck by the number of outstanding CDST researchers and theoreticians who have now become artists (Tamsin Haggis, Victoria Alexander, Paul van Geert, and Lynne Cameron—the latter two whose research lies firmly in language studies). I also derive this impression from the fact that recent best-selling books and popular blogs have featured polyglots (Thornbury, 2017) and that much attention is also being given to the successes of multinational teams of scientists.[8] Of course, while much of this science is being done in English, English will not always be the international language it is today; in fact, given the expanding influence of China in the world and the explosion of interest in learning Chinese in this country and elsewhere, I would not be surprised to see Chinese share this role, if only as an oral lingua franca.

A primary purpose for teaching foreign languages is for students to confront their own monolingual biases and to understand the many pragmatic and humanitarian benefits of language learning. We should also not lose sight of the fact that it is the responsibility of foreign language instructors in this country to help their students become acquainted with the one or several national cultures in which a language other than English is used (see Kramsch & Zhang, 2018).

6 | THE SEPARATION OF LANGUAGES

However, with the acknowledgment of multilingualism and its benefits have come challenges not only to the association between nation-states and languages but also to the suggestion that languages themselves are individuated. For instance, much research has shown that languages do not occupy separate regions of the brain. Furthermore, the influence of one language on another is bidirectional (Herdina & Jessner, 2002), where language systems are seen to be interdependent rather than autonomous (Jessner, 2008) and where norms are mutable, shaped through the experience of language use.

Translanguaging—an emic version of code-switching—is now recognized to be a widespread social practice of language use. This observation has led to calls for translanguaging in the classroom (García & Wei, 2014), where students use rather than exile their existing language resources in their learning of a new language. Whereas in earlier times the native language of students was often banned in the classroom, its limited and intentional use are increasingly welcomed these days (e.g., Al Masaeed, 2016), and I predict that such practices will become more common as we come to understand the way in which one language provides the scaffold for another.

Research in Europe has already taken place on a related teaching practice—intercomprehension (Pugliese & Filice, 2012). Intercomprehension is an integrated teaching/learning approach whereby students learn multiple related languages simultaneously for receptive purposes by using linguistic affinities and transfer. A bonus is that

> [s]uch an approach becomes a resource of linguistic emancipation for the foreign students from immigrant families, as the classroom space is transformed into a real meeting place between diverse cultures and between their representatives and thus an adequate place for intercultural learning. (Pugliese & Filice, 2012, p. 100)

The point that Pugliese and Filice make is a good one. Given the political climate in our country, even more attention needs to be given to helping our language students to develop sensitivity toward the cultural and linguistic diversity of people living in this country. Asking new arrivals to behave as monolinguals in their new language leads to a deficiency mindset, where anything less than balanced bilingualism is perceived as failure.

7 | THE STANDARD LANGUAGE/DIALECT IDEOLOGY

Few contemporary societies are homogeneous, which flies in the face of another ideology, the notion that there is one dialect of a language that is superior to others and that this dialect is the one spoken by educated native speakers. Instead,

> [t]he notion of a native speaker target, the role of dialects, and definitions of appropriateness are all contested issues. García (2014) has asserted that Spanish language programs in the United States have not been successful, despite their proliferation, because the Spanish taught is distant from the language practices of bilingual subaltern subjects and the fluid bilingual language or flexible translanguaging of U.S. Latinos today. Clearly, language teaching does not take place in isolation, immune from social inequities. (Larsen-Freeman & Tedick, 2016, pp. 1372−1373; emphasis in original)

Ortega (2017) challenged the essentialist language ontology, which maintains that language has an objective reality that resides in the mind. She alleged that such an ontology privileges the standard language of the elites and instills language insecurity (Grosjean, 2008). In addition, it may undermine the identities that our students have adopted in their native language (e.g., Norton, 2013) or dialect (e.g., The Language and Life Project at NC State, 2017). Much research in critical applied linguistics and in queer linguistics is going into confronting intersectional linguistic discrimination (e.g., see the theme and many of the papers presented at AILA2017 in Brazil). It is a fact that which language or dialect is designated as "standard" is a socio-historico-political act, not a linguistic one.

8 | THE TELEOLOGY IDEOLOGY

An ideology of language teleology—the belief that there is an endpoint to language and to language learning that coincides with native speaker norms and use—is another myth (Larsen-Freeman, 2006a, 2014). Associated with this myth is the underlying metaphor of a developmental ladder (Larsen-Freeman, 2006b) that has evenly spaced steps, which learners climb in a linear fashion to full proficiency. In addition to the fact that learning is nonlinear, and that not all learners aspire or even need to conform to native speaker norms, it is likely that there will be considerable fluctuation and variation in performance, depending on environmental demands and conditions and the timing of exposure. This ideology may also contribute to a restricted curriculum, whereby the education that students are offered in school restricts their opportunities for success in developing advanced language capacity (Byrnes & Maxim, 2004) and the variety of language registers for different aims and situations that a complex world demands (Wedin, 2010).

