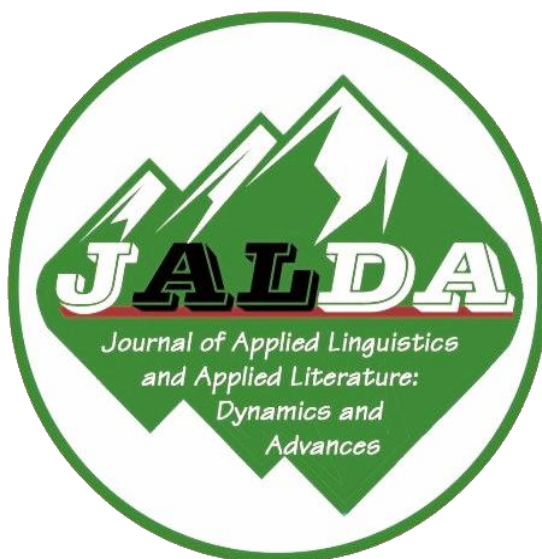# Journal of
Applied Linguistics and Applied Literature:
Dynamics and Advances

Volume 11, Issue 2

Special Issue on Sociocultural Theory and Second Language Acquisition:
Intertheory Dialogues and (In-)commensurabilities

Guest Editors:

Saeed Karimi-Aghdam, Nord University, Norway

Rémi Adam van Compernolle, Carnegie Mellon University, USA

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Journal Information

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JALDA's Aims and Scope

The Journal of Applied Linguistics and Applied Literature: Dynamics and Advances (*JALDA*) is an ambitious academic publication which aims to encourage and disseminate cross-disciplinary research targeting real-world problems and real-life concerns where language and/or literature are at the center. Bringing together the now-well-established discipline of *Applied Linguistics* and the thriving subject of *Applied Literature*, *JALDA* stimulates and promotes innovative work within applied studies on language and literature. In the first place, it publishes articles on the two inter-related subjects of *Applied Linguistics* and *Applied Literature*. However, as an essential component of *JALDA*'s long-term goals, a new focus has been added, namely the dynamic relationship between language teaching and literature, a fast-growing and dynamic field that requires special attention. In fact, the long-term prospective ambition is to bring this inter-subject dynamic from background to the foreground in the journal. *JALDA*'s precise outlook on each of the three intended areas is outlined below in the hope of further illumination on its publication policies and planned purview.

1. *Applied Linguistics*

The most prevailing definition of *Applied Linguistics* so far, with a consensus on, conceives the field as "the theoretical and empirical investigation of real-world problems in which language is a central issue" (Brumfit, 1997, p. 93). Although real-world problems concerning language may involve each of the three questions regarding the nature of language, its use and its learning, historically, the question of efficient learning and teaching of languages has been a predominant concern among real word problems attended to in *Applied Linguistics*. Accordingly, the following subjects are well-seated areas of investigation within mainstream *Applied Linguistics* which are included in *JALDA*'s scope of focus. *JALDA* considers English as a foreign language as the subject of learning:

- Second language vocabulary acquisition
- Grammatical development in L2
- Teaching and learning L2 skills (reading, writing, speaking and listening)
- Technology in language learning and teaching
- Second language curriculum and materials
- Individual differences in second language learning
- Social issues in language learning
- Language teaching methodology
- English for specific purposes
- English as a Lingua Franca
- Language assessment and testing
- English as an international language
- Research methods in applied linguistics
- Language teacher education
- Bilingual education

Although the subject of *Language Learning and Teaching* seems to have already established itself as the mainstream concern in *Applied Linguistics*, the sheer fact that language learning and teaching take place in various ecological conditions, brings forth the warning that ignoring the questions concerning the nature of language and language use might carry with it the risk of blocking our views of the true nature of language learning and teaching as well. *Applied Linguistics* studies need to preserve the flexibility to be inspired by and note the insights from the studies concerning the nature of language and language use, an area which has been labeled as the "*Linguistics Applied*" or "*Applications of Linguistics*" by Davis and Elder (2007). In other words, language pedagogy needs to be examined in its social background in order to be able to reap benefits from the *blessings of the unknown*.

It must be reminded as a word of caution that linguistics is not alone in inspiring *Applied Linguistics Studies*. In fact, attention to the contextual aspects of language learning and teaching highlights the cross-disciplinary nature of *Applied Linguistics*. In this perspective, any research that associates a language-related problem to the core knowledge in psychology, sociology, anthropology, education, neuroscience, economic and political sciences, law, business, etc. counts as *Applied Linguistics*. In this view, *Applied Linguistics* can equally be based in psychology, education, sociology, computer sciences and any other relevant area as it is in linguistics. The intention in these interdisciplinary inquires is to offer reformative, corrective and ameliorative views and suggestions for a language-related real-world problem. In this sense, the discipline of *Applied Linguistics* will be open to the attempts to account for the issues of language learning and teaching alongside its various dimensions as outlined above by giving way to the studies inspired by other language-related studies including the following:

- Corpus Studies
- Discourse Studies
- Economy and language
- Forensic linguistics
- Language and culture
- Language and environment
- Multilingualism
- Neurolinguistics
- Other related areas
- Politics and language
- Translation

According to *JALDA*'s policy formulated here, a few canonical considerations make *Applied Linguistics* distinctive from *Linguistics Studies*. Also, these key features define the nature of work on *Applied Linguistics* that is expected to be submitted for publication in *JALDA*.

1) Problem-orientedness
2) Language in its ecology
3) Cross-disciplinary nature
4) Reformative goals
5) Real-life data

2. *Applied Literature*

Applied Literature has emerged recently as an effort to draw literary studies more akin to human beings' everyday needs. A problem-oriented view of literature might be alien to most of the scholars in English Literature, one way or another, since the established tradition in literary studies does not concern itself primarily with real-life problems. However, there is an urgent call upon the experts and academicians of English Literature to further concern themselves with the real word, an appeal that needs to be responded effectively. Literary studies seem to be in an urgency to be taken out from the academic world into the real world. Literature needs to be treated as a real-world art concerning itself with people's lives and not simply an academic art that is analyzed and criticized within academic forums.

Inspired by this urgency, *Applied Literature* is defined here as any systematic research where literature can solve or ameliorate a real-world problem. In this sense, literature acts as a stimulus to reform. *Applied Literature* examines the effect of literature on human beings whereby the literary text is in service of dealing with real-life problems. To be able to account for the various aspects of human life in all its contexts, *Applied Literature* must be interdisciplinary in its nature. Furthermore, to meet the essential requirements of a scientific research, it has to give allegiance to a satisfactory level of methodological rigor. By definition, *Applied Literature* is thus:

1) Problem-oriented in terms of objectives
2) Effect-driven in its rationale
3) Multi- disciplinary in its scope
4) Method-conscious in its procedure
5) Data-based in terms of its subject
6) Reform-oriented in its applications

What Is Not *Applied Literature*?

Articles in *Applied Literature* that are based on the following research orientations, generally classified under *Pure Literature*, do not comply with the policies of *JALDA*:

1. The starting point of the research is based on a piece of literary work rather than a problem in the outside world.
2. The rationale and justification of the study is theory-driven rather than effect-driven.
3. The study commits itself exclusively to the tradition of literary studies without any attempt to invoke insights from other disciplines.
4. The study acts upon literary texts as the only data available for analysis and does not attend to the data from the real-world human life.
5. The study does not imply any reform, amelioration or solution to a real-world problem in its conclusion.

Areas of Research in Applied Literature

Following are some subjects that can be included in *Applied Literature.* The list is not exhaustive; *JALDA* encourages initiatives and innovations in this regard:

- Therapeutic value of literature
- Trauma studies in literature
- Literature and ethical development
- Literature and science
- Literature and environment
- Literature for professional training
- Literary literacy education
- Other innovative areas

3. *Dynamics* between *Applied Linguistics* and *Applied Literature*

The most ambitious and prospective goal of *JALDA* is to propagate research on real-life problems where both language and literature are at the core. Here, the intention is to deal with language-related problems where literature acts as a source of solution or amelioration to the problem. *JALDA* considers this interdisciplinary preoccupation as a highly promising area of research concern for the specialist in both *Applied Linguistics* and *Literary Studies*. As part of its long-term policy, *JALDA* team fervently encourages researchers to step in this innovative forum of inquiry. *Novel* as it is, the concept of the research on the *Dynamics* between *AppliedLinguistics* and *Literature* can be illustrated with the few following areas of inquiry. The list is inevitably tentative and open for further promotion. *JALDA* is opening a special forum for discussing the options and potentials available regarding the feasibility of this new research area. We ardently invite scholars and experts of the related fields to share their initiatives with us by submitting their prospects in the form of Review Articles or reporting their interdisciplinary research findings.

- The role of literature in language teaching
- The role of Literature in language teacher education
- The role of Literature in language assessment
- The role of Literature in Language teaching curriculum
- Other innovative areas

Basic Criteria for Publishing with *JALDA*

A research article published in *JALDA*:

1) starts and deals with a real-life problem, where language and/or literature is at the center.
2) introduces clear suggestions for tackling problems.
3) upholds an iterative relationship between theory and practice.
4) involves symptomatic and documented evidence in the form of real-world data.
5) may rely on the research data of quantitative, qualitative or combined nature.
6) involves a wide spectrum of research designs ranging from highly qualitative ethnographies or case studies to statistics-based experiments

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General Guidelines

The articles submitted to *JALDA* should follow the APA 7th style with some adaptations specific to *JALDA*. Contributing authors are advised to download and read *JALDA's Concise Guide for APA's 7th Edition Manual*. Please consult the *Paper Submission Template to JALDA* for submission instructions, guidelines, and contact information of the journal's editors.

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PUBLICATION ETHICS

As a member of the Committee on Publication Ethics (COPE), JALDA is committed to maintaining the highest standards of publication ethics and supporting ethical research practices.

Ethics Statement
Authorship

The authors' central obligation is to present a concise, accurate account of the research performed as well as an objective discussion of its significance. A paper should contain sufficient detail and references to public sources of information. The results of research should be recorded and maintained in a form that allows analysis and review, both by collaborators before publication and by other scholars for a reasonable period after publication.

