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RESEARCH ARTICLE

Domain-specific research methods in instructed second language acquisition: A next step for research integrity and impact

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Abstract

Instructed second language acquisition (ISLA) is one of the fastest growing areas of applied linguistics. With this tremendous potential comes great responsibility for robust, ethical, and transparent research methods that are responsive to and tailored for the ISLA domain. This article highlights unique characteristics of ISLA research, provides a current landscape of methodological trends within ISLA, and makes specific recommendations for research methods in future ISLA studies. I begin by briefly operationalizing ISLA and articulating some of the main research questions and overarching goals within ISLA, as well as the nature and ultimate aims of ISLA research. Next, the most unique methodological challenges for ISLA research are reviewed, including the use of intact classes and heterogeneous small participant pools, cross-sectional studies, using one's own students for research, and individual differences. This is followed by a discussion of several current trends in ISLA research methods, including examining the process of learning/development, conducting practice-based research, expanding our conceptualization of instructional contexts, replication studies, especially with bi/multilingual learners in diverse contexts, refining our methods with an eye for ethics and justice, equity, diversity, and inclusion, and conducting open, transparent research that has potential for real-world impact and which dialogues with multiple stakeholders at all stages. I conclude by highlighting that, as ISLA continues as an independent research domain, the development and implementation of strong research methods tailored for ISLA is critical for research integrity and to make the greatest strides in understanding language acquisition processes and effective pedagogical interventions in diverse instructional contexts.

Keywords: instructed second language acquisition; research methods; pedagogical interventions

Instructed second language acquisition (ISLA) is one of the fastest growing areas of applied linguistics (Gurzynski-Weiss & Kim, 2022b; Loewen, 2020a; Loewen & Sato, 2017). For example, at the 2023 American Association of Applied Linguists conference, the most attended applied linguists conference worldwide (with 1,909 attendees), *second and foreign language pedagogy* (*PED*) was the second most popular strand

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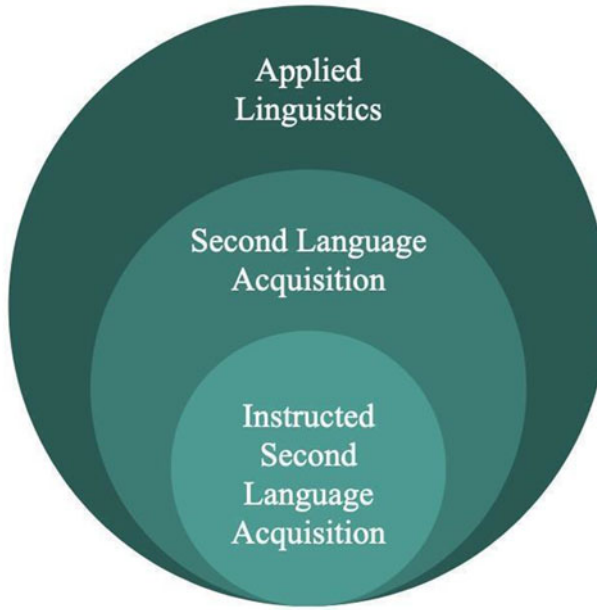


Figure 1. Hierarchical representation of ISLA in relation to umbrella fields.

(behind *teacher education, beliefs, and identity* [*TED*]) for proposals submitted (181) and accepted (80), and *second language acquisition* (SLA) was the third most popular strand for submissions (160) and acceptances (88) (American Association of Applied Linguists, 2023). ISLA studies also feature regularly in the topmost cited studies in journals including *System* (8/8 top cited studies), *Foreign Language Annals* (20/25), *Modern Language Journal* (16/25), *Studies in Second Language Acquisition* (13/25), and *Language Learning* (10/25). With this popularity comes significant responsibility for robust, ethical, and transparent research methods that are tailored to ISLA and grounded in theory and prior empirical studies, including the knowledge gained regarding the research methods used in published work.

Defining the domain

Both ISLA and SLA fall within the umbrella of applied linguistics, an interdisciplinary field of inquiry that attempts to provide an explanation about "the relation of knowledge about language to decision making in the real world" (Cook, 2003, p. 5). ISLA falls within the larger domain of SLA, which examines the scientific development of an L2 without necessarily an intent to manipulate or improve learning conditions (see Figure 1).

While SLA often distinguishes between learning, acquisition, and development (Leow, 2015a, 2019; Whong et al., 2013), and aims to understand how L2 acquisition occurs, if/how this differs from L1 acquisition, and why there is so much variation in language outcomes, ISLA, on the other hand, examines how additional languages

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(abbreviated commonly as both L2s/LXs) are learned in instructed settings and what can be done to optimize this learning (Loewen, 2020b). In ISLA, instructed settings are any context(s) where there is an intentional pursuit of learning in the L2 and an overall intent to optimize this learning. These distinctions from its parent fields of SLA and applied linguistics are critical to understanding why ISLA research needs its own research methods tailored to the uniqueness of the field, and why continuing to use SLA methods as a default without intentional and contextualized selection is problematic at best.

Principal research questions and overarching goals in ISLA

While the list is not exhaustive, there are five principal research questions in ISLA, as articulated in Gurzynski-Weiss and Kim (2022a, pp. 6–11). These research questions were identified from a bottom-up approach in surveying the field (Gurzynski-Weiss & Kim, 2022b) and provide an organizing structure for the discussion. In this section, I will briefly unpack each question in turn, using representative seminal works, state-of-the-art studies, and meta-analyses for illustrative purposes as necessary.