9 | IMPLICATIONS OF SLA RESEARCH AND THEORY

9.1 | For language assessment

All the above has implications for language assessment, a domain that is ill suited to address the complexity of multilingualism (Ortega, 2017) and that will therefore undergo significant change. One possibility is to recognize not only language proficiency but also interactional skills. For instance, the ability to communicate with speakers of one's language who are at different proficiency levels requires a dimension of communicative competence (Harding & McNamara, 2018), which is not considered by

traditional language proficiency tests. In a similar way, McNamara and Roever (2006) made the case for more social views of language testing; plainly, one learner acting on his or her own gives a rather limited picture of one's communicative skills.

I can foresee, or at least hope for, a time when formative language testing is self-referential—where language gains will be referenced with regard to what the student could do at an earlier point in time, rather than with what a textbook or syllabus dictates or what a native speaker can do. Similarly, it would be highly useful if we could abandon the notion of static competence and opt instead for developing capacity—the ability to create in another language, not merely conform (Larsen-Freeman, 2015a). In addition, some have also called for tests that take the notion of translanguaging to heart (Shohamy, 2011). In such instances, learners are tested in two or more languages simultaneously and their performance is evaluated on how well they complete a task rather than on how well they enact one of their languages. While this type of assessment may not be widely adopted any time soon, computer-adaptive testing may well lend itself to more developmentally sensitive, self-referenced assessment, instead of approaches that resemble traditional standardized exams.

9.2 | For research

Initiatives that will help us unravel other enigmas of language development will come from a transdisciplinary perspective (Larsen-Freeman, 2012), which "treats disciplinary perspectives as valid and distinct but in dialogue with one another in order to address real-world issues" (Douglas Fir Group, 2016, p. 20), including those to which I have drawn attention in this article. Transdisciplinary perspectives that respect disciplinary boundaries but transcend them create new intellectual themes (Halliday & Burns, 2006; Hult, 2011). Such epistemological diversity will be needed as we seek to understand language development from a systems perspective. For example, as I have argued, one significant area of future research is likely to come from investigating the role of context, which includes others in the social environment, in contributing to and detracting from language learning success. In fact, from a CDST perspective, the context is not a backdrop to the main action (Larsen-Freeman, 2012); one cannot study the process of learning apart from the learner (Kramsch, 2002). The lesson in this for researchers is that investigations need to be focused on the individual learner in relation to the social ecology. Indeed, I should note here that research on individual differences, which I discussed earlier, though nominally concerning individual differences, is actually conducted with groups of individuals.

For too long researchers have been operating under the assumption that group averages reveal something about the population on which they are based. In truth, they do not (Rose, Rouhani, & Fischer, 2013). As a result, emphasis must be placed on the individual learner/person, a noteworthy and perhaps ironic trend in these days of "big data" across many different areas of inquiry, including cell biology, cancer, neuroscience, and psychology. Such initiatives will be increasingly aided by technology.

> Vast streams of activity data from electronic sources make it possible to study human behavior with an unparalleled richness of detail. Social scientists can, for the first time, avail themselves of granular, disintermediated data to assemble individual narratives, motivations, and behavioral arcs as people go about living their lives. (announcement downloaded from the Center for Complex Systems, https://www.cscs.umich.edu, University of Michigan, October 10, 2017)

While longitudinal case studies of individual learners have provided a significant source of insight into the SLA process and will no doubt continue to do so, there are limitations to the practice of pooling

findings from different case studies that should be heeded (Haggis, 2008): Aggregating observations from a number of case studies can lead to decontextualized pronouncements, focusing on similarities while ignoring differences.

Although at times sample-based research with groups is called for, such as when research is used to inform language policy (van Geert & Steenbeek, 2014), when it comes to language development I have encouraged SLA researchers to no longer seek to generalize as much as to particularize (Larsen-Freeman, 2017c) simply because there is too much individual variation among learners not to do so (Lowie & Verspoor, 2015). For example, I earlier mentioned neurobiology. Although interesting work is being done in this area, to date most of it has been confined to university laboratories. Obviously, this line of research will grow, and someday we will have a more robust account of how neurobiological factors interact with other components of the ecological language system. However, for now I note that even electrical processing in the brain is different among individuals, yielding distinct neural signatures (Faretta-Stutenberg & Morgan-Short, 2018). Examples of innovative research designs that will enable our field to particularize include design studies, social network analysis, and process tracing (e.g., Dörnyei, MacIntyre, & Henry, 2015; Hiver & Al-Hoorie, 2016; Larsen-Freeman & Cameron, 2008b; Verspoor, de Bot, & Lowie, 2011).

9.3 | For language teaching

9.3.1 | The porous classroom, content-based instruction, and preventing language loss

As for language teaching, while there is a variety of goals and programs (general education, professional expertise, replenishing the profession, heritage language, study abroad) and different types of learners (school children, university students, asylum seekers, transnationals, sojourners, returnees, seniors, multilingual learners, advanced learners, Generation 1.5 students, refugees, those with interrupted schooling, distance learners), "resource constraints mandate that most institutions that focus on classroom-based learning have a one-size-fits-all approach to language teaching; students with a broad range of linguistic backgrounds and learning goals are in the same classroom" (Larsen-Freeman & Tedick, 2016, p. 1339).