Fabrication of data is an egregious departure from the expected norms of scholarly conduct, as is the selective reporting of data with the intent to mislead or deceive, as well as the theft of data or research results from others.

Proper acknowledgment of the work of others used in a research project must always be given. Authors should cite publications that have been influential in determining the nature of the reported work. Information obtained privately, as in conversation, correspondence, or discussion with third parties, should not be used or reported without explicit permission from the investigator with whom the information originated. Information obtained in the course of confidential services, such as refereeing manuscripts or grant applications, cannot be used without permission of the author of the work being used.

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authors. Other individuals who have contributed to the study should be acknowledged, but not identified as authors.

All collaborators share some degree of responsibility for any paper they co-author. Every co-author should have the opportunity to review the manuscript before it is submitted for publication. Any individual unwilling or unable to accept appropriate responsibility for a paper should not be a co-author.

It is unethical for an author to publish manuscripts describing essentially the same research in more than one journal of primary publication. Submitting the same manuscript to more than one journal concurrently is unethical and unacceptable. When an error is discovered in a published work, it is the obligation of all authors to promptly retract the paper or correct the results.

J*ALDA's Commitment Form*

JALDA's Commitment Form for Publication Ethics Observance, Assignment of the Financial Rights, Disclosure of Potential Conflicts of Interest and Introduction of Authors can be downloaded in *MS Word Format* or *PDF Format* on *JALDA*'s website. The form includes the following 4 sections:

1. Commitment to scholarly publication ethics and introduction of the corresponding author
2. Assignment of the financial rights to publish an article
3. Disclosure of potential conflicts of interest
4. Introducing the authors, their order of appearance, and their contribution

Please read the terms of this agreement, use the Word file or PDF file of the Commitment Form, fill in and sign it, and send the document as one of the required files upon submission.

Author Guidelines

Articles submitted to the *Journal of Applied Linguistics and Applied Literature: Dynamics and Advances* (*JALDA*) should represent outstanding scholarship and make original contributions to the field. The Editors will assume that an article submitted for their consideration has not previously been published and is not being considered for publication elsewhere, either in the submitted form or in a modified version. The articles must be written in English and not include libelous or defamatory materials. The articles should be between 4,000 and 8,000 words (including the abstract and references). *JALDA* operates a double-blind peer-review process. To facilitate this process, authors are requested to ensure that all submissions, whether first or revised versions, are anonymous. Authors' names and institutional affiliations should appear only on the web-fillable sheet. All authors are asked to submit five files including the Main File of the article (anonymous), Title Page (containing authors' names, affilliations, email and ORCID), Authorship Form (containing all authors' short biographies and Photo), Authorship and Conflict of Interest Form and Supplementary Persian Abstract.

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JALDA

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*J*ournal of *A*pplied *L*inguistics and *A*pplied *L*iterature:
*D*ynamics and *A*dvances

Sociocultural Theory, Intertheory Dialogues and (In-)Commensurabilities in the Field of Second Language Acquisition: Introduction to the Special Issue

Saeed Karimi-Aghdam [1], and Rémi A. van Compernolle [2]

[1] *Corresponding author: Associate Professor of English Language and Didactics, Faculty of Education and Arts, Levanger Campus, Nord University, Norway, ORCID: 0000-0002-1214-7830*
E-mail: saeed.karimi.aghdam@nord.no

[2] *Associate Professor of Applied Linguistics and Second Language Acquisition and French and Francophone Studies, Carnegie Mellon University, USA, ORCID: 0000-0003-2381-6291*
E-mail: vancomp@andrew.cmu.edu

Abstract

In this article, we first discuss the rationale behind opening up a dialogic space between sociocultural theory and other compatible theories. In the second section, a brief sketch of sociocultural theory in the field of second language acquisition (SLA) is provided. In the third section, exploring the constitutive relationality that ineluctably holds between a given SLA theory and its putative worldview, we enunciate implications and categorical influence of worldviews on day-to-day research inquiries and scientific practices of the SLA scientific community. Then, we set out to delineate scientific development in SLA invoking a Kuhnian perspective with a honed focus on the theory-laden nature of empirical evidence as well as the key notions of paradigm, disciplinary matrix, and incommensurability of competing theories. In the fourth section, we specifically settle our attention on the issue of incommensurability of, and inter-theory dialogues between, SLA theories with a view to the articles which are included in the special issue and discuss their theoretical and practical implications. We conclude with some remarks on the importance of adopting a weltanschauung-centered perspective on doing research activities, theory choice, and scientific development in SLA for advancing a principally unified and scientifically coherent understanding and explanation of second language developmental processes.

Keywords: sociocultural theory, second language acquisition, intertheory dialogue, Vygotsky, Kuhn, paradigm, disciplinary matrix, incommensurability, scientific change, worldview

Introduction

The field of second language acquisition (hereafter SLA)[1] is yet to come of age as a mature scientific discipline after more than five decades of scientific research. The current fragmentation of SLA into warring schools of thought or at best divided theoretical camps hinders it from moving toward a unified and coherent scientific discipline (Ellis, 2021). To promote the unity of SLA as a scientific discipline, we maintain, two solutions could be envisioned. On the first view that we term the reductionist approach, one could argue that a single overarching conceptual framework could vertically subsume all other theories, approaches, models, and hypotheses in such a way that all of them could be ontologically reducible to nothing but to a specific foundational framework and conceptual matrix of a single theory and its well-conceded philosophical principles and axiomatic presuppositions. According to the second view which we term the pluralistic approach, one may subscribe to a pluralistic interpretation and horizontal inter-theoretic dialogues between ontologically commensurable SLA theories which are based on congruous worldviews or 'conceptual schemas' (Karimi-Aghdam, 2024). According to the pluralistic approach, scrutinizing the process and product of second language development is irreducibly plural and should draw upon an array of interconnected theoretical models and methodologies which originate from, and are compatible with, a particular set of philosophical presuppositions and metatheoretical axioms which in turn are or should be in harmony with a single worldview (see also Ellis, 2010).

In line with the pluralistic approach, this special issue is in an attempt to foster what we believe to be a crucial conversation between Vygotskian sociocultural theory (hereafter SCT) and other complementary theories that have been extended to SLA. Our rationale is twofold. First, as SCT researchers ourselves, we believe that opening up dialogues with other approaches is critical to enriching the theory, developing new research methods, and enhancing the scientific rigor of our empirical work. Second, and more broadly, we believe that inter-theory dialogues are sorely missing from SLA in general, where despite a few attempts at reaching across the aisle so to speak in the 1990s, most L2 researchers have been content to work in theoretical isolation (see Lantolf, this issue). There are important recent exceptions to this of course. Hulstijn et al. (2014) proposed to bridge the gap between social and cognitive approaches to L2 research, and the Douglas Fir Group (2016) articulated a rich transdisciplinary framework for SLA. To our knowledge, such work has had little practical impact on the way research is carried out in our field, notwithstanding its meaningful contribution to our understanding of L2 development. This is unfortunate from our perspective since the lack of inter-theory dialogue and collaboration is most likely leading us to an unnecessarily impoverished understanding of our object of study. It is our hope that this special issue inspires further dialogues, debates, and inter-theory collaborations in a pluralistic, yet unifying way.

The eight papers included in this special issue engage in thought-provoking conceptual, methodological, and empirical comparative research that in our view help to push Vygotskian SCT in innovative directions and more broadly have the

potential to impact L2 research in other traditions. In this article, we will first set forth to provide a brief sketch of the history and some tenets of SCT. Then, in order to lay a conceptual foundation for probing the scientific development of SLA and its theoretical landscape drawing upon a Kuhnian lens, we examine the role of worldviews in our scientific inquiries including SLA theories while discussing the categorical influence of metatheoretical postulates and philosophical assumptions on our scientific investigations and research practice. In the third section, we delve more deeply into the pivotal concepts of normal science, scientific revolution, paradigm, disciplinary matrix, and incommensurability in line with Thomas Kuhn's historical understanding of scientific change to gain a better appreciation of the current state of the theoretical development and historical trajectory of SLA as a maturing yet young scientific discipline. In the fourth section, we will take a closer look at the notion of incommensurability within the context of SLA theories and SCT in particular to garner insights into the overarching aim of this special issue which is to foster inter-theory dialogues between SCT and other ontologically and methodologically congruous theories. Finally, we conclude the article by offering some remarks on the image of scientific change in SLA drawing upon a Kuhnian perspective. Specifically, we discuss the limitations of formulating a unified approach for studying L2 development without heeding the determining influence of pertinent weltanschauung-anchored assumptions and philosophical categories on the integrated levels of any given SLA theory and hence on the nature, process, and object of scientific inquiry in SLA.

Overview of Vygotskian SCT in L2 Development

Lantolf and Poehner (2023) point out that the label "sociocultural"—though widely used and recognized since it was first introduced in L2 work in the 1980s (Frawley & Lantolf, 1985; Lantolf & Frawley, 1984)—"does not do justice to what the theory is about" (p. 5). This is because it focuses on the socially distributed nature of cognition to the detriment of individual psychological functioning and may be easily confused with other social theories of L2 development. Drawing on Toomela (2008), Lantolf and Poehner go on to argue—and we agree—that the use of "cultural-historical" is more appropriate as it "emphasizes the development of individuals as a consequence of their participation in particular cultural practices that their community has evolved over the course of history" (p. 5). This is an important point because it underscores the variability in human cognition and development in relation to the modes of thinking—especially, though not solely limited to, *language*—that have evolved over time across cultures. And yet, we—like Lantolf and Poehner—continue to use "sociocultural"/SCT due to the inertia associated with the term after four decades of research. We will, however, undertake to point out, as do our contributors, the cultural-historical nature of language and L2 development.

Indeed, a central tenet of Vygotsky's theory is that human consciousness is mediated by culturally-historically constructed artifacts, language being one of the most important. As Vygotsky argued, culturally-historically constructed artifacts serve as auxiliary stimuli that reshape direct, or immediate, stimulus-responses processes into indirect, or mediated, processes. This allows people " to control their

behavior *from the outside* [italics in original]" (Vygotsky, 1978, p. 40), which is the key to human agency. For instance, while we are all born with the neurological hardware that subserves memory functions, the internalization of language–the quintessential sociocultural semiotic artifact–allows us to engage in voluntary memory and the narrativization of past experiences in socially, culturally, and contextually appropriate ways. And this illustrates the interest we have in understanding the theory in cultural-historical terms: because languages vary from phonology, to lexicogrammar, to pragmatics, to discourse, and so on, so too do the modes of linguistically mediated thinking that have developed from one culture to the next. Consequently, learning an additional language is not simply a matter of plugging new words, grammar, pragmatics, and so forth into existing modes of thinking; learning a new language entails learning to think through a new multi-semiotic system that has evolved along a different cultural-historical timeline.