ISLA research question 1: How are L2s learned in instructed contexts?

Following several decades of research, the question is no longer *if* learning an L2 occurs in instructed contexts, but *how* and *under what conditions*. Instruction, or the intentional and systematic manipulation of pedagogical approaches and empirical treatments, does not change the *route* of learning, but instruction can and often does change the *rate* and the *amount* of learning (e.g., Norris & Ortega, 2000; Li & Sun, 2024 for general meta-analyses; Pellicer-Sánchez et al., 2021; Yu & Trainin, 2022 for vocabulary learning; Lee et al., 2015; Zhang & Yuan, 2020 for pronunciation instruction; Dalman & Plonsky, 2022 for listening strategy instruction; Bardovi-Harlig & Vellenga, 2012; Bardovi-Harlig et al., 2015; Plonsky & Zhuang, 2019 for pragmatics instruction). Thus, a first principal research question in ISLA addresses the variables that impact L2 learning in instructed contexts. Some of the commonly investigated variables include the *provision, type, and timing of corrective feedback* (Fu & Li, 2022; Lyster et al., 2013 for oral feedback; Brown et al., 2023 for written feedback; Canals et al., 2021 for computer-mediated feedback), *type and/or timing of instruction* (Michaud & Ammar, 2023; Tsai, 2020; Umeda et al., 2019 for effect of explicit instruction on grammar; Ahmadian, 2020 for comparison of explicit vs implicit on instruction of pragmatics; Kang et al., 2019; Li & Sun, 2024 for meta-analyses of explicit vs implicit instruction), *and the modality of instruction* (Peterson, 2021 for impact on speaking proficiency; Hiromori, 2023 for the effect on group dynamics; Awada & Diab, 2023; Jiang et al., 2021 for the impact on writing; Moradi & Farvardin, 2020 on the effect on negotiation of meaning; Yousefi & Nassaji, 2019 for meta-analyses of face-to-face vs computer-mediated instruction; Dixon et al., 2021 for meta-analysis of hybrid language instruction). There is nothing unique about the mechanism of L2 learning that occurs in different instructional contexts; it is the same whether it takes place in an instructed or non-instructed, incidental, or more naturalistic setting (such as work abroad or a romantic partnership, just to name two examples). Rather, it is the speed of L2 learning and the depth and breadth

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of linguistics knowledge (pragmatics, vocabulary, grammar, pronunciation) and mastery of different skills areas (listening, reading, writing, speaking) that are influenced by the variables in each setting and each learner.

ISLA research question 2: What is the nature of the L2 knowledge gained in instructed contexts?

A second principal ISLA research question (ISLA RQ) targets the nature of L2 knowledge that is gained through instructed contexts. Thus far, overall studies have found *explicit knowledge* to be the primary type of knowledge obtained in instructed contexts, due to the emphasis on explicit instruction in the classroom (e.g. Goo et al., 2015; Leow, 2015b; Norris & Ortega, 2000), which is often selected based on the limited time in classroom and the expectations of what instruction is realistic (Graus & Coppen, 2016, 2017; Mansouri et al., 2019; Nassaji, 2012; Sato & Oyanedel, 2019; Schurz & Coumel, 2023). Despite this dominance of explicit instruction in the L2 classroom, research has also found that explicit learning can become more automatized and used spontaneously with practice, and that explicit knowledge can occur from implicit learning (Ellis, 2009; Ellis et al., 2009; Leow, 2000; Suzuki & DeKeyser, 2017; for a more theoretical discussion, see Hulstijn, 2002). While not as common, *implicit knowledge* can also result from instructed contexts (Akakura, 2012; Khezrlou, 2021; Spada & Tomita, 2010; Williams, 2004, 2005). Given this, and the fact that implicit knowledge has been found to outlast explicit knowledge when studies have used delayed posttests (Goo et al., 2015; Kang et al., 2019), considering both explicit and implicit learning is recommended in instructed contexts (Leow, 2015b; Loewen, 2020a). The specifics regarding instructional techniques for each competency and skill must be considered in tandem with contextual variables (RQ3) and learners' individual differences (IDs) (RQ4).

ISLA research question 3: How do variables related to instructed contexts influence L2 learning?

A third principal research question examines how key variables influence the L2 learning process and learning outcomes. For example, variables such as *input* (Gass et al., 1998; Gurzynski-Weiss et al., 2018; Krashen, 1985), *attention* (Leow et al., 2022; Schmidt, 1995), *interaction* (Long, 2020; Mackey, 1999; Mackey et al., 2000), *output* (Izumi et al., 1999; Swain & Lapkin, 1998; Zalbidea, 2021), as well as meaningful *contexts of use* (Ellis et al., 1994; Long, 2015), *amount of time* (Tracy-Ventura et al., 2021), *number and type of interlocutors* (Gurzynski-Weiss, 2020; Gurzynski-Weiss & Plonsky, 2017), and *diversity of L2 opportunities* (Baker et al., 2010; Pérez-Vidal & Juan-Garau, 2011) have all been found to influence the nature of L2 learning. Adding to this already impressive constellation of factors, each of these variables are further differentiated in presence and impact depending on the context of instruction – *"foreign" vs. second language contexts* (Borràs & Llanes, 2022; Collentine & Freed, 2004; Felder & Henriques, 1995), *heritage vs. second language contexts* (Bowles et al., 2014), *immersion abroad vs. domestic immersion vs. classroom-only instruction* (Freed et al., 2004; Serrano et al., 2011), and *use of digital language learning apps* (Kessler et al., 2020; Loewen et al., 2019, 2020). There is no straightforward answer nor is there space in