However, alternative approaches exist.[9] One that aims at exploiting diversity rather than ignoring it is the porous classroom, where boundaries between the classroom, the school, the society, and the world are seen to be permeable (Breen, 1999).[10] Instead of language teaching existing for the purpose of reproducing native speaker competence, learners in porous classrooms "*acquire new voices and new ways of articulating experiences and ideas*" (p. 60; emphasis in original). Framed in this way, "[t]he language classroom ceases to be the place where knowledge of language is made available by teacher and materials for learners and becomes the place *from* which knowledge of language and its use is sought by teacher and learners together; the classroom walls become its windows" (1999, p. 55; emphasis in original). Together, the teacher and the students investigate the language in a process "resembling that of linguistic and cultural anthropology" (p. 57), propelled by their diverse but not necessarily divergent needs and interests, "not least because different learners move at a different pace and have different preferences in how they go about the task of learning another language" (p. 60).

I have become less sanguine about the decontextualized best practices to prescribe to teachers, although high-leverage teaching practices hold promise (Glisan & Donato, 2012; Hlas & Hlas, 2012; Troyan, Davin, & Donato, 2013), but I do think principled visions such as Breen's (1999) have much to offer teachers in the future. Using the porous classroom concept to investigate the delivery of integrated

content with language is likely to attract much research attention in the future. Content-based instruction (CBI), where nonlinguistic content is taught through the medium of a foreign language, has become very popular, especially in Europe, where it is known as content and language integrated learning (CLIL). Given that ACTFL has identified the integration of content and language as a research priority (Glisan & Donato, 2012) and that the implementation of CBI in language education is increasing (Troyan, Cammarata, & Martel, 2017), research on the use of CBI in foreign language teaching is an obvious growth area.[11]

Notwithstanding what I have just written, research on language instruction includes not only language gains but also preventing language loss. Such is the case with language education for heritage learners. Contrary to what might be expected, studies have shown that exposure to and even use of a language at home are insufficient for producing a high level of proficiency in the home language (Lee & Wright, 2014). Doubtless, we are at risk of squandering the nation's extant foreign language resources. One counter to this risk is the effort going into preserving some endangered languages, where language loss is imminent, through language reclamation and culture revitalization (McCarty & Nicholas, 2014) and in researching these efforts in the face of situations of severe language endangerment. Further investigation into these vitally important endeavors must continue.

9.3.2 | Emerging technologies

> *Much language education is still based on a century-old model of the gradual acquisition of a new language through careful study over a number of years with the aim—for some — of reaching near native proficiency. Meanwhile, the reality is that people of all ages, and especially the mobile young, are managing to communicate across cultures and languages because they want to and need to, making use of prior knowledge, language acquired online or through the media and electronic translation tools. (King, 2017, p. 34)*

Indeed, in modern times where technology has compressed time and space, language learning is no longer confined to schools, although happily schools will continue to exist, and teachers will continue to guide language learning. In addition, "social media could provide affordances to design for a seamless integration between classroom-based guided participation and autonomous, socialised learning in the students' daily life" (Wong, King, Chai, & Liu, 2016, p. 403). Furthermore, emerging technologies offer new opportunities for interaction in which identities are not forged on the basis of local, ethnic, or national categories only but are also characterized by "glocal" connectedness and heterogeneity. Any homogeneity that does exist is more likely that found in "affinity spaces" (Gee, 2005). For example, online chat groups exist for certain purposes, but there are no expectations that they will remain intact, and they are certainly no one's main reference group.

I hesitate to make projections about the contribution of technology because it changes so rapidly. Nonetheless, as noted elsewhere in this issue, augmented reality, game-based learning, and other innovative uses of mobile devices will be exploited for the teaching and learning of languages (e.g., Kern, 2014). A further implication of these developments is that learners will be more able to pursue differentiated language goals; that is, they will want or need to simultaneously learn and use particular languages to different degrees and for different purposes, rather than thinking about learning languages in an additive way, i.e., learning an L2 following a first, then adding a third. Ask any aspiring bilingual if he or she knows another language, and the answer is likely to be "It depends on what you mean by 'knows.'" Language teachers and researchers will also need to continue to focus on this question and seek to understand the way in which our increasingly technology-

supported, participatory, multilingual, and global culture is redefining how, when, and why languages are learned and used.

9.3.3 | Adaptation

The rapid changes that have characterized the 21st century cause one to wonder how to prepare our students for lives and for work that we cannot imagine and for opportunities that do not yet exist. Here I turn once again to CDST for inspiration. A complex system evolves by adapting. What if we teach our students not only to learn language but also to mold their language resources to changing situations? We adapt this way all the time in a language we know well, but not so easily in a foreign language. How then can we teach our students to do so? We know from biology that optimum adaptation occurs when the changes to which the individual must adapt are modest. Therefore, slightly changing an activity and using it iteratively may help in teaching adaptation (Larsen-Freeman, 2013).