The earliest work in this domain was carried out by Frawley and Lantolf (1985; Lantolf & Frawley, 1984), who investigated the extent to which an L2 could function intra-psychologically (i.e., within a person) to regulate thinking processes as evidenced by private speech. Their research suggested that many L2 users continue to rely on their L1 to regulate their thinking, even if they can use the L2 proficiently for communication. However, some very advanced L2 users with long-term experience in the L2 culture may become capable of using the L2 for thinking, at least some of the time. This finding has been confirmed and expanded in numerous studies over the past 40 years (see Guerrero, 2018) and has even been extended to include the cognitive role of gesture (see Stam, 2018 for an overview). What is especially interesting in this research is the suggestion that emergent bi/multilinguals appear to develop hybrid psychological systems in which the L2 (and any other additional languages the person may know) begins to mediate the structure of thinking processes and other psychological functions alongside the L1.

As L2 SCT research began to proliferate in the 1990s and early 2000s, many scholars began to investigate the role of collaboration and assistance in L2 development, drawing on one of Vygotsky's best known concepts, the zone of proximal development (ZPD). The ZPD idea focuses on the fuzzy space between one's current developmental state and a next, or proximal, state that is in the process of emerging (Valsiner & van der Veer, 2014). With a view to the main axioms of Vygotsky's worldview, the ZPD could be conceived as "a temporal and transitional interface of inter-psychological and intra-psychological planes of human development" where incremental quantitative changes have potentiality to be transformed to emergent qualitative changes by virtue of mediation afforded by more cable people through semiotic and material artifacts including linguistic activities (Karimi-Aghdam, 2017, p. 82). In the ZPD, a person's proximal developmental state can be observed as they collaborate with more capable people, even if a given ability is not currently under independent control. Thus, it is in the context of collaboration and assistance that the person's future development is co-constructed and becomes visible (e.g., to a teacher, to a third-party analyst) while at the same time its growth can be supported (i.e., assistance can lead to development) (Aljaafreh & Lantolf, 1994; Donato, 1994; Ohta, 2001; van Compernolle, 2015).

Poehner's (2008) research further extended this work to the domain of L2 dynamic assessment (DA) in which assessment tasks are intentionally designed to integrate teaching and testing as a dialectically unified activity. As such, support (e.g., including collaboration and assistance from a teacher) is made available to learners during the assessment in order to arrive at a dual evaluation of the learner: 1) the learner's current developmental state as evidenced by solo performance and 2) the learner's ZPD as evidenced by what they are able to do with support, often referred to as mediation. In this sense, mediation refers to means of support (e.g., a teacher or mediator) that create an indirect, or mediated, relationship between the learner and the assessment. In other words, the learner does not engage directly with the assessment but indirectly through a mediator.

Along with Poehner's (2008) work on DA, concept-based language instruction (CBLI) has helped usher in a new wave of L2 SCT research that attempts to unify theory and practice through educational praxis (Lantolf & Poehner, 2014). Drawing on Gal'perin's (1989, 1992) theory of the formation of mental actions, CBLI emphasizes the explicit teaching of semiotic concepts that can mediate learners' control over the L2. Semiotic concepts have been drawn from cognitive linguistics (Negueruela, 2005), pragmatics (van Compernolle, 2014), literacy research (Urbanski, 2023), and even law (Hartig, 2017). The concepts are materialized in the form of a SCOBA—schema for the complete orienting basis for action—which serves as a visual/multimodal reference point to assist learners in remembering 1) why an action is important and 2) how to orient to its execution appropriately. SCOBAs are used in verbalization tasks (e.g., explaining a concept to oneself), problem-solving tasks, and in preparation for communication tasks. Importantly, a sign of development is the eventual decrease in reliance on the SCOBA for using the concept appropriately.

This overview of L2 SCT research is necessarily brief, but it helps to highlight some of the major strands of scholarship and theorization that have developed over the past four decades. With the proliferation of SCT work in SLA has come a fair amount of theoretical cross-fertilization, as scholars have attempted to engage with the broader field of SLA as well as to expand the purview of SCT through engagements with theories of language, identity, and agency, among other issues. However, and as we believe the contributions to this special issue make clear, there is a need to examine more critically the issue of (in)commensurability when SCT scholars adopt and adapt exogenous theories into their work. We expand on this argument in the following sections. In the next section, we specifically examine the internal relationality of panoramic perspectives of the ultimate reality (i.e., worldviews) and SLA theories and discuss its far-flung implications for every aspect of doing research from data collection to theory appraisal.

The Dialectical Interplay of Worldview and Theory in SLA

Establishing a productive relationship between a wide variety of theories, models, and hypotheses as part of an effort to develop a unified approach to studying L2 development has been a challenge since the field of SLA emerged in the 1950s. Such a proleptic unified approach would be necessarily interdisciplinary and

inter-theoretical given SLA's diverse roots in psychology, linguistics, behavioral studies, language teaching, and sociology, among other disciplines. This rich diversity has of course prevented the field of SLA from moving toward developing a unified approach in large part because the philosophical assumptions that underpin these theories are rarely subjected to systematic and sustained investigations, and there does not appear to be a de rigueur framework for doing so. Furthermore, the history of SLA as a scientific discipline has not been examined by drawing upon large-scale units of analysis such as 'paradigms' in the Kuhnian sense (Kuhn, 1962/1970a) to gain a historical understanding of scientific change of the discipline. In addition, while the theoretical and disciplinary diversity of SLA has yielded innumerable insights into various elements and mechanisms of L2 development processes, there is no consensus as to a set of comparative yardsticks that would help us assess the degree to which various theories most accurately and comprehensively reflect the nature of L2 developmental processes. Nor do we in SLA have a great consensus of opinion on appraisal principles to help us choose and arbitrate between multitudinous rival SLA theories that compete for paradigmatic dominance. Similarly, we do not have an agreed-upon corpus of guiding principles for abandoning those SLA theories which fail to live up to our scientific expectations and embracing those 'new' SLA theories that are introduced to the discipline with a promise of scientific success. Furthermore, theories of SLA implicitly or explicitly are anchored on, and of necessity operate consistently with, a broad matrix of fundamental assumptions, or 'conceptual schemas' (Karimi-Aghdam, 2024), that determine problem formulation, methodological approaches, legitimate kinds of questions, 'incontrovertible' facts, and what 'counts' as evidence of L2 developmental processes.

It is worth clarifying six points concerning the relationship between an SLA theory and any given worldview that, we suggest, are at stake here. First, not being aware of an SLA theory's weltanschauung (i.e., worldview) and its putative philosophical presuppositions does not necessarily cast serious doubts on the categorical influence of worldviews on scientific activities that SLA researchers do in their day-to-day inquiries. Second, enunciation of philosophical assumptions and operating conceptual categories of a specific SLA theory at worldview level does not necessarily mean that SLA researchers consciously and consistently as well as individually and collectively invoke them to conduct their scientific inquiries about SLA matters. Third, within a single worldview, there might be several SLA theories with broad family resemblances which are compatible, and with varying degrees of conceptual and empirical consistency, comport with an all-encompassing philosophical view of the ultimate reality of L2 development. Fourth, a multilayered and nested worldview and an SLA theory which is compatible with it develop dialectically; that is, fundamental tenets of an SLA theory and even 'factual' claims generated by dint of it are mediated and inter-defined by the philosophical presuppositions and fundamental categories of a putative worldview and vice versa. Presuppositions and categories of a worldview are modified and refined to fit 'scientific facts' that are generated by a given SLA theory and the 'scientific facts' of an SLA theory are interpreted in light of presuppositions and categories of its putative worldview.

Fifth, 'scientific facts' of an SLA theory may acquire new meanings and yield different interpretations when they are looked at through a new array of undergirding presuppositions and philosophical categories which belong to another equally tenable yet alternative worldview. Sixth, if philosophical categories and presuppositions of two alternative yet distinct worldviews are not congenial in terms of their truth criteria and conception of the ultimate nature of L2 development, eclectic merging of SLA theories operating within those philosophical views of the world ineluctably will lead to numerous confusions at both theoretical and empirical levels. In other words, irrational mixing of SLA theories which are predicated on incompatible worldviews will bring about pernicious paradoxes about various research procedures including framing research questions and problems, collecting data, analyzing data, interpreting findings, making inferences, and drawing conclusions.

Further, conceptual schemas (i.e., worldviews) conceivably might be mutually exclusive in terms of mutual untranslatability of their underlying array of concepts, categories, and axioms. This practically means that those SLA theories which are traceable to, and are directly grounded in, qualitatively incongruous conceptual schemas are essentially incompatible in terms of their conceptualization of the ultimate reality and nature of L2 development. Accordingly, it is untenable to coalesce SLA theories which are ontologically and methodologically incommensurable and hence have an interconnected network of concepts and terms that are untranslatable and non-comparable as such. For example, the Marxian-Hegelian conceptual schema within which SCT functions is qualitatively and ontologically at variance with the Cartesian conceptual schema within which some SLA theories such as Krashen's Monitor Model (e.g., Krashen, 1982) operate; hence any endeavor in terms of conceptual integration of, or even collating of 'objective data' and 'observed facts' which are yielded by, SCT and the Monitor Model will be of limited explanatory value at best and scientifically indefensible at worst. We will return to this point in the fourth section.

It should be noted that conceptual schemas or weltanschauungen within which theories of SLA operate inherently are neither falsifiable nor verifiable per se by empirical methods and evidence; yet they can be evaluated, in principle, in terms of their usefulness (Karimi-Aghdam, 2024). In other words, the metatheoretical tenets and philosophical assumptions of an SLA theory –from which its lower-level basic concepts and principles are derived or at least are compatible with– are empirically irrefutable and infallible. This basically means that empirical investigations which are conducted drawing upon theoretical principles of a specific SLA theory neither confirms nor refutes superordinate assumptions and presuppositions of that theory at metatheoretical and worldview levels. Additionally, the prima facie empirical 'falsification' in the guise of denial of a scientific hypothesis or an array of hypotheses formulated according to the principles of a specific SLA theory does not carry a conclusively refutative weight on its higher-level conceptual categories and associated assumptions (see also Hulstijn, 2020; McLaughlin, 1987; Schumann, 1993).