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this nor any other single article to discuss the nuances of the myriad variables at play in instructed L2 contexts; here I will simply draw awareness to the fact that each context has many variables at play, and while some are expected across contexts (e.g., a certain amount of exposure in university-level L2 classes), others vary widely (e.g., amount of L2 exposure during study abroad) and, critically, context and within-context variables are experienced differentially by individual students (see principle research question four that follows) and can be experienced differentially by the same person in different ways at different times.

ISLA research question 4: How do IDs play a role in instructed L2 learning?

IDs, or characteristics that we all have, and which we use to differentiate between and compare across individuals and groups, are the focus of a fourth principal research question in ISLA. IDs are used as data points to assist in understanding how L2 learning occurs, what can be done to maximize L2 learning opportunities, and to better understand that certain actions may be differentially beneficial for specific learners and/or groups of learners (Albert & Csizér, 2022; Al-Hoorie, 2018; Botes et al., 2020, 2022; Chen et al., 2022). As currently conceived, there are at least four types of IDs in SLA research: *sociocultural and demographic IDs*, such as age (Jaekel et al., 2017; Singleton & Pfenninger, 2022); *cognitive IDs*, such as working memory (Jackson, 2020; Li et al., 2019; Wen & Jackson, 2022); *conative IDs*, such as willingness to communicate (Mystkowska-Wiertelak, 2021; Peng, 2022); and *affective IDs*, such as anxiety (Botes et al., 2020; MacIntyre & Wang, 2022; Zhang, 2019); for volume-length treatments of IDs in the larger field of SLA, see Li et al. (2022b), among others; for ISLA-specific treatments of IDs, see Li (2024) and Gurzynski-Weiss (2017a, 2020).

The earliest studies in the larger field of SLA focused on the IDs that "good language learners" possessed, such as a willingness to take risks and guess, a willingness to communicate, being unconcerned with making mistakes, looking for patterns in form, seeking out opportunities to practice, monitoring their own and others' speech, and paying attention to meaning (Ruben, 1975). More recently, in both SLA and ISLA studies, individual IDs such as personality (Anggraini et al., 2022; Chen et al., 2022), language aptitude (Benson & DeKeyser, 2019; Wen & Skehan, 2021), motivation (Oga-Baldwin & Nakata, 2017; Yousefi & Mahmoodi, 2022), learning and/or cognitive styles (Griffiths & İnceçay, 2016; Sun & Teng, 2017), and learning strategies and self-regulation (Sun & Wang, 2020; Teng, 2024; Zhang et al., 2019), had been considered as static variables (or, at least, were measured as such) and in relationship to learning processes and outcomes (Dörnyei & Ryan, 2015). IDs have since been (re)conceptualized as dynamic and are considered and measured empirically in concert with each other and the contexts in which they are measured (Gurzynski-Weiss, 2020; Serafini & Sanz, 2016; see also the 2023 issue on L2 anxiety from this journal). Additionally, more affective IDs have been considered in the mix, such as well-being (Pan et al., 2023), enjoyment (Dewaele et al., 2023; Resnik et al., 2023), boredom (Li et al., 2023; Pawlak et al., 2020), among others. However, the majority of published research (until the mid-2010s) has relied on instruments that reflected this fixed viewpoint; more on this in *Unique Methodological Challenges in ISLA Research* below.

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ISLA research question 5: What instructional techniques are most likely to facilitate ISLA?

A fifth principal research question targets how to use the information from the first four questions to facilitate ISLA. Like all worthy questions, there is no "quick" answer – it depends on the theoretical framework, the methods chosen, the individual student(s), the context, as well as the skill/competency area, and so on, among other considerations. When beginning an ISLA research study, meta-analyses are a useful starting point to understand broadly what has been found to be effective for a given type of manipulation (see Plonsky's public record of meta-analyses published in the field of applied linguistics; Plonsky, n.d.). For example, finding that *implicit instruction* maybe more lasting than *explicit instruction* (Kang et al., 2019; but see Norris & Ortega, 2000) can provide a valuable starting point for a more nuanced examination of instructional interventions in relationship to specific skills or competencies (for vocabulary, see Al-Hoorie et al., 2023; Güvendir et al., 2024; Hao et al., 2021; Haoming & Wei, 2024; Lee et al., 2019; and Li & Lei, 2022; for grammar, see Rassaei, 2024; Shintani, 2015; and Shintani et al., 2013; for reading, see Chen & Zhao, 2022; Cheung & Slavin, 2012; Graham & Hebert, 2011; Hall et al., 2017; Maeng, 2014; and Yapp et al., 2021; for writing, see Kang & Han, 2015; Kao & Wible, 2014; Liu & Brown, 2015; and Vuogan & Li, 2023; for speaking, see Hu et al., 2022; Lee et al., 2015; Mahdi & Al Khateeb, 2019; Saito, 2012; Saito & Plonsky, 2019; and Sakai & Moorman, 2018; for listening, see Dalman & Plonsky, 2022 and Shintani & Wallace, 2014; for pragmatics, see Derakhshan & Shakki, 2021; Plonsky & Zhuang, 2019; Ren et al., 2023; and Taguchi, 2015). When designing an ISLA research study, whether a new study or a replication (discussed more in the *Replication* section), it is imperative that the researcher begin with a thorough review from within ISLA, ensuring that the study is theoretically and empirically grounded, and has the potential for application. This trifold approach provides the greatest likelihood that the study will contribute to the larger goals of ISLA.