The fact of the matter is that high-achieving students tend to profess low self-efficacy in L2 learning (Lanvers, 2017, p. 522). Such feelings perhaps contribute to the number of students who do not persist in the study of foreign language. What if we could teach students to take whatever language resources are in their repertoire and use them to their own purposes? Would this help inspire confidence and persistence in study? These questions invite future research.

9.3.4 | Affordances

Research agendas of the future will most certainly expand from examining the role of input to studying affordances (van Lier, 2004). There are two orders of affordance (Larsen-Freeman, 2017a). One has to do with external conditions: What in the environment contributes to a particular outcome? For instance, in the case of language teaching, a language policy that endorses and funds bilingual education affords the possibility for students to become bilingual. The second order of affordance is more emic. It relates to the learner's perception of and active engagement with learning opportunities. There may be a bilingual policy, but it is up to the agentive learner to take advantage of it . . . or not.

On a more specific level, Thoms (2014) discussed how a common error correction strategy, a recast (where a teacher reformulates correctly what a student has said incorrectly), can be reframed as an access-creating affordance in the hands of a skillful teacher. Whereas a recast is normally depicted in the SLA literature as a typical error correction strategy, Thoms examined the discourse of a content-based university course focused on colonial Spanish literature and showed how the teacher broadened her recast by embroidering her reformulation in a way to provide first-order affordances from which other students could learn as well.

9.3.5 | Accessibility

It is well known that not all students in the United States have access to high-quality education in foreign languages as well as in other subjects. Indeed, access varies substantially and is often completely unavailable in under-resourced schools. Glynn (2007) reported on the low enrollment of African American students in foreign language study and revealed that these students are not encouraged by counselors, teachers, or other adults to pursue such study. The problem is compounded by the fact that foreign language study often operates as a gateway to higher education (Baggett, 2016). Likewise, there has often been an assumption that students with learning disabilities should be exempt from the study of world languages or transitioned out of immersion programs (Fortune, 2010; Genesee & Fortune, 2014; Sparks, 2016). In addition, universities routinely issue waivers to students with

learning disabilities to excuse them from foreign language requirements (Larsen-Freeman & Tedick, 2016, p. 1339). Lanvers (2017), pointing to "the social divide in language learning" (p. 519) in the U.K. context, commented that "students attending institutions (schools or universities) with higher intakes from disadvantaged socioeconomic backgrounds have fewer opportunities to study languages" (p. 520). Then too, even students living in well-resourced school districts do not have access to all languages, although it would be unreasonable to expect there to be so, especially in light of the well-attested language teacher shortage, which is particularly acute with less commonly taught languages.

10 | CONCLUSION

SLA researchers will continue to inquire into the cognitive, the social, and the sociocognitive dimensions of the SLA process, as they should, but researchers will also look into the ever-changing relationships among the components within the language learner's developing system, which define and transform the learner's (or should I say the person's?) path. Further, they will also pay closer attention to the role of context and avoid the tendency to make generalizations that do not apply to any particular individual who is a member of the group they are studying. There are ways of extending research findings beyond any single study, but these do not involve generalizing in the way that it is usually conceived or carried out (Larsen-Freeman, 2017b).

I expect that the diverse community of researchers who are dedicated to understanding the SLA process and L2 learners will not only persevere in their study of how languages are acquired, which languages are acquired, and which varieties are acquired, but some will also address issues of social injustice by challenging the power imbalances in the world concerning the distribution of and access to language resources. They will be aided in doing so by investigating affordances for language learning and use in multilingual and multimodal encounters with different interlocutors for diverse purposes, across space and time, and in face-to-face and virtual contexts (Douglas Fir Group, 2016, p. 23), where it will be more and more difficult to differentiate L2 from foreign language learning as well as to distinguish the real world from that of the porous classroom.

The ecological perspective that I have taken in this article coheres with that of Kramsch and Zhang (2018), who observed that questions concerning teacher effectiveness may have less to do with who has the more correct knowledge of the language or the more authentic knowledge of the culture and more to do with teachers' exercising their educational responsibility in helping their language students to understand the world in which they live. To be sure, teachers' knowledge of their subject matter is very important, as is their pedagogical knowledge and pedagogical content knowledge, but without exercising the responsibility just described, language teachers' effectiveness is limited. Part of knowing about the world is knowing about the power dynamics and inequalities that revolve around access to and use of other languages/dialects in different contexts for different purposes.

It would be foolhardy to believe that learning a foreign language can address all of society's ills or that all individuals will be able realize the benefits of learning. Furthermore, it would be misleading to imply that our students' knowing another language will spare them from inequities and discrimination. Nevertheless, using another language in a culturally sensitive and appropriate manner is indispensable for attending to many of the world's problems and in taking advantage of some of the benefits that multilingualism bestows in our modern world. In both cases, especially needed is the compassionate consciousness of language professionals who can advocate for the greater good through participation in local democracies.