The defining influence of conceptual schemas on observations and facts-theory dependence is documented by Hanson's (1958) seminal book 'Patterns of Discovery' where he argues about 'theory-laden' nature of 'seeing'. The credo of 'to see is: to see as', propagated by Hanson (1958), basically means that any observational evidence, by its very nature, is essentially subject to biases and dispositions which a researcher may have on account, and indeed because, of broader currents of a putative theoretical perspective that they draw upon in their research activities. A scientist primarily sets out to search for a 'conceptual pattern in terms of which his data will fit intelligibly along better-known data' (ibid., p.72). Hence, a scientific perspective is necessarily viewed through a conceptual pattern of a scientist. The theory-laden nature of observation proposed by Hanson (1958) resonates with Thomas Kuhn's (1962) insistence on non-neutrality of observational language to which we shall return shortly. Sanctioning theory-ladened nature of data that we collect in our empirical investigations of SLA-related issues and problems (see also Schumann, 1983), we maintain that worldview-level presuppositions too cast a web of significative force and meaning to our individual and collective scientific practices from research methodology to data collection and hypothesis testing. For example, SCT with its worldview foundation grounded on dialectical and historical materialism (Karimi-Aghdam, 2016; Lantolf, 2017), foregrounds investigating the cultural process of becoming of human consciousness and higher human mental functioning and, closer to home, developmental trajectory of an L2 system using Vygotsky's dialectical methodology to which he referred as the 'genetic method' (Lantolf & Karimi-Aghdam, 2020).

On this score, the underdetermination of scientific theory by observed facts known as the 'Duhem-Quine Thesis' poses serious challenges to the categorical falsification of a single and isolated scientific hypothesis by observational evidence. Singling out and empirically testing an insulated scientific hypothesis from the tangled skein of auxiliary assumptions is impossible in accordance with the 'Duhem-Quine Thesis'. Therefore, informed by Duhem-Quine's thesis about interdependency of theory and data which is compatible with our own point of view, we could conclude that every SLA theory which may yield, in principle, a matrix of indefinite number of hypotheses is underdetermined by the insufficiency and inadequacy of empirical evidence that we collect and analyze in our empirical investigations (for SLA-related discussion of the Duhem-Quine Thesis, see Beretta, 1991; Schumann, 1993; and for philosophical discussion of it, see Ariew, 1984; Balashov, 1994). With a view to garner fresh insights about the pattern of scientific change and actual disciplinary practices of SLA researchers, in the next section, we shall elucidate the theoretical terrain of SLA by drawing upon Thomas Kuhn's philosophy of science and his conception of some key terms such as paradigm, disciplinary matrix, normal science, revolutionary science, and incommensurability which are pivotal to his perspicuous view of science.

Scientific Development in SLA: A Kuhnian Perspective

The importance of worldview and its impact on the things we- as knowing subjects- see and discover in our scientific activities was reinforced by the 'second

generation' of philosophers of science (Callebaut, 1993). These philosophers, spearheaded by Thomas Kuhn (1922-1996), who espoused a naturalized philosophy of science (Giere, 1985), bring into sharper focus the social character of science and scientific development. These philosophers of science rivet their attention on the influence of the 'context of discovery' with a focus on reliable description of relevant contextual factors which give rise to emergence of a scientific theory and accordingly foreground the role of 'history' in scientific change. The (logical) positivist-influenced philosophers of science, on the contrary, were interested in the 'context of justification' with a focus on prescription of the methodological rigor and brought to the fore the importance of accumulative nature of scientific change (i.e., gradual and linear accretion of science by stoking new add-on objective facts to an extant repertoire of scientific facts) (see also Bird, 2012; for the distinction between 'context of discovery' vis-a-vis 'context of justification', see Reichenbach, 1938).

Thoms Kuhn in his seminal and revolutionary book entitled 'The Structure of Scientific Revolutions' (hereafter SSR) (1962/1970a) ushered in a novel perspective about scientific change. According to him, the progress of science, and by the same token a scientific discipline in natural sciences, is neither accumulative nor uniform. Rather, science proceeds according to iterative cycles of 'normal science' and 'scientific revolution'. A revolutionary phase of scientific development does not merely exhibit differences of degree compared with a normal science phase. Rather, they differ qualitatively in that truth criteria against and through which a disciplinary scientific research is adjudicated and indeed a web of meaning and order imposed on the miscellany of empirical data undergoes fundamental change when science transforms from a 'normal' type to a 'revolutionary' type. Hence, a scientific revolution spurs a revision to extant scientific belief or practice (Kuhn, 1962/1970a). It should be observed that in SSR Kuhn proposes "a view of science which is part descriptive and part prescriptive" (Suppe, 1984, p. 89). Kuhn's account of science is descriptive in that he sets forth "to describe how science has developed" (ibid.) through a repeated pattern of normal science dominated by a prevailing scientific paradigm, partitioned sporadically by revolutionary science. Revolutionary science, Suppe goes on to assert, entails a new scientific paradigm that parts company with the preceding one by virtue of its ontological and epistemological pronouncements. On the other hand, according to Suppe (1984), Kuhn espouses a prescriptive account of science by recommending "this pattern [i.e., iterative pattern of normal science-revolutionary science-normal science] as how science ideally *ought* to proceed" (p. 89, emphasis in original). Kuhn thereby articulates factually what science is and evaluatively what science ought to be. Underwriting Suppe's (1984) admonition against accepting "uncritically Kuhn's views on science as determining the appropriate way of doing science" (p. 97), we still believe that casting a Kuhnian light on SLA offers us valuable lessons, among others, about how the theoretical landscape of our discipline changes and what differential impact an array of extra-scientific factors and meta-theoretical assumptions has on our scientific inquiries and research activities.

The general pattern of scientific development, according to Kuhn (1962/1970a), commences with pre-paradigmatic science. It is characterized by rival approaches and theories competing for scientific dominance coupled with contentious and raging discussions about proper onto-epistemological postulates and the right methods of inquiry. The pre-paradigmatic science is followed by 'normal science' after a prevailing paradigm is established to resolve problems. Then, the emergence of anomalies if they resist solutions within the confines of a prevalent paradigm prompts a sense of crisis. Some anomalies are resolved by being incorporated one way or another to the extant shared scientific paradigm of normal science; this kind of anomalies is called 'ordinary anomaly' (Kuhn 1970a, p.186). Another type of anomalies called 'crisis-provoking one' (ibid., p.186) is not resolvable within the boundaries of a single scientific paradigm and may harbinger a 'scientific revolution', that is, a period of extraordinary and radical changes triggered in response to persistent problems and recalcitrant anomalies which in turn makes extant paradigm loosen its grip. Scientific revolutions are prompted when a scientific community senses that "…an existing paradigm has ceased to function adequately in the exploration of an aspect of nature to which that paradigm itself had previously led the way" (Kuhn, 1962, p. 91). Thereby scientific revolutions are "non-cumulative developmental episodes in which an older paradigm is replaced in whole or in part by an incompatible new one" (Kuhn, 1970a, p. 92) and accordingly a novel paradigm emerges and the scientific community starts practicing a new and long era of 'normal science'. After a relatively long period of normal science which "is predicated on the assumption that the scientific community knows what the world is like" and "often suppresses fundamental novelties because they are necessarily subversive of its [i.e., normal science] basic commitments" (Kuhn, 1970a, p. 5), a new crisis is brought about by unresolved puzzles and empirical anomalies that a paradigm runs into and so on. The transformation of normal science -"a strenuous and devoted attempt to force nature into the preformed and relatively inflexible box that the paradigm supplies" (Kuhn, 1970a, p. 24)- to a short bout of revolutionary science is inaugurated when:

> Confronted with anomaly or with crisis, scientists take a different attitude toward existing paradigms, and the nature of their research changes accordingly. The proliferation of competing articulations, the willingness to try anything, the expression of explicit discontent, the recourse to philosophy and to debate over fundamentals, all these are symptoms of a transition from normal to extraordinary research (Kuhn, 1962, p. 90).

The notion of paradigm introduced by Kuhn merits close examination here. It is pivotal for both normal science and revolutionary science. According to Kuhn (1970b), a paradigm "underscore[s] the dependence of scientific research upon concrete examples that bridge what would otherwise be gaps in the specification of the content and application of scientific theories" (p. 16). Simply put, a paradigm is a complex of theories, frameworks, concepts, research methods and techniques, research practices, laboratory apparatus, social and contextual processes and structures and, not least, a pertinent worldview that are shared collectively by a specific scientific community. We need to acknowledge that the blanket term of

paradigm is used to signify 21 different meanings in Kuhn's book (i.e., SSR) (Masterman, 1970)[2]. According to Masterman (1970), all these meanings can be categorized in three main groups: 1) metaphysical paradigms or metaparadigms, 2) sociological paradigms, and 3) artifact or construct paradigms. Kuhn (1977) faced with critiques who argued that paradigm is an equivocal term with protean usages (e.g., Shapere, 1964) offered two distinct sets of definition for it: (1) a global sense of paradigm encompasses "the entire constellation of beliefs, values, techniques, and so on shared by the members of a given community" and (2) a local sense of paradigm which is a subset of a global one and includes "one sort of element in that constellation, the concrete puzzle-solutions which, employed as models or examples, can replace explicit rules as a basis for the solution of the remaining puzzles of normal science" (Kuhn, 1970a, p. 175). He calls the first sense of the term that encompasses 'all the shared commitments of a scientific group' 'sociological' and the second sense of the term that embraces 'shared exemplars' 'exemplary past achievements' (Kuhn, 1977, p. 294).