Overarching goals and ultimate aims of ISLA

As a research domain, ISLA seeks to impact our understanding of language teaching in three complementary ways: theoretical, empirical, and applied. First, all decisions in empirical research must tie back to theoretical assumptions. Second, ISLA researchers aim to provide a robust body of empirical evidence that increases our understanding of how L2 development occurs in instructed settings. And finally, ISLA research strives to provide research that is useful in application in the real world, especially in pedagogical contexts (see Plonsky, this volume). These foundational considerations will be a touchstone throughout the remainder of the article.

Unique methodological challenges in ISLA research

In addition to theoretical, empirical, and practical aims that must be considered in ISLA research, as in all sciences, there are also inherently unique considerations that should influence ISLA study design. The use of participants from instructed settings, broadly defined, means that we often have contexts that are less randomized than

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laboratory-based studies. Given the heterogeneous nature of learners in instructed contexts and the multitude of nuanced variables within and outside of the individual learners and instructed settings, this heightens the importance of sound methodological decisions and robust design. In this section, I briefly highlight several of the most important considerations specific to ISLA empirical research.

Use of intact classes and/or heterogeneous small participant pools

ISLA studies frequently use intact classes in research designs, which, like all methodological decisions, has benefits as well as drawbacks. Utilizing intact classes increases the ecological validity of the study (i.e., Rogers & Cheung, 2021; Sato & Loewen, 2019; Spada, 2005; Spada & Lightbown, 2022), is aligned with the overarching goals of ISLA and the heterogeneous reality of instructed contexts, often allows for in-class control of any target items (if applicable), and usually decreases the need for financial compensation, given that participants are enrolled students and often offered extra credit. On the other hand, when using intact classes, time is constrained for a specific study, given the time limitations of a specific instructional term (e.g., a semester, an academic year), which often results in cross-sectional as opposed to longitudinal studies, and smaller sample sizes (made even smaller by attrition if someone is absent during part of the study, or as a result of transient students or students who are frequently out of the classroom due to educational enrichment, interventions, or challenges). While it is possible to continue to recruit student participants who stay enrolled in the program or even afterward, it is not a given that the researchers will continue to have access or participant interest; for once notable exception, see longitudinal studies following students during and after study abroad by Huensch, Mitchell, Tracy-Ventura, McManus and colleagues (Huensch & Tracy-Ventura, 2017; Huensch et al., 2019; McManus et al., 2021; Mitchell et al., 2020). To address these considerations, it is important to examine and thoroughly report the nature of the instructional context, including detailed information regarding the participants and their motivation for taking the course, as well as the nature of the instruction and the instructor. In other words, for ISLA studies conducted within an instructional context, the researcher must thoroughly acknowledge that this is the case and not report the study as if it is happening in a laboratory or other highly controlled space. As is necessary for all scientific studies employing quantitative methods and statistical analyses, it is important to proactively and preemptively determine the number of participants needed for each treatment group (when applicable), the power needed for the study (Loewen & Hui, 2021), and to ensure that all assumptions are met (Hu & Plonsky, 2021) before collecting data. In early steps of analysis, data visualization to test for distribution is also advised. This is particularly important for ISLA studies where L2 gains are examined; having both productive and receptive measures of participants' proficiency levels in a pretest phase, especially with respect to any target item(s). One cannot assume students from the same class are at the same level. Participant IDs must also be preemptively measured and taken into account, to better understand the complexity of an in-tact class. ISLA researchers must decide if it is more important for their study to have in-tact classes participate in treatment groups (when applicable), or if it is more important to have participants of similar variables in specific groups.

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Cross-sectional vs. longitudinal designs

Related to the use of intact classes, cross-sectional studies have thus far dominated in ISLA (see Xu & Li, 2021 and Zalbidea, 2021 for grammar; Zhang, 2021 for pragmatics; Darcy & Rocca, 2022 and Lee et al., 2020 for pronunciation). According to Ortega and Iberri-Shea (2005), 8 weeks has been the average length of instruction in an empirical study; Kang et al.'s (2019) updated meta-analysis found that the average span of instruction was 11.8 days, with a substantial standard deviation of 17.2 (shortest 1 day, longest 90 days). Cross-sectional designs allow for greater control of variables, but they may be less able to capture dynamicity or nuanced influence (Larsen-Freeman & Cameron, 2008; Ortega & Iberri-Shea, 2005). And tying back to organizing research questions and ultimate aims of ISLA, this design often does not demonstrate that the knowledge gained in instructional contexts lasts beyond the time of instruction. To measure this, one can consider delayed posttests or similar delayed measures and follow-ups. For a longitudinal study that employed exemplary participant follow-up procedures, see Tracy-Ventura et al. (2021). In addition to length of design, the researchers provide sound methodological advice on how to keep in contact with participants after their time ends in the instructional context.