Time will tell whether or not my predictions prove to be accurate or only wishful thinking; however, I am quite hopeful that becoming more aware of the issues that I have raised in this article will

recruit our collective efforts to advance a just and informed world, both within our profession and with the public at large.

ENDNOTES

[1] I adhere to tradition and use *SLA* in this article. However, I argue in Larsen-Freeman (2015a) that *second language development* or *SLD* is a more appropriate way of characterizing the learning process than *second language acquisition*. Although the shift from *SLA* to *SLD* is underway, it is perhaps premature for me to use *SLD* here.

[2] I cannot resist pointing out that I too am celebrating a 50-year anniversary. I began teaching in 1967, the same year that the first issue of *Foreign Language Annals* was published.

[3] And sometimes because we find what we are looking for, the reports of universality were alluring; however, see Murakami and Alexopoulou (2016) for an update.

[4] More recently, calls for dropping "competence" as the object of learning and replacing it with "interactional repertoires" have countered the inflexibility of "competence" (Hall, 2017). See also Rymes's (2014) "communicative repertoires."

[5] Certainly, it is recognized that languages can be described by linguists using rules, but linguists' descriptions are not necessarily equivalent to the learners' view of what is being acquired.

[6] I am encouraged by the fact that 15 SLA researchers were able to come together and find common enough ontological ground to collaborate on a recent article (Douglas Fir Group, 2016).

[7] Ortega's challenge and sentiments in her keynote address delivered at the recent Second Language Research Forum 2017 conference is reflected in some of this discussion on ideologies.

[8] I am thinking here of the Large Hadron Collider and also of the discovery of gravitational waves from colliding black holes and neutron stars, a discovery honored by the research team's being awarded the 2017 Nobel Prize in Physics.

[9] Some of the following is adapted from Thornbury's blog post of May 13, 2012, "P is for Postmodern method" (http://www.scottthornbury.com). I am grateful for Elka Todeva's drawing my attention to it and for providing feedback on an initial draft of this article.

[10] I may extend this concept to the research lab. For an interesting example of a research site that also seeks to raise awareness of language in the public, see Wagner et al. (2015).

[11] It is also important to keep track of developments in other parts of the world. I note with interest the Council of Europe's persistent efforts to promote plurilingualism, as evidenced by the provisional publication of a revised version (with new descriptors) of the Common European Framework of Reference for Languages (Council of Europe, 2017).

REFERENCES

Al Masaeed, K. (2016). Judicious use of L1 in L2 Arabic speaking practice sessions. *Foreign Language Annals*, *49*, 716–728.

Atkinson, D. (Ed.). (2011). *Alternative approaches to second language acquisition*. New York: Routledge.

Baggett, H. C. (2016). Student enrollment in world languages: *L'Egalité des chances*? *Foreign Language Annals*, *49*, 162–179.

Benson, P. (2017). Ways of seeing: The individual and the social in applied linguistics research methodologies. *Language Teaching*. First view, published online September *5*, 2017. https://doi.org/10.1017/S0261444817000234

Breen, M. P. (1999). Teaching language in the postmodern classroom. In R. Ribé (Ed.), *Developing learner autonomy in foreign language learning* (pp. 47–64). Barcelona: University of Barcelona Press.

Byrnes, H., & Canale, M. (Eds.). (1987). *Defining and developing proficiency*. Lincoln, IL: National Textbook.

Byrnes, H., & Maxim, H. H. (Eds.). (2004). *Advanced foreign language learning: A challenge to college programs*. Boston: Thomson/Heinle.

Chomsky, N. (1965). *Aspects of the theory of syntax*. Cambridge, MA: MIT Press.

Cook V. J. (1985). Chomsky's universal grammar and second language learning. *Applied Linguistics*, *6*, 2–18.

Corder, S. P. (1967). The significance of learner's errors. *International Review of Applied Linguistics*, *5*, 161–170.

Council of Europe. (2017). *Common European Framework of Reference for Languages: Learning, teaching, assessment. Companion volume with new descriptors*. Provisional edition, September.

Davin, K. J., & Heineke, A. J. (2017). The Seal of Biliteracy: Variations in policy and outcomes. *Foreign Language Annals*, *50*, 486–499.

de Bot, K., Lowie, V., & Verspoor M. (2007). A dynamic systems approach to second language acquisition. *Bilingualism: Language and Cognition*, *10*, 7–21.

Dörnyei, Z., MacIntyre, P., & Henry, A. (Eds.). (2015). *Motivational dynamics in language learning*. Bristol, UK: Multilingual Matters.

Douglas Fir Group. (2016). A transdisciplinary framework for SLA in a multilingual world. *Modern Language Journal*, *100* [Supplement], 19–47.

Duff, P., & Talmy, S. (2011). Language socialization approaches to second language acquisition: Social, cultural, and linguistic development in additional languages. In D. Atkinson (Ed.), *Alternative approaches to SLA* (pp. 95–116). London: Routledge.