The global sense of the term paradigm corresponds to 'disciplinary matrix' (Kuhn, 1977, p. 297) which is 'the common possession of the practitioners of a professional discipline' and is 'composed of ordered elements of various sorts, each requiring further specification'. Disciplinary matrix is a functional whole and 'account[s] for the relatively unproblematic character of professional communication and for the relative unanimity of professional judgment' (ibid., p. 297) of the practitioners of a particular scientific community or discipline in professional matters. Four main components of the disciplinary matrix of a scientific community include (1) symbolic generalizations: 'those expressions, deployed without question or dissent by group members, which can readily be cast in a logical form' and 'are the formal or the readily formalizable components of the disciplinary matrix' (e.g., $f = ma$) (Kuhn, 1970a, pp. 182-183); (2) models, metaphysical paradigms or the metaphysical parts of paradigms: 'are what provides the group with preferred analogies or, when deeply held, with an ontology' and 'at one extreme they are heuristic' such as 'a gas behaves like a collection of microscopic billiard balls in random motion' and 'at the other [extreme], they are the objects of metaphysical commitment' such as 'all perceptible phenomena are due to the motion and interaction of qualitatively neural atoms in the void' (Kuhn, 1977, pp. 297-298). Models, from heuristic to ontological ones, 'supply the group [practitioners of a scientific community] with preferred or permissible analogies and metaphors…help to determine what will be accepted as an explanation and as a puzzle-solution…[and] assist in the determination of the roster of unsolved puzzles and in the evaluation of the importance of each' (Kuhn, 1970a, p. 184); (3) values: 'though [values] function at all times, their particular importance emerges when the members of a particular community must identify crisis or, later, choose between incompatible ways of practicing their disciplines' (Kuhn, 1970a, pp.184-185). Thus, one can conclude that in accordance with Kuhn's argument, scientific values operate at both micro-level when scientific values are applied to single choices within purview of theories and at macro-level when 'values [are] to be used in judging whole theories' (ibid., p.185). Those values which are about prediction are the most deeply held ones such as quantitative predictions have priority over qualitative ones,

predictions should be accurate, and consistent satisfaction of prediction should be assured. Some of the macro-level scientific values which are drawn upon in the holistic evaluation of theories especially when a sense of crisis sharpens and subsequently scientific revolutions start are: formulation of puzzles and solutions, simplicity, consistency, plausibility, compatibility with other extant theories, social usefulness, and, more importantly, accuracy. Despite the fact that scientific values extensively and profoundly are committed to, and shared, by members of a given scientific community in such a way as to be constitutive features of science, scientists impress their individual and subjective stamp on their application (Kuhn, 1970a); and finally (4) shared exemplars: are a set of 'the concrete problem-solutions that students encounter from the start of their scientific education, whether in laboratories, on examinations, or at the end of chapters in science texts' (Kuhn 1970a, p. 187). Kuhn continues his enunciation of shared exemplars by stating that additionally 'some of the technical problem-solutions found in the periodical literature that scientists encounter during their post-educational research career' show to scientists as members of a disciplinary matrix by example how their scientific research should be conducted (Kuhn 1970a, p. 187).

Apart from being the fourth component of a disciplinary matrix, 'shared exemplars' is the second major sense (i.e., local sense) of the term paradigm and a central pillar of doing science by a specialized scientific community. Kuhn (1970a) considers using the term 'paradigm' to denote 'shared examples' appropriate 'both philologically and autobiographically' and maintains that 'differences between sets of exemplars provide the community fine-structure of science' (pp.186-187). They are 'concrete puzzle-solutions which, employed as models or examples, can replace explicit rules as a basis for the solution of the remaining puzzles of normal science' (ibid., p. 175). A problem-solution paradigm is a scientific community's consensus model of solving the scientific puzzles without which the laws and theories will be devoid of any empirical content. Exemplary concrete instances of doing scientific research - the only component of the disciplinary matrix which can be articulated explicitly- empowers members of a scientific community to make a connection between a phenomenon and more broadly nature and symbolic generalizations. Maturing members of a scientific community implicitly acquire and socialize in the components of a putative disciplinary matrix of a specialized science through and because of studying and doing archetypal exemplars which embody 'a time-tested and group-licensed way of seeing…[and scientists] solve puzzles by modeling them on previous puzzle-solutions' (Kuhn, 1970a, p. 189). In the words of Kuhn (1970a),

> The resultant ability to see a variety of situations as like each other . . . is, I think, the main thing a student acquires by doing exemplary problems.... After he has completed a certain number, which may vary from one individual to the next, he views the situations that confront him as a scientist in the same gestalt as other members of his specialists' group. (p. 189).

Closely linked to the concept of paradigm is the notion of 'incommensurability' which is borrowed from mathematics where, for example, it applies to the relation between the side and diagonal of a square in that there is no common unit that can

be used to measure both. Kuhn has applied this concept to competing paradigms which do not have a common measure and accordingly, it is argued by some including Kuhn himself in his earlier writings (e.g., Kuhn, 1970b) that, no rational and direct comparison could be made between those rival paradigms[3]. He further argues that theory choice and change of successive scientific theories could not be pivoted on neutral and objective observational language, and that it is impossible to communicate between incommensurable theories and, accordingly, render them in an array of common linguistic expressions and terms (Kuhn, 1970a). Besides, Kuhn (1982) contends that the axiom of 'no common measure' when applied to the conceptual matrix of a scientific theory takes on a metaphorical significance and accordingly becomes 'no common language'. For example, discussing the revolutionary transition between successive competing theories, he argues that:

> The point-by-point comparison of two successive theories demands a language into which at least the empirical consequences of both can be translated without loss or change…. Ideally the primitive vocabulary of such a language would consist of pure sense-datum terms plus syntactic connectives. Philosophers have now abandoned hope of achieving any such ideal, but many of them continue to assume that theories can be compared by recourse to a basic vocabulary consisting entirely of words which are attached to nature in ways that are unproblematic and, to the extent necessary, independent of theory. … In the transition from one theory to the next words change their meanings or conditions of applicability in subtle ways…Successive theories are thus, we say, incommensurable (Kuhn, 1970c, pp. 266-267).

According to this view, when two rival theories are incommensurable, it means that one cannot translate factual and theoretical assertions of one theory into the language of another theory. Incommensurable successive theories stand at cross purpose simply because two competing theories are operating within fundamentally incompatible and different sets of assumptions and axioms. And more importantly, the meaning of every term in a given scientific theory is contingent on being part of a coherent constellation of theory-specific assumptions and paradigmatic values. In accord with incommensurability of competing theories Kuhn does not grant that scientific progress in the sense of converging on a truth is made when conceptual change happens (McMullin, 1976). Rather, rejection of the old theory and embracing of another candidate theory necessarily means that logically incompatible worldviews and ways of doing science are at stake and no rational decision or 'neutral algorithm for theory-choice' can be made nor does exist a 'systematic decision procedure' (Kuhn, 1970a, p. 200) about theory choice and their assessment. On this score, considering it opposed to scientific realism[4], Hacking (1983, p. 66) defines incommensurability as follows:

> It has been said that successive and competing theories within the same domain 'speak different languages'. They cannot strictly be compared to each other nor translated into each other. The languages of different theories are the linguistic counterparts of the different worlds we may

inhabit. We can pass from one world or one language to another by a gestalt-switch, but not by any process of understanding.

It seems that Kuhn's thesis regarding incomparability of incommensurable theories underwent a fundamental change in later years in consideration of, and in response to, some charges leveled against his standpoint including a relativistic conception of theory choice and scientific progress. He, for example, goes so far as to assert that incommensurability of successive scientific theories does not necessarily mean that rival theories cannot be compared:

> The claim that two theories are incommensurable is then the claim that there is no language, neutral or otherwise, into which both theories, conceived as sets of sentences, can be translated without residue or loss. No more in its metaphorical than its literal form does incommensurability imply incomparability, and for much the same reason. Most of the terms common to the two theories function the same way in both; their meanings, whatever those may be, are preserved; their translation is simply homophonic. Only for a small subgroup of (usually interdefined) terms and for sentences containing them do problems of translatability arise… The terms that preserve their meanings across a theory change provide a sufficient basis for the discussion of differences and for comparisons relevant to theory choice. They even provide… a basis from which the meanings of incommensurable terms can be explored. (Kuhn, 1982, pp. 670-671).

It is worth mentioning that three varieties of incommensurability are differentiated in line with Kuhn's exposition of the term: (1) semantical incommensurability which means that non-translatability of the distinct languages of scientific theories from different periods of normal science by its very nature generate impediments to the perspicuous comparison of those competing theories; (2) observational incommensurability which means observational data due to its theory-ladenness cannot provide a common measure for comparing competing theories; (3) methodological incommensurability which means that theories which belong to different paradigmatic camps could not be compared using a common measure and evaluative scheme since comparison and evaluation methods change over time when a new paradigm replaces an old one (Delvin, 2021; Sankey, 1993). It seems that Kuhn's evolving view about the notion of incommensurability settles its attention on the semantical type. For example, in a chapter entitled 'dubbing and redubbing: the vulnerability of rigid designation', he elucidates his take about incommensurability by stating that:

> Applied to a pair of theories in the same historical line, the term [incommensurability] meant that there was no common language into which both could be fully translated.[4] Some statements constitutive of the older theory could not be stated in any language adequate to express its successor and vice versa. Incommensurability thus equals untranslatability, but what incommensurability bars is not quite the activity of professional translators. Rather, it is a quasi-mechanical activity governed in full by a

manual that specifies, as a function of context, which string in one language may, *salva veritate*, be substituted for a given string in the other (Kuhn, 1990, p. 299).

In the footnote number 4, Kuhn states, but without developing the point further, that 'My original discussion described nonlinguistic as well as linguistic forms of incommensurability. That I now take to have been an overextension resulting from my failure to recognize how large a part of the apparently nonlinguistic component was acquired with language during the learning process' (ibid., p. 315). This discussion segues into the next section where we discuss the notion of incommensurability within the SLA context and SCT in particular.