Using your own students for ISLA research

Recruiting one's own students for an ISLA research study is both a unique and important opportunity to be an "insider" in the study and ensures a greater chance of things proceeding as designed. That being said, one's own students are considered a vulnerable population at risk for coercion according to ethics committees, and usually require additional planning and assurances, such as having another person collect informed consent, not being informed who participated in the study until after final grades are calculated, and not looking at the data for research purposes until after the semester is over. Indeed, Larsson et al. (2023) report that "recruiting participants to join a study in a way that makes refusal difficult or uncomfortable" is one of the least reported and most severely questionable research practices in the larger umbrella field of applied linguistics; given the power differential of teachers and students, the field of ISLA is at particular risk for this practice. Additionally, as the researcher will know individual students and bring their own biases on the learners' performance, interactions, or other L2 variable(s) from prior experiences, having someone else anonymize all data and code as an interrater is particularly important for a study of this kind. In ISLA studies where the researcher knows the participants, one or more common biases may be at play, and are important to preemptively address. For example, a *halo effect* is the propensity to use an existing positive impression of a participant to influence one's impression of other areas/behaviors (Behrmann, 2019; O'Grady, 2023; Sanrey et al., 2021). An *observer bias* can occur when the researcher has influence at the design, implementation, and/or evaluation and interpretation stages of the project; the risk is that the researcher will observe in the data what they are looking for (Derwing & Munro, 2005). On the flip side of the experience, an *observer* or *Hawthorne effect* is the risk that the participant will act differently because they know they are being observed (Greenier & Moodie, 2021; Mackey, 2017). When participants act in ways they think the researcher "wants" them to act – which may or may not be congruent with their usual behavior – this is an additional issue referred to as the *Rosenthal*

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effect (Tsiplakides & Keramida, 2010). These risks can be reduced by having another researcher and/or another stakeholder (see discussion on researcher–practitioner dialogue below) involved in recruiting, collecting, and/or analyzing the data; even better would be to have another person's unbiased perspective involved at all stages. If an ISLA researcher wants to collect data from their own class during "normal" classroom practices, for example, they may have another researcher come in to get consent for using students' coursework for data purposes. As mentioned earlier, the researcher/instructor could not have access to the data until the course is over or, alternatively, could only have anonymized data during the course if data interpretation needs to occur during the course. For any ISLA study, it is important to consider the pros and cons of recruiting your own students for each particular treatment group, your own positionality within the research (see King, this volume, for more on positionality), what is needed for a robust study and, even more importantly, weigh the risks and benefits for the students in addition to the potential research knowledge gained (Galloway, 2017).

Individual differences

To thoroughly understand what is occurring in an ISLA context, there would ideally be preemptive and intentional consideration of the IDs of all involved – the learners, the instructor, the researcher(s), and any other interlocutors. For example, in theoretical frameworks such as Sociocultural Theory, this would also include inanimate objects and those not physically present in the space (see Back, 2020 and Lantolf, 2020; for additional discussions of IDs within multiple theoretical frameworks, see Gurzynski-Weiss, 2020). As mentioned earlier regarding ISLA RQ4, IDs are currently considered to be dynamic, changing over both micro and macro timescales alongside and at times because of other factors (see Gurzynski-Weiss, 2020; Li et al., 2022a; and Serafini & Sanz, 2016). While empirical trends have been found regarding specific IDs, especially learner IDs (e.g., L2 motivational selves), there is considerable ID research that has been done using instruments that assume IDs are static (e.g., using a questionnaire at one point in time and categorizing a participant as more or less anxious or motivated). Updating the instrumentation utilized to measure and understand the dynamicity of individual IDs (such as has been proposed for L2 anxiety in Gregersen, 2020; Gregersen et al., 2014; MacIntyre & McGillivray, 2023) is greatly needed to better understand the nature of IDs alone, how they interact with other learner IDs, the IDs of non-learner interlocutors (see Gurzynski-Weiss, 2017a, 2017b and Gurzynski-Weiss & Plonsky, 2017), as well as how IDs and context interact with each other (see Larsen-Freeman, 2020). One strategy for making instruments more dynamic is a simple one: make the instrument task- rather than learner-specific. For example, examine learners' motivation related to a specific task (Jarrett & Gurzynski-Weiss, 2023; Torres & Serafini, 2016), in lieu of or – even better – in addition to a more general measure of L2 motivation. Another improved practice is to measure an ID, such as one's ideal L2 self, for example, at multiple timescales across an L2 program (Serafini, 2020).

Current trends and future directions

In this final section, I provide an overview of several current trends in ISLA. I relate each area back to one or more of the principle ISLA RQs, and briefly articulate avenues for future ISLA research.