Ellis, N. C., & Larsen-Freeman, D. (2006). Language emergence: Implications for applied linguistics. *Applied Linguistics*, *27*, 558–589.

Ellis, R. (2006). Researching the effects of form-focused instruction on L2 acquisition. *AILA Review*, *19*, 18–41.

Faretta-Stutenberg, M., & Morgan-Short, K. (2018). The interplay of individual differences and context of learning in behavioral and neurocognitve second language development. *Second Language Research*, *34*, 67–101.

Firth, A., & Wagner, J. (1997). On discourse, communication, and (some) fundamental concepts in SLA research. *Modern Language Journal*, *81*, 285–300.

Fortune, T. W. (with Menke, M. R.). (2010). *Struggling learners and language immersion education*. Minneapolis: Center for Advanced Studies on Language Acquisition.

García, O. (2014). U.S. Spanish and education: Global and local intersections. *Review of Research in Education*, *38*, 58–80.

García, O., & Wei, L. (2014). *Translanguaging. Language, bilingualism and education*. Basingstoke, UK: Palgrave Macmillan.

Gee, J. P. (2005). Semiotic social spaces and affinity spaces: From the age of mythology to today's schools. In D. Barton & K. Tusting (Eds.), *Beyond communities of practice: Language, power and social context* (pp. 214–232). New York: Cambridge University Press.

Genesee, F., & Fortune, T. W. (2014). Bilingual education and at-risk students. *Journal of Immersion and Content-Based Language Education*, *2*, 196–209.

Glisan, E. W., & Donato, R. (2012). ACTFL research priorities in foreign language education Phase I. *Foreign Language Annals*, *45* [Supplement], S3– S7.

Glynn, C. (2007). *Exploring the low enrollment of African-American students in foreign language: A case study of a suburban high school* (Unpublished master's thesis). University of Minnesota, Minneapolis.

Grosjean, F. (2008). *Studying bilinguals*. Oxford, UK: Oxford University Press.

Haggis, T. (2008). Knowledge must be contextual: Some possible implications of complexity and dynamic systems theories for educational research. *Educational Philosophy and Theory*, *40*, 158–176.

Hall, J. K. (2017, October 13). *From interactional competence to interactional repertoires: Reconceptualizing the goal of L2 learning*. Paper presented at Second Language Research Forum 2017 conference, Ohio State University, Columbus.

Halliday, M. A. K., & Burns, A. (2006). Applied linguistics: Thematic pursuits or disciplinary moorings? A conversation between Michael Halliday and Anne Burns. *Journal of Applied Linguistics*, *3*, 113–128.

Harding, L. W., & McNamara, T. (2018). Language assessment: The challenge of ELF. In J. Jenkins, W. Baker, & M. J. Dewey (Eds.), *Routledge handbook of English as a Lingua Franca* (pp. 570–582). London: Routledge.

Herdina, P., & Jessner, U. (2002). *A dynamic model of multilingualism*. Clevedon, UK: Multilingual Matters.

Hiver, P., & Al-Hoorie, A. H. (2016). Putting complexity into practice. A dynamic ensemble for second language research. *Modern Language Journal*, *100*, 741–756.

Hlas, A. C., & Hlas, C. S. (2012). A review of high-leverage teaching practices: Making connections between mathematics and foreign languages. *Foreign Language Annals*, *45*, 76–97.

Hult, F. (2011). Theme-based research in the transdisciplinary field of educational linguistics. In F. Hult (Ed.), *Directions and prospects for educational linguistics* (pp. 19–32). Dordrecht, the Netherlands: Springer.

Human, O. (2015). Complexity: E-special introduction. *Theory, Culture & Society* (E-Issue), *3*, 1–20. Retrieved March 22, 2016, from http://www.uk.sagepub.com/TCSespecials

Hymes, D. (1972). On communicative competence. In J. B. Pride & J. B. Holmes (Eds.), *Sociolinguistics: Selected readings* (pp. 269–293). Harmondsworth, UK: Penguin.

Jessner, U. (2008). Teaching third languages: Findings, trends and challenges. *Language Teaching*, *41*, 15–56.

Jessner, U., Allgäuer-Hackl, E., & Hofer, B. (2016). Emerging multilingual awareness in educational contexts: From theory to practice. *The Canadian Modern Language Review/La Revue canadienne des langues vivantes*, *72*, 157–182.

Kern, R. (2014). Technology as Pharmakon*:* The promise and perils of the Internet for foreign language education. *Modern Language Journal*, *98*, 340–357.

Kibler, A., & Valdés G. (2016). Conceptualizing language learners: Socioinstitutional mechanisms and their consequences. *Modern Language Journal*, *100* [Supplement], 96–116.

King, L. (2017). *The impact of multilingualism on global education and language learning*. Cambridge, UK: Cambridge English Language Assessment.

Kramsch, C. (Ed.). (2002). *Language acquisition and language socialization*. London: Continuum.