(In)commensurability and SLA Theories in Dialogue

Over 25 years ago, Dunn and Lantolf (1998) attempted to redress the incommensurability of Vygotsky's ZPD concept and Krashen's (1982) notion of $i + 1$. This was in the context of the so-called "social turn" (Block, 2003) in L2 research, which generated a number of debates in a field that was at the time dominated by cognitivist perspectives. The rise in SCT-driven research–especially starting in the mid-1990s–resulted in some L2 researchers trying to find parallels between a number of Vygotsky's concepts and more established psycholinguistically oriented SLA theories, including equating the ZPD with the more familiar $i + 1$ construct based on superficial similarities (i.e., what comes next in acquisition order). Drawing on Kuhn's (1962, 1982; Hacking, 1983) work in the philosophy of science, Dunn and Lantolf argued that there was a problem of meaning-incommensurability: "the impossibility of translating from the language of one scientific theory or conceptual framework into the language of another, rival theory or framework" (Pearce, 1987, p. 3). At issue were the incompatible ontological underpinnings of Vygotsky's and Krashen's theories within which the ZPD and $i + 1$ were proposed respectively (see also Kinginger, 2001). Namely, while Vygotsky's theory is rooted in a cultural-historical framework for understanding the development of modes of thinking (see above), Krashen espoused an innatist framework in which a universal and biologically endowed built-in syllabus determined the order of the acquisition of linguistic forms that were separated from conscious thinking processes.[5] Thus, while at first blush the issue of "what comes next"[6] appears similar in both the ZPD and $i + 1$ ideas, they are not translatable because the concepts ultimately derive from incompatible theories of the human mind and the relationship between thought and language which, in turn are informed by ontologically incommensurable worldviews.

It is not our intention to rehash the ZPD/$i + 1$ debate from over two decades ago; to our minds, it is settled, although we can attest to some lingering confusion in informal conversations with colleagues and students from time to time. We simply bring up this example to illustrate the way in which we conceived of the aim of this special issue and how we operationalized commensurability; namely, as an issue of translatability across theories based on an understanding of the ontological and

epistemological assumptions of two or more theories. In our call for papers, we outlined six axes along which contributors were challenged to consider the issue of (in)commensurability:

1. How does the theory define language?

2. How does the theory define language learning?

3. What is its unique methodology and what counts as evidence of language learning?

4. How does it relate to language teaching?

5. How does the theory stand vis-à-vis sociocultural theory in terms of its ontological and epistemological axioms?

6. How the associated axioms of each theoretical framework could be integrated or complemented with those of sociocultural theory to form a coherent and pluralistic (meta)theory of SLA (if at all)?

We address each of these axes and their relationship to the theme of the special issue in turn. One of the most important issues for SCT in dialogue with other theories is the way in which language is theorized and empirically operationalized. Indeed, as Thorne and Lantolf (2005) and Lantolf and Thorne (2006) propose in their linguistics of communicative activity (LCA) framework, SCT has no home-grown theory of language and we must, therefore, borrow from and integrate theories of language and communication that are commensurable with Vygotsky's understanding of the relationship between thinking and speaking (or language *use* more generally). Vygotsky's (1986) notion of semiotic mediation (Wertsch, 1985) is central to this. Briefly put, language–or more accurately, the *use* of language in the form of a word or utterance–is a matter of meaning making, as speakers draw on a rich repertoire of culturally-historically developed communicative resources to make meaning and accomplish intrapersonal and interpersonal actions. In so doing, speakers call upon a set of habituated word/utterance-*meaning* connections –what Vygotsky referred to as *znachenie* in Russian–that are deemed appropriate for creating a contextually sensitive *sense*–or *smysl* in Russian–in concrete communicative activity. This view of language–and the LCA framework more generally–therefore rejects linguistic theories that focus on the structure of language divorced from its meaningful use in context since the assumption that language can be studied in isolation from the people that use it and the meanings they make is incommensurable with Vygotsky's theory. Thus, as Thorne and Lantolf (2005) and Lantolf and Thorne (2006) explain, the LCA draws primarily on cognitive linguistics (CL), usage-based linguistics (UBL), and discourse analysis because these approaches privilege meaning-making and social action as these activities are mediated by communicative activity.

The articles in this special issue engage with the LCA in a number of ways. In particular, we highlight the articles by White and Masuda and Kissling who engage with cognitive linguistics in the domain of L2 pedagogy and Ballesteros Soria and van Compernolle who report on work that integrates the principles of

conversation analysis (CA) with SCT for developing L2 interactional repertoires. White and Masuda's work synthesizes recent SCT-CL studies, finding that while SCT and CL are commensurable in terms of their orientations to language and cognition, there are some tensions when it comes to L2 pedagogy and research methods. For her part, Kissling applies CL in the context of CBLI and demonstrates that the CL concept of viewpoint (i.e., constructing bounded vs. unbounded meanings) helps to promote learners' development of control over the Spanish aspectual system. Ballesteros Soria and van Compernolle's extension of CA concepts to L2 pedagogy focuses on the ways in which language resources are deployed in order to carry out social action (e.g., turn taking, topic management). Thus, while CL and CA differ in their focus (i.e., cognition and semantics vs. action sequencing), both approaches fit with the LCA framework inasmuch as they eschew formal structural grammars in favor of a view of language that prioritizes how language mediates intra- and inter-personal meaning-making.

Related to the theorization and operationalization of language is defining what counts as language learning. While the lion's share of L2 research in general has primarily focused on L2 form accuracy, SCT expands the evidential basis for documenting L2 development since it is a theory of the development of human consciousness. As noted earlier, our interest in L2 development is grounded in the idea that it involves the development of new *modes of thinking*, not just the acquisition of a new linguistic system that can communicate one's current mode of thinking. Consequently, L2 SCT researchers are interested in learners' (meta)linguistic awareness, (meta)cognition, and ability to self-regulate. This is why we see analyses of concept formation (Kissling; White & Masuda) and pre-task planning data (Ballesteros Soria & van Compernolle) that provide evidence of learners' thinking processes in relation to L2 communication, as well as in curriculum development proposals that involve CBLI and dynamic assessment (Grazzi; Rosborough & Wimmer).

A common thread running throughout the articles in the special issue is the problem of methodological uniqueness and, by extension, the (in)commensurability of ontological and epistemological axioms. In his reflection article, Lantolf (this issue) cites McManus's (2024) synthesis of multiple SLA theories and writes: "different approaches establish different facts using different research methods and the different facts somehow need to be blended." Here, we would like to highlight two of the special issue articles in particular. Amory and Becker take on a comparative analysis of SCT and complex dynamic systems theory (CDST) with specific focus on the issue of motivation. As they point out, while the two theories appear to have some affinities, ultimately they are incommensurable because they establish different facts regarding motive (SCT) and motivation (CDST) using different units of analysis (i.e., an activity system vs. a complex system) rooted in incompatible understandings of their objects of study–motivation in itself (CDST) versus motive as unit of human consciousness (SCT). For their part, Siekman and Webster propose a diffractive methodology for reading theories in the context of Indigenous language teaching for maintenance and revitalization. The model centers the reading of one theory through another as opposed to pitting one against the other, which in our view has the potential to mediate the kinds of inter-theory

dialogues and establish meaning commensurability across theories. In the next section, we discuss some of the most important implications of scrutinizing the hidden onto-epistemological underpinnings and philosophical categories of SLA theories.

Concluding Remarks

It may not go against the grain of SLA to contend that (logical) positivism and its philosophical and methodological progenies such as (neo-)positivism have held sway throughout much of the short history of SLA. Yet delving into (logical) positivism and providing a canvassed account of it with a view to SLA is not our immediate concern in this article (for a locus classicus in logical positivism, see Ayer, 1936; for SLA-related discussions see Jordan, 2004). Nonetheless, we maintain that adopting a logical positivist perspective on SLA which espouses a cumulative and progressive view of scientific change with its categorical emphasis on objectivism and empirical generalizations - discovered and generated inductively from pristine and value-free observations- does not fully capture the nature of day-to-day research activities that we as the scientific community of SLA researchers do. Nor does it properly characterize the nature of the holistic picture of SLA as a scientific discipline and how its theoretical pattern has changed historically. In addition, logical positivism's uncompromising reliance on sense data/observation and logical reasoning with the overriding aim of verification without due attention to the influence of hidden presuppositions and philosophical categories of SLA theories on various aspects of research inquiries seems untenable to us.

With regard to viewing SLA and its scientific change over time as well as its prevalent research practices through the logical positivism lens, we propose, at least three issues are at stake. First, in line with the logical positivism doctrine, the objectivity of empirical data that we collect in SLA inquiries basically means that observational language describes pure immediate experiences and accordingly is independent of and unaffected by any background ideas and meta-theoretical assumptions which transcend the realm of empirical world. Second, endorsing objectivity of 'sense data' means that SLA theories are genuinely testable and indeed can be verified (or falsified) by assumption-free observations and neutral empirical data. Third, objectivity of the scientific discipline of SLA, if one subscribes to the logical positivism doctrine, practically denotes that our collective decision to reject an SLA theory and accept another rival SLA theory is essentially governed by rational and objective criteria (for relevant discussions about logical positivism see Bergman, 1967; McMullin, 1982)[7].

Against the background of these points lurking in the SLA literature, we in this article engage in a process of self-inquiry concerning the philosophical underpinnings and axiological assumptions of SLA theories. In order to shed light on the theoretical terrain of SLA, we contend, a global unit of analysis such as the key term of paradigm in the Kuhnian sense is needed. Hence, we look at the scientific development of SLA which is hampered by disagreements over its associated set of orienting assumptions and its conceptually precarious status quo by

adopting a Kuhnian perspective. We argue that each SLA theory is consistent with and indeed is grounded on an interconnected web of conceptual spectacles and philosophical assumptions of a given worldview. This means, among others, that our empirical scrutinies and research activities are fashioned by a broad yet single set of background assumptions and philosophical concepts whose operation is seldomly noticed. And in line with the second generation philosophers of science, we maintain that data which we collect in our SLA research is by its very nature theory-laden, and neutral (i.e., purely objective and interpretation-free) observational language is a pseudoscientific creed. This observation might partly account for indiscriminate accumulation of empirical data in SLA which have yielded theory-dependent 'facts' about L2 development rather than uniformly observable facts which are ascertained under a specifiable and certain set of contextual conditions (see also Han, 2023).