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Examining the process(es) of L2 learning/development

Given ISLA's historic adoption from the larger field of SLA, the pretest-treatment-posttest quasi-experimental design was dominant for quite some time. However, this did not allow for data answering the ISLA RQs of *how* L2 learning occurs in classroom contexts (ISLA RQ1), nor did it allow for an exploration of how contextual (ISLA RQ3) and individual variables (ISLA RQ4) impact ISLA, and what techniques are most effective for learning in instructed contexts (ISLA RQ5). Over the past two decades, more studies have examined both the outcome of L2 learning as well as the process of learning itself (e.g., Kim et al., 2022). Processing elicitation procedures including eye tracking data, neuroimaging data, think aloud protocols, and stimulated recall have been used, alone and at times in conjunction with each other (Grey, 2023; Révész & Gurzynski-Weiss, 2016; Révész et al., 2019). These methods, especially when used alongside elicited production data, can provide valuable insight into the nature of learners' L2 development with respect to a specific competency or skill at a particular moment in time (see Comajoan, 2019; Kissling & Muthusamy, 2022; and Liskin-Gasparro, 2000 for examples of these methods used to assess grammar learning; see Nakatsuhara et al., 2017 for speaking). Moving forward, while research examining the processes of L2 learning and development in instructed contexts has the potential to impact each of the ISLA RQs, the research in this area is particularly well matched to inform ISLA RQ1 – the nature of L2 learning. More nuanced understandings of the relationships between the aforementioned variables of individual, context, and intervention, could be explored with research methods capable of capturing ISLA learning in real time.

Expanding our conceptualization of instructional contexts

While earlier ISLA research studies focused on face-to-face L2 classrooms (Collins & Muñoz, 2016; Norris & Ortega, 2000; Shintani et al., 2013), as the field grows, so too does our conceptualization and inclusion of what is an "instructed" context. As both Loewen (2020a) and Gurzynski-Weiss and Kim (2022b) highlighted, the context qualifies as instructed as long as there is an intentional attempt to learn the L2, and an attempt to facilitate that learning by a more experienced individual, interlocutor, or resource (e.g., a language learning app created by someone with L2 knowledge). Thus, ISLA research is ripe with opportunities to replicate and expand research conducted in face-to-face classroom settings to instructed contexts such as synchronous online, hybrid face-to-face and online, asynchronous online, study abroad, domestic immersion, and the numerous types of language learning apps and platforms. Simultaneously, these newer contexts require novel designs tailored to their uniqueness. Much research is needed expanding our understanding of the nature of ISLA in under-explored instructional contexts (e.g., first-generation students during study abroad in Tracy-Ventura et al., 2024; refugee populations in Field & Ryan, 2022; Shepperd, 2022; low-income student populations in K–12 schools in Butler & Le, 2018; Winsler, 2022; and students with specific learning difficulties in Kormos, 2020; Kormos & Smith, 2023; Kormos et al., 2019; Košak-Babuder et al., 2019; Randez & Cornell, 2023), and researchers must consider how the characteristics of the context (ISLA RQ3) – not as they are assumed to be, but empirically verified – may require modifications

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(and subsequent validations) to methods, analysis, and interpretation of individual ISLA research designs.

Conducting practitioner-based research

Given that the overarching goal of ISLA research is to maximize learning in instructed contexts, researcher–practitioner collaborations (most often with teachers) are at the heart of ISLA research, and this cooperative research is indeed steadily increasing. Importantly, practitioner-based research does not necessarily mean that all projects should be equally designed, implemented, and analyzed by both researchers and practitioners. Rather, it means that research should begin from a place of potential impact of ISLA theory and prior empirical research, *and* equally from a place of potential impact for those providing L2 opportunities in instructed contexts (see special issue on the research–practitioner dialogue by Sato & Loewen, 2022 and Spada & Lightbown, 2022 for concrete ideas on how to strengthen the research–practice relationship). Simply put, if the research is not meaningful to practitioners, in its execution and/or in its potential results, in the short or long-term, it is not a worthwhile ISLA study.

This inextricable two-way relationship between ISLA research and practice, where research informs pedagogy which informs research can be strengthened in at least three ways: (a) facilitating collaboration among ISLA researchers, language program directors, and classroom teachers; (b) building in collaborations during teacher training programs; and (c) conducting research on teachers' awareness of and engagement with research-grounded ideas. With respect to facilitating collaboration between ISLA stakeholders, this can begin with a thorough review of the research topic at hand, moving beyond the fields of SLA and ISLA, and looking at where and how the topic is treated by practitioners. Where are practitioners getting their ideas and resources from? Which resources, readings, online platforms, and/or conferences, and what are the messages being shared? For example, in ISLA research, we have firmly departed from the input hypothesis (Atkinson, 2011; Mackey, 2020; VanPatten & Williams, 2015), whereas Krashen continues to be a regular invited keynote speaker at recent teacher-focused conferences (AATSP, 2024, FFLA, 2023, and KOTESOL, 2018). Making assumptions that researchers and practitioners are on the proverbial "same page" at best limits the impact one's research could have. Instead, approaching local schools to form individual partnerships (Gurzynski-Weiss et al., 2024; Gurzysnki-Weiss et al., in press; Lyster, 2019; Martin-Beltran & Peercy, 2014; Seiser & Portfelt, 2024; Tavakoli, 2023), or joining and attending local or subject-specific conferences can provide irreplaceable insight into practitioner perspectives and complementary expertise beyond traditional academic venues. Longitudinal research collaborating with practitioners either as authors or paid consultants can be extremely beneficial, as well (Gurzynski-Weiss et al., 2024, in press; Spada & Lightbown, 2022).