Kramsch, C., & Zhang, L. (2018). *The multilingual instructor*. Oxford, UK: Oxford University Press.

Krashen, S. (1982). *Principles and practice in second language acquisition*. Oxford, UK: Pergamon.

Kress, G. (2009). *Multimodality: A social semiotic approach to contemporary communication*. Abingdon, UK: Routledge.

Krogstad, J. M. (2016). *Key facts about how the U.S. Hispanic population is changing*. Pew Research Report, September 8. Washington, DC: Pew Research Center.

Kroll, J., & Dussias, P. (2017). The benefits of multilingualism to the personal and professional development of residents of the United States. *Foreign Language Annals*, *50*, 248–259.

Lantolf, J. P., & Thorne, S. L. (2006). *Sociocultural theory and the genesis of second language development*. Oxford, UK: Oxford University Press.

Lanvers, U. (2017). Contradictory *others* and the *habitus* of languages: Surveying the L2 motivation landscape in the United Kingdom. *Modern Language Journal*, *101*, 517–532.

Larsen-Freeman, D. (1983). The importance of input in second language acquisition. In R. Anderson (Ed.), *Pidginization and creolization as language acquisition* (pp. 87–93). Rowley, MA: Newbury House.

Larsen-Freeman, D. (2006a). Second language acquisition and fossilization: There is no end, and there is no state. In Z. H. Han & T. Odlin (Eds.), *Studies of fossilization in second language acquisition* 189–200. Clevedon, UK: Multilingual Matters.

Larsen-Freeman, D. (2006b). The emergence of complexity, fluency, and accuracy in the oral and written production of five Chinese learners of English. *Applied Linguistics*, *27*, 590–619.

Larsen-Freeman, D. (2007). Reflecting on the cognitive-social debate in second language acquisition. *Modern Language Journal*, *91*, 773–787.

Larsen-Freeman, D. (2012). Complex, dynamic systems: A new transdisciplinary theme for applied linguistics? *Language Teaching*, *45*, 202–214.

Larsen-Freeman, D. (2013). Complex, dynamic systems and technemes. In J. Arnold Morgan & T. Murphey (Eds.), *Meaningful action: Earl Stevick's influence on language teaching* (pp. 190–201). Cambridge, UK: Cambridge University Press.

Larsen-Freeman, D. (2014). Another step to be taken: Rethinking the endpoint of the interlanguage continuum. In Z. H. Han & E. Tarone (Eds.), *Interlanguage: Forty years later* (pp. 203–220). Amsterdam: John Benjamins.

Larsen-Freeman, D. (2015a). Saying what we mean: Making the case for second language acquisition to become second language development. *Language Teaching*, *48*, 491–505.

Larsen-Freeman, D. (2015b). Research into practice: Grammar learning and teaching. *Language Teaching*, *48*, 263–280.

Larsen-Freeman, D. (2017a). Shifting metaphors: From computer input to ecological affordances to adaptation. In *Proceedings from the International Association of Teachers of English as a Foreign Language 50th Anniversary Conference*, *Birmingham* (pp. 10–19). Kent, UK: International Association of Teachers of English as a Foreign Language.

Larsen-Freeman, D. (2017b). Complexity theory: The lessons continue. In L. Ortega & Z. H. Han (Eds.), *Complexity theory and language development: In celebration of Diane Larsen-Freeman* (pp. 11–50). Amsterdam: John Benjamins.

Larsen-Freeman, D. (2017c, October 13). *On particularizing second language development*. Paper presented at Second Language Research Forum 2017 conference, Ohio State University, Columbus.

Larsen-Freeman, D., & Cameron, L. (2008a). *Complex systems and applied linguistics*. Oxford, UK: Oxford University Press.

Larsen-Freeman, D., & Cameron, L. (2008b). Research methodology on language development from a complex systems perspective. *Modern Language Journal*, *92*, 200–213.

Larsen-Freeman, D., & Tedick, D. J. (2016). World language teaching. *Handbook of research on teaching* (5th ed.; pp. 1335–1387). Washington, DC: American Educational Research Association.

Lee, J. S., & Wright, W. (2014). The rediscovery of heritage and community language education in the United States. *Review of Research in Education*, *38*, 137–165.

Long, M. (2014). *Second language acquisition and task-based language teaching*. Malden, MA: Wiley-Blackwell.

Lowie, W., & Verspoor, M. (2015). Variability and variation in second language acquisition orders: A dynamic reevaluation. *Language Learning*, *65*, 63–88.

Markee, N., & Kasper, K. (2004). Classroom talks: An introduction. *Modern Language Journal* [Supplement], *88*, 491–500.

McCarty, T. L., & Nicholas, S. E. (2014). Reclaiming indigenous languages: A reconsideration of the roles and responsibilities of schools. *Review of Research in Education*, *38*, 106–136.

McNamara, T., & Roever, C. (2006). *Language testing: The social dimension*. Malden, MA: Wiley.