Apropos to the discussion above, worldviews due to their unique conceptualization of reality, criteria for truth, and not least their definition of the nature of scientific knowledge may not be necessarily reconcilable with one another. This point has some resemblances with one of Kuhn's main theses in his seminal book SSR where he argues for incommensurability of rival scientific theories which are consistent with and function within a specific paradigm during normal science and revolutionary science periods. Therefore, we argue that for establishing inter-theory dialogues between SCT and other theories and for generating a more adequate, systematic and consistent understanding of L2 development, we must be cognizant of the fact that those theories need to be compatible with one another at the worldview level. Accordingly, the respective background philosophical concepts and assumptions of those theories need to comport with one another. Otherwise, the coherence of conceptual schemas will be ruptured and lead inexorably to a tangled skein of puzzlement at various stages and strategies of our empirical research. Conceptual confusions about the exact meaning of core concepts and key terms which are invoked to understand empirical observations and evidence about L2 development is also another detriment of failing to appreciate the issue of (in)commensurability. Moreover, incommensurability of competing SLA theories whose underlying philosophical assumptions are at variance with one another pushes to the fore the issue of losing scientific 'facts' and rupturing their accumulation over time and, equally important, divulges the impossibility of integrating the conceptual cores of rival SLA theories and collating and synthesizing their respective theory-generated findings.

Admittedly, an SLA theory in essence is a matrix of interconnected concepts that endeavors to understand and explain processes and mechanisms of changes in an L2 developmental system. Additionally, an SLA theory ultimately purports to generate a systematic and scientific body of knowledge substantiated by 'interpretation-free' empirical data whereas it is influenced simultaneously by taken-for-granted philosophical categories and orienting assumptions which are part and parcel of any given weltanschauung (i.e., worldview). A conceptual schema or worldview has a wide and unlimited scope and indeed enjoys a high level of abstraction; yet, its determining and pervasive influence on SLA researchers' thinking and their scientific investigation is ineluctable and discernible. The

integrated set of presuppositions and philosophical assumptions of any given worldview and by the same token any SLA theory which is consistent with it tends to exert decisive influence on and, indeed, would warrant a particular epistemology, a particular methodology, a particular way of data collection and analysis, a particular understanding of L2 developmental process, a particular definition of linguistic change, a particular scientific practice, and finally a particular understanding of SLA as a scientific discipline.

Hence, there is or better should be correspondence and compatibility, in principle, between the orienting assumptions of a worldview and all procedures of conducting a scientific inquiry using a given SLA theory which is framed according to that specific worldview. Consequently, when we shift from one worldview to another one or presumably from one SLA theory to a rival one, for example, the connotative meaning of empirical data and nature of the methodological perspectives and more importantly the essential significance of basic conceptual terms and essential notions become different and need to be revised if they are in conflict with the new worldview and its associated assumptions. This may result in losing some of the empirical findings or solved empirical problems associated with a given SLA theory with its particular guiding presuppositions simply because empirical knowledge and evidence gain their meaning and scientific value within the context of hierarchically organized levels of a specific SLA theory as a whole topped with a weltanschauung capstone. And any change in the meaning and scientific significance of terminological axioms and conceptual system of an SLA theory prompted by a change in the associated weltanschauung necessarily entails a fundamental shift in the meaning and interpretation of its putative observations and facts too.

Another point that we discuss about SLA theories is that strictly speaking an SLA theory is neither falsifiable nor verifiable simply because, as Kuhn (1962/1970a) reminds us, worldviews within which theories operate are not prone to empirical investigation and adjudication as such.[8] Therefore, when empirical data in our SLA-related inquiries are in conflict with a given theory, those discrepant data and anomalies may be put aside and the core axioms of that theory remain intact. In other words, non-correspondence of data and a specific SLA theory does not necessarily provide a compelling scientific argument for falsifying that theory nor is it replaced easily with an alternative theory which purportedly explains those anomalies more adequately or solves unsolved empirical problems of L2 development. The core constellation of axioms and philosophical categories of an SLA theory, following Kuhn's argument, are immune from empirical falsification. Hence, they remain unchanged until the entire set of orienting assumptions is dislodged en bloc because of a scientific revolution (which is yet to happen in SLA as such) or due to abandoning of an SLA theory by the SLA scientific community for concerns other than empirical refutation of its central presuppositions or even persistent empirical anomalies which are not resolved by the extant theoretical framework. Thereupon, we venture to conclude that the choice between competing SLA theories historically has not been, and still is not, necessarily based on the empirical refutation of the 'old' one by virtue of objective criteria such as internal

consistency, empirical accuracy, degree of corroboration, potentiality to solve unsolved problems, making accurate predictions, explanatory power, and so on (Karimi-Aghdam, 2024). Hence, theory choice in SLA does not seem to be rational as such[9].

Sanctioning a pluralistic approach to the field of SLA, we endeavor in this special issue to show a new path for developing a unifying approach to L2 development which aims to objectively describe, validly explain, accurately predict or retrodict, and pedagogically optimize the processual trajectory of learning an additional language over time by an agentive adult learner. Specifically, the goal of the special issue is to encourage SCT researchers to engage in broader discussions of inter-theory (in)commensurability in the context of SLA research with the overriding aim of systematizing a body of empirical and theoretical knowledge which are garnered by wedding the conceptual and theoretical skeleton of SCT with ontologically compatible approaches and theories. The seven articles included in the issue, as well as Lantolf's reflection piece, offer a number of avenues for pursuing theoretical and empirical research and engaging in L2 praxis. And establishing structuring guidelines for developing an overarching meta-theoretical frame of reference for SLA that has the potential to move our field beyond its pre-paradigm or immature status (Lantolf, this issue) and gradually turn it into a mature stage is another contribution that this special issue purports to make. Furthermore, it is our hope that the discussions and analyses presented in the issue will inspire future research to engage serious debates about the ontological, epistemological, and praxiological underpinnings of our work. Equally important, we hope that this special issue elucidates, to some extent at least, epistemic factors which are at play regarding inter-theory dialogue, development, appraisal, and rejection/acceptance of SLA theories not only for those working within the SCT scientific community but also for others in the broader field of SLA.

Acknowledgments

subscribe to everything that we have discussed here and all errors and oversights remain with us. As guest editors, we trust that *JALDA* readers will find this special issue to be useful for SCT-informed second language research and praxis but also for extending the debate on inter-theory dialogue and weltanschauung-centered perspective to other SLA theories, and by and large for examining direct bearing of meta-theoretical points of view on theory construction, theory choice, theory appraisal, as well as empirical investigations in the field of SLA.

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Notes

[1] Following Ellis (2021), we use 'second language acquisition' (SLA) to refer to the scientific field of inquiry and following Lantolf (this issue) use 'second language development' (L2 development) to refer to the process which is the object of scientific inquiry.

[2] Citing Masterman (1970) who had drawn up 'a partial analytic index' of the term 'paradigm' used in Kuhn's book SSR, Kuhn (1970a, p. 181, emphasis added) asserts that the term 'paradigm' is used in 'at least *twenty-two* different ways' whereas Masterman (1970) herself contends that "On my counting, he [Thomas Kuhn] uses 'paradigm' in not less than *twenty-one* different senses in his [1962], possibly more, not less" (p. 61; emphasis added). Kuhn (1977, p. 294) repeats the same number of

usages of the term 'paradigm' in the aforesaid book ('twenty-two different usages') when he refers to Masterman's (1970) critical piece.

[3] The concept of 'incommensurability' was used by both Thomas Kuhn and Paul Feyerabend in the early 1960s independently of one another. The construal of the term is treated differently by Kuhn (1962) and Feyerabend (1962). In this article we do not intend to discuss Feyerabend's reading of incommensurability nor do we purport to compare these two scholars' viewpoints about the term. Those interested in further exploring this topic may refer to Hoyningen-Huene (2004).

[4] "Scientific realism says that the entities, states and processes described by correct theories really do exist …Theories about the structure of molecules that carry genetic codes are either true or false, and a genuinely correct theory would be a true one." (Hacking, 1983, p. 21).

[5] The real discordance between ZPD and i+1, and conceivably between Krashen's Monitor Model and Vygotsky's SCT, is between primacy of individual vis-a-vis primacy of the collective/social. In psychology it is a common assumption that the collective is comprised of individuals (i.e., individual is fundamental, and the social/collective is derivative) whereas in SCT the assumption is that the individual emerges from the collective (the social/collective is fundamental, and individual is derivative) (J. P. Lantolf, personal communication, May 13, 2024).

[6] What 'comes next' for Krashen is based on a linear unfolding of the internal syllabus of a passive L2 learner whereas 'what comes next' for Vygotsky is dynamically co-constructed by an agentive L2 learner based on empirical evidence obtained from dialogue in the ZPD as the mechanism of development (J. P. Lantolf, personal communication, May 13, 2024).

[7] As our discussion here patently shows, our perspective on science, nature of data, scientific change, theory choice, scientific methodology, and appraisal of competing theories when it comes to SLA and L2 development does not fully accord with the perspective of those SLA researchers (e.g., Beretta, 1991; Long, 1993; Gregg, 2003; Gregg, Long, Jordan, & Beretta, 1997) who invoke various resonances of (logical) positivism or its philosophical and methodological descendants in approaching SLA matters.

[8] Concurring with Kuhn's viewpoint, we maintain that an SLA theory as a whole (not experimental hypotheses derived from it) is non-falsifiable, or at least it is extremely difficult to categorically falsify an SLA theory. This does not necessarily mean that we subscribe to a relativist view of science, nor does it mean that we gloss over the demarcation criteria that distinguish science from pseudoscience. We hold that attempting to falsify experimental and scientific hypotheses should be a primary goal for SLA inquiries.

[9] It needs to be acknowledged that the issue of 'scientific rationality' vis-à-vis 'scientific relativism' in the 1990s was, and with reduced momentum still is, the subject of extensive debate in SLA (e.g., Block, 1996; Beretta, 1991; Ellis, 2010; Gregg, Long, Jordan, & Beretta, 1997; Hulstijn, 2014; Jordan, 2004; Lantolf, 1996; Long, 1990, 1993, 2007; van Lier, 1994). This is not the place to provide a detailed exposition of this issue. Our viewpoint, nevertheless, is that one does not need to subscribe wholesale to either of these dichotomized perspectives on SLA.