A second way of encouraging practitioner–researcher collaborations is by building it into a teacher training program, either by conducting a classroom replication study as part of a class (Vásquez & Harvey, 2010), or by requiring an action research project, just to name two examples (see Farrell, 2016 for an overview of action research within TESOL contexts; see the journal *Educational Action Research* for a collection

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of theoretical reflections and publications of action research; and see Calvert & Sheen, 2015; Kong & Pan, 2023; Schart, 2008; and Vaca Torres & Gómez Rodríguez, 2017 for examples of published action research studies). In the former example, Vásquez and Harvey (2010) guided their students in replicating an empirical study (Lyster & Ranta, 1997) on oral corrective feedback practices, conducting the replication study from start to finish as a class. In action research, on the other hand, the study intentionally takes place within one's current classroom setting, with the aim to improve that setting without generalizing the results elsewhere. Calvert and Sheen (2015) worked together in an action research study (that also is a researcher–practitioner collaboration) where Calvert, the teacher, developed, implemented, critically reflected on and modified a language learning task to address the needs of her adult English-learning refugee students; this was accomplished with the collaboration of Sheen as the researcher, as well as the participation of students completing the tasks. A third way to engage practitioners is to design research that empirically examines their unique perspectives. For example, several ISLA studies have examined teacher practitioner notions of task complexity, finding that while teachers are in harmony with each other, citing linguistic structure as their main concern and manipulation when making a task more difficult or easier for particular learner levels (Awwad, 2019; Baralt et al., 2016; Hasnain & Halder, 2021; Révész & Gurzynski-Weiss, 2016; Tavakoli, 2009; Zhang & Zhang, 2022), these practitioner perspectives do not align with researcher notions of task complexity. More simply put, the current most investigated theoretical framework guiding ISLA research on task complexity (Robinson & Gilabert, 2007) does not align with practitioner perspectives. As ISLA researchers, we have a responsibility to listen and be informed as much as we share knowledge. Ultimately, this will ensure that we are designing and collecting data that has the best chance of advancing our fieldwide RQs, particularly with respect to how variables related to instructed contexts influence L2 learning (ISLA RQ 3) and how IDs play a role (ISLA RQ4).

Replication studies, especially with bi/multilingual learners in diverse contexts

Replication studies (see McManus, this volume, 2022 and Porte & McManus, 2019), especially replications that utilize mixed methods (Sato, 2022), are increasingly important throughout the larger fields of applied linguistics and SLA, and I would argue equally if not more so in ISLA, given its unique challenges as outlined earlier. Within ISLA, there is a critical need to be inclusive in participant recruitment and therefore the potential benefits of research (ISLA RQ5). Applied linguistics research as a whole has over-relied on WEIRD (Western, educated, industrialized, rich, and democratic) populations (Andringa & Godfroid, 2020), on English language learners (70.3% according to Al-Hoorie et al., 2022), on adolescents and adults in formal instructed settings (Ortega, 2009), and, as one reviewer pointed out, in settings that are relatively well-funded. There is a particular gap in L2 research in low-income K–12 schools (Pufahl & Rhodes, 2011). Intentionality with participant selection and study design relates to multiple movements including the bi/multilingual (Ortega, 2010, 2013, 2014, 2019) and methodological turns in applied linguistics (Byrnes, 2013), and the ethics "creep" (Haggerty, 2004) and open science movement in empirical research at large. In addition to choosing participants that represent the diverse reality of instructed L2 contexts, we

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must be deliberate in our selection of the methods employed and in the ways that we may need to adjust existing instruments. For example, if a well-used instrument conceptualizes a learner ID as static, even if it has been validated and found useful in earlier studies, it would be inappropriate to use the instrument as-is without updating it to align with current theory that conceptualizes IDs as dynamic, and then rerunning measures of validity and reliability. Another area for replication and improvement could be a more robust reexamination of analyses and interpretation. For example, knowing that many studies tend to use multiple regressions even when the assumption of normality is violated (Hu & Plonsky, 2021) provides an ideal opportunity to rerun analyses and reinterpret results, ideally from the same dataset for robust comparison. A third area of opportunity is expanding existing ISLA research that relies solely on quantitative or on qualitative data and enhancing the study with complementary data through a mixed methods design (see Creswell & Plano Clark, 2018; Ghiara, 2020; Plano Clark, 2019; Sato, 2022; and Tashakkori & Teddlie, 2003). The most popular mixed-methods approach in ISLA research has been *convergent design* (intentional complementary and often simultaneous collection of quantitative and qualitative data considered together at the level of analysis, if not before; see Brutt-Griffler & Jang, 2022; Resnik & Dewaele, 2020; and Sánchez-Hernández, 2018), though *explanatory sequential* (when quantitative data is collected first, then qualitative, with the qualitative techniques serving to better explain the quantitative results, and often adjusted based on the quantitative data gained; Andujar, 2020; Bryfonski & Sanz, 2018; Mitchell et al., 2020; Rahimi & Fathi, 2021), or *exploratory sequential* (when quantitative data is collected first, and is used for its own value as well as informing the design of the quantitative component; Doolan, 2021; Liao & Li, 2020; Rahmati et al., 2019; Salvador-García et al., 2020) mixed methods approaches are also often used. Relying on solely one way of collecting data increases the risk that the method does not fully capture the reality of the phenomenon of study and does not provide an equal opportunity for all participants.