Meisel, J. (1977). The language of foreign workers in Germany. In C. Molony, H. Zobl, & W. Stolting (Eds.), *Deutsch im Kontakt mit anderen Sprachen* (pp. 184–212). Kronburg, Germany: Scriptor.

Murakami, A., & Alexopoulou, T. (2016). L1 influence on the acquisition order of English grammatical morphemes: A learner corpus study. *Studies in Second Language Acquisition*, *38*, 365–401.

Norton, B. (2013). *Identity and language learning: Extending the conversation* (2nd ed.). Bristol, UK: Multilingual Matters.

Ortega, L. (2005). For what and for whom is our research? The ethical as transformative lens in instructed SLA. *Modern Language Journal*, *89*, 427–443.

Ortega, L. (2017, October 14). *The bi/multilingual turn in SLA: How far have we (not) come, and why?* Plenary address, Second Language Research Forum 2017 conference, Ohio State University, Columbus.

Pugliese, R., & Filice, S. (2012). Plurilingual communication: A polyglot model for a polyglot world. In C. Argondizzo (Ed.), *Creativity and innovation in language education* (pp. 85–110). Bern, Switzerland: Peter Lang.

Roca, A. (2003). Toward societal bilingualism: The complementary need for foreign and heritage language policies. *Modern Language Journal*, *87*, 588–589.

Rose, T., Rouhani, P., & Fischer, K. W. (2013). The science of the individual. *Mind, Brain, and Education*, *7*, 152–158.

Ros i Solé, C. (2016). *The personal world of the language learner*. London: Palgrave Macmillan.

Rymes, B. (2014). Marking communicative repertoire through metacommentary. In A. Creese & A. Blackledge (Eds.), *Heteroglossia as practice and pedagogy* (pp. 301–316). New York: Springer.

Selinker, L. (1972). Interlanguage. *International Review of Applied Linguistics*, *10*, 209–231.

Shohamy, E. (2011). Assessing multilingual competencies: Adopting construct valid assessment policies. *Modern Language Journal*, *95*, 418–429.

Sparks, R. L. (2016). Myths about foreign language learning and learning disabilities. *Foreign Language Annals*, *49*, 252–270.

Tarone, E. (1983). On the variability of interlanguage systems. *Applied Linguistics*, *4*, 143–163.

The Language and Life Project at NC State. (2017). *Talking Black in America*. North Carolina State University. Retrieved January 15, 2018, from https://www.talkingblackinamerica.org/

Thoms, J. J. (2014). An ecological view of whole-class discussions in a second language literature classroom: Teacher reformulations as affordances for learning. *Modern Language Journal*, *98*, 724–741.

Thornbury, S. (2017, October 19). *Hyper polyglots: what can they teach us?* International Association of Teachers of English as a Foreign Language webinar. Retrieved January 18, 2018, from http://www.appi.pt/. . ./iatefl-webinar-hyper-polyglots- what-can- they-teach- us-scott- thornbury

Toth, P. D., & Moransky, K. (2018). Why haven't we solved instructed SLA: A sociocognitive account. *Foreign Language Annals*. https://doi.org/10.1111/flan.12322

Troyan, F., Cammarata, L., & Martel, J. (2017). Integration PCK: Modeling the knowledge(s) underlying a world language teacher's implementation of CBI. *Foreign Language Annals*, *50*, 458–476.

Troyan, F. J., Davin, K. J., & Donato, R. (2013). Exploring a practice-based approach to foreign language teacher preparation: A work in progress. *Canadian Modern Language Review*, *69*, 154–180.

van Geert, P., & Steenbeek, H. (2014). The good, the bad and the ugly? The dynamic interplay between educational practice, policy and research. *Complicity: An International Journal of Complexity and Education*, *11*, 22–39.

van Lier, L. (2004). *The ecology and semiotics of language learning: A sociocultural perspective*. Dordrecht, the Netherlands: Kluwer.

VanPatten, B. (1996). *Input processing and second language acquisition*. Norwood, NJ: Ablex.

Verspoor, M., de Bot, K., & Lowie, L. (2011). *A dynamic approach to second language development: Methods and techniques*. Amsterdam: John Benjamins.

Wagner, L., Speer, S. R., Moore, L. C., McCullough, E. A., Ito, K., Clopper, C. G., & Campbell-Kibler, K. (2015). Linguistics in a science museum: Integrating research, teaching, and outreach at the language sciences research lab. *Language and Linguistics Compass*, *9*, 420–431.

Watson-Gegeo, K., & Nielsen, S. (2003). Language socialization in SLA. In C. Doughty & M. Long (Eds.), *The handbook of second language acquisition* (pp. 155–177). Malden, MA: Blackwell.

Wedin, A. (2010). A restricted curriculum for second language learners—A self-fulfilling teacher strategy? *Language and Education, 24*, 171–183.

Wong, L.-H., King, R. B., Chai, C. S., & Liu, M. (2016). Seamlessly learning Chinese: Contextual meaning making and vocabulary growth in a seamless Chinese as a second language learning environment. *Instructional Science*, *44*, 399–422.