Authors' Biographies

Saeed Karimi-Aghdam (PhD, University of Jyväskylä) is Associate Professor of English Language and Didactics at the Faculty of Education and Arts, Levanger Campus, Nord University. He is a member of the editorial boards of *Language and Sociocultural Theory* and the *Journal of Applied Linguistics and Applied Literature: Dynamics and Advances*. His main research interests include Vygotskian cultural-historical psychology, second language acquisition, TESOL, and dynamic systems theory, and his work has appeared in journals such as *Human Development*, *Applied Linguistics*, *Language and Sociocultural Theory*, *Integrative Psychological and Behavioral Science*, and *Nordic Journal of English Studies*.
E-mail: saeed.karimi.aghdam@nord.no

Rémi A. van Compernolle (PhD, The Pennsylvania State University) is Associate Professor of Applied Linguistics and Second Language Acquisition and the Associate Head of the Department of Languages, Cultures and Applied Linguistics at Carnegie Mellon University. His research is grounded in Vygotskian cultural-historical psychology and focuses on second language development, with an emphasis on interaction, sociolinguistics, and pragmatics in language teaching and assessment. E-mail: vancomp@cmu.edu

L2 Motivation as Seen Through the Lenses of Sociocultural Theory and Complexity/Dynamic Systems Theory: Are They Commensurable?

Michael D. Amory[1,*] and Mariana Lima Becker[2]

[1]Corresponding Author: Assistant Professor in TESOL / Applied Linguistics, Department of English, Oklahoma State University, Stillwater, USA
ORCID: 0000-0002-3010-2791
Email: michael.amory@okstate.edu

[2] Assistant Professor at the Department of Educational Theory and Practice, University of Georgia, Georgia, USA
Email: beckermr@bc.edu

Abstract

Research on motivation in second language (L2) learning has progressed tremendously over the last several decades. Within the recent trend to investigate the socially situated context of motivation and the role of social processes in shaping individual L2 motivation, Sociocultural Theory (SCT) and Complexity / Dynamic Systems Theory (CDST) stand out in their contributions. Although researchers have attempted to combine SCT and CDST, there is an ongoing debate in the field of Applied Linguistics regarding the general compatibility of these two traditions. This article consists of a critical literature and theoretical review concerning how SCT, focusing on Activity Theory (AT), and CDST, focusing on the L2 Motivational Self System, address L2 motivation. We argue that SCT and CDST appear to be compatible superficially, since both portray L2 motivation as dynamic, complex, and arising through interactions between individuals and their environments. However, through a more in-depth examination, fundamental differences emerge not only in the context of L2 motivation, but also in the guiding theoretical principles of each research tradition. Ultimately, and arguing from an SCT perspective, we offer a critique of CDST and posit that these theories are not commensurable in their view of L2 motivation or in general.

Keywords: sociocultural theory, complexity/dynamic systems theory, activity theory, motivation

Introduction

For more than five decades, motivation has been of research interest within the field of Second Language Acquisition (SLA), with a much longer history in mainstream and educational psychology. With this long history and interest, "no single individual difference factor in language learning has received as much attention as motivation" (R. Ellis, 2008, p. 677). Research on motivation in language learning has progressed tremendously over the past two decades, transcending the dominant socio-psychological paradigm and its positivistic, psychometric approach toward more robust theoretical perspectives that consider the cognitive and contextual aspects of motivation. Evolving in conjunction with developments in mainstream motivational psychology, Dörnyei and Ushioda (2021) identified these phases of second language (L2) motivation research: the social-psychological period (1959–1990), characterized by the work of Robert Gardner and his colleagues (see Gardner & Lambert, 1972); the cognitive-situated period (during the 1990s), based on cognitive theories in educational psychology (see Crookes & Schmidt, 1991; Dörnyei, 1994) (also known as the educational shift); the process-oriented period, occurring at the turn of the century, characterized by a focus on motivational change and the temporal dimension of motivation (see Dörnyei & Ottó, 1998); and the socio-dynamic period (current), characterized by a concern with complex dynamic systems and contextual interactions.

Although research efforts were proposed to address the shortcomings of Gardner's (1985) model, the paradigm for understanding L2 motivation remained fundamentally the same: based on individualistic, positivistic, cross-sectional, and psychometric perspectives. Rueda and Moll (1994) offered a critique by claiming that many existing motivation studies were "limited in that they conceptualize motivation as an individual 'in-the-head' phenomenon, with little or no attention paid to the sociocultural context and the interpersonal processes within which individual activity occurs" (p. 117). Valsiner and van der Veer (2000) argued that prior work considered L2 motivation as the sum of subcomponents such as instrumentality, attitudes, and integrative motives. In addition, as some scholars have suggested (e.g., Goldberg & Noels, 2006; Kim, 2005, 2016), downward reductionism and a positivistic bias is still prevalent in L2 motivation research as motivation is viewed predominantly as a general psychological construct (Al-Hoorie, Hiver, Kim, & De Costa, 2021).

With L2 motivation often characterized as a stable characteristic, there is growing interest in the contextual aspects of motivation and in the significant role of social processes in shaping individual motivation. As such, scholars have explored two promising alternative[1] perspectives (see Atkinson, 2011) to help capture the complexity of L2 motivation: Sociocultural Theory (SCT), particularly drawing upon Activity Theory (AT) and more recently with the concept of *perezhivanie*, and Complexity / Dynamic Systems Theory (CDST), particularly drawing upon Dörnyei's (2009) L2 Motivational Self System. From each perspective, L2 learning motivation is not seen as a static final product but rather as a dynamic, unpredictable, changing, and unique process. Researchers within each tradition argue that their respective theoretical orientation has ecological validity and the

potential to remedy the division in L2 motivation research between downward and / or upward reductionism.

In exploring the question of "what [and in what way – D.L.] moves people to act, think and develop" (Deci & Ryan, 2008, p. 14, as cited in D. A. Leontiev, 2012b, p. 65), this critical literature and theoretical review explores two perspectives, SCT and CDST, in their treatment of L2 motivation. Although some work has been done to explore the theoretical compatibility between SCT and CDST in general (e.g., Karimi-Aghdam, 2016, 2019; McCafferty, 2016), little attention has been paid to L2 motivation within the ongoing debate, with notable exceptions (e.g., Al-Hoorie, Hiver, Kim, & De Costa, 2021; Kim, 2009, 2016; Kimura, 2014, 2023). In this article, we address the following questions:

1. How does each perspective construe (L2) motivation? In regard to L2 motivation, what are the similarities and differences between these perspectives?

2. Are SCT and CDST commensurable in their treatment of L2 motivation?

Methods

Critical Literature and Theoretical Review

The purpose of this article is to explore and compare how L2 motivation is understood and interpreted from an SCT and CDST perspective. This article discusses existing research on the construct of (L2) motivation and aims at contributing towards the ongoing conversation regarding the commensurability of SCT and CDST. To accomplish this, we conducted a critical literature and theoretical review following Cooper's (2015) systematic review protocol for synthesizing research in the social sciences. This protocol consists of seven steps: 1.) formulating the problem; 2.) searching the literature; 3.) gathering information from studies; 4.) evaluating the quality of studies; 5.) analyzing and integrating the outcomes of studies; 6.) interpreting the evidence; and 7.) presenting the results.

After formulating the problem (i.e., how L2 motivation is understood and interpreted in SCT and CDST), we used combinations of nine search terms to locate publications related to the research questions (*Motivation, Sociocultural Theory, Cultural-Historical Psychology, Activity Theory, (Complexity) / Dynamic Systems Theory, L2 Motivational Self System, Second Language Acquisition, Second Language Learning, and Second Language Teaching*) in three online databases: Academic Search Premier, ERIC, and Google Scholar. We decided to search the literature available on these databases, as opposed to those published in specific journals, to be inclusive of research studies that have been disseminated in different contexts, genres, and venues. These results were then narrowed using the following inclusion and exclusion criteria: 1.) published in peer-reviewed journal articles, books, edited volumes, or dissertations; 2.) focused on L2 learners and learning; and 3.) published around the turn of the century (i.e., 2000). Following, we further excluded studies that drew on the construct motivation, but did not use an SCT or CDST lens to examine the data, and studies that focused on motivation but did not

focus on the L2 learner (e.g., language teachers; see for example Hiver, Kim, & Kim, 2018). This search yielded 55 results which span the years 1998 - 2023 and are drawn from a variety of outlets, research methods, and contexts, both within and outside of the United States. In the reference list generated at the end of this article, references marked with an asterisk (*) indicate those examined in this review.

Once these studies were selected, we began to both gather information from the studies and engaged in qualitative content analysis (cf. Mayring, 2000). Hsieh and Shannon (2005) define qualitative content analysis as "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (p. 1278). Qualitative content analysis was chosen because of its use of inductive category development and deductive category application in light of our research questions (Cho & Lee, 2014; Mayring, 2000). Additionally, it allowed for flexibility as we critically reviewed conceptual and theoretical arguments made to both showcase and compare each perspective's treatment of L2 motivation and also to generate claims about the commensurability of each perspective's treatment of L2 motivation. This study generated several different themes (to be discussed below): philosophical foundations; unit of analysis; role of history, role of context and culture; and view of agency.

The following sections present our report of the main findings from our analysis and our interpretation of the evidence. We begin this critical literature and theoretical review by discussing how L2 motivation is viewed from the perspective of SCT and focus primarily on the contributions of AT. While recent scholarship within SCT has discussed *perezhivanie* as a concept and theoretical unit of analysis (e.g., Lantolf & Swain, 2019; Veresov, 2017), which we will introduce briefly in this article, we have selected to focus primarily on AT. This focus stems from the fact that earlier studies addressing the construct of L2 motivation from an SCT perspective (e.g., Kim, 2005a, 2011; Lantolf & Genung, 2002) have done so through the lens of AT. In addition, there have been attempts to directly compare and / or relate the theoretical compatibility of SCT and AT to CDST in terms of L2 motivation (Kim, 2009, 2016; Kimura, 2014). Next, we offer an overview of key principles from CDST and its contributions to the study of L2 motivation. Here, we refer to contextual CDST as opposed to dialectical CDST (for a distinction, see Karimi-Aghdam, 2016). Following, we compare these two perspectives in order to determine whether or not their treatment of L2 motivation may be seen as commensurable. Ultimately, and from an SCT perspective, we offer a critique of contextual CDST and argue that these theories are not commensurable in their view of L2 motivation or in general.

Author Positionality

It is important in writing this conceptual