A fourth area for ISLA replication ties back to the emphasis on practitioner–researcher collaboration, and relates to the next trend on justice, equity, diversity, and inclusion (JEDI). Having diverse perspectives reviewing recruitment materials, instruments, quantitative questions and qualitative prompts, methods of analysis, and interpretation, would undoubtedly yield enhanced and complementary data and a more comprehensive understanding of a given study and its contribution to one of the ISLA RQs. ISLA researchers must take care to be aware of their own positionality (King, this volume) and the potential limitations and biases that come with their own experiences, especially when they differ from their targeted participants. If our aim is to advance knowledge as a field, then all stakeholders must be part of and benefit from the ISLA research that is being conducted.

Refining ISLA methods with an eye for ethics and JEDI

In addition to the usual requirements for research with human subjects, there is a movement in applied linguistics to ensure transparent and ethical practices throughout the research process (De Costa et al., 2021a; De Costa et al., 2021b; Marsden & Plonsky, 2018; Plonsky, 2013). With respect to ethical considerations, as ISLA often utilizes current students, the relationships between student and researcher and student and

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teacher, as well as with the larger instructional context (ISLA RQ3), need to be taken into consideration and protected, as discussed in *Unique Methodological Challenges in ISLA Research* above.

ISLA research, like SLA and applied linguistics in general, is undergoing a long overdue reckoning when it comes to JEDI. As mentioned earlier, who we work with, how we recruit and treat our participants, and who can benefit from research findings is extremely important. These changes are happening at the level of linguistic theory, for example the complementary field of Instructed Heritage Language Acquisition, as articulated by Bowles and Torres (2022), which examines the unique acquisition of a heritage language by participants who grew up listening to and/or speaking and/or culturally identifying with the language. At an empirical level, ISLA researchers could choose to return to studies that have previously excluded heritage learners, for example, or who had marked translanguaging as "incorrect" or "not-target like" and revisit and reanalyze these within today's framing, assuming the methods utilized are still robust in today's understanding. Throughout a research project, multicultural and multilingual realities must be taken into account and participant identity, especially the identity of participants who could be otherwise identified based on the characteristics provided in the study, must be protected. These updates also have the potential to impact all of the ISLA RQs, taking care that ISLA is a field that impacts in diverse instructional contexts as it sets out to be.

Conducting open, transparent research that has potential real-world impact and which dialogues with multiple stakeholders at all stages

As in applied linguistics and SLA, research on ISLA is increasingly open and transparent, with efforts to share research materials, data, and findings in open-access venues beyond academic journals. These include individual scholar profiles on ResearchGate, Google Scholar, Academia.edu, as well as faculty or personally maintained websites, and YouTube channels. Fieldwide efforts include those in Table 1.

In order to align with the overarching goals and the ultimate aims in theory, research, and practice, ISLA research must be conducted transparently, and in a way that is accessible to all stakeholders, and with the potential for social utility and impact beyond academia. ISLA studies should often involve practitioners and respect complementary expertise, and instruments, data, and findings must be shared as openly as possible.

Conclusions

Thus far, most ISLA research methods have been adopted from research in SLA at large (Mackey & Gass, 2023). Given the unique aims and challenges for ISLA as a subfield of both SLA and applied linguistics, it is critical that, as the field of ISLA moves forward, that the development and implementation of robust research methods be tailored for ISLA. As I have argued throughout the article, this means conducting research that contributes to overarching questions in the field and addressing the unique considerations of conducting research in instructed settings, including the use of intact classes and/or heterogeneous small participant pools, expanding research to be more

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Table 1. Open science platforms in applied linguistics, SLA, and ISLA

Open Accessible Summaries in Language Studies (OASIS) (https://oasis-database.org/)	An open-access website housing one-page summaries of published research studies that are written in nontechnical language (Marsden et al., 2018)
Multilingual Repository for Abstracts in Applied Linguistics (MuRAL) (https://multilingualrepository.org/)	where abstracts are translated into additional languages for readability and use (Driver, 2022)
AILA research network on Open Applied Linguistics (https://openappliedlinguistics.org/)	where conferences and articles on open applied linguistics are shared widely (Liu et al., n.d.)
IRIS (https://www.iris-database.org/)	instrument, data, and postprint repository for published language studies (Marsden & Mackey, 2011)
TBLT Task Bank (https://tblt.indiana.edu)	where TBLT tasks of any language used in research and instructed contexts are shared (Gurzynski-Weiss & IATBLT, n.d.)
Post Print Pledge (https://www.ali-alhoorie.com/postprint-pledge)	which encourages the sharing of approved and prepublication versions of articles and chapters in venues of open access (Al-Hoorie, n.d.)

longitudinal in nature, and ethically recruiting one's own students. For ISLA research to continue to advance our understanding of the process of L2 learning/development, expanding our conceptualization of "instructed" contexts, conducting replication studies—especially with bi/multilingual learners in diverse educational contexts—, refining ISLA methods with an eye for both ethics and JEDI, sharing all aspects of research openly with all stakeholders, and prioritizing work that has potential real-world impact and which dialogues with multiple stakeholders at all stages. These prioritizations will increase research integrity and allow the field of ISLA to advance in its goals of understanding language learning and effective pedagogical interventions in diverse instructional contexts.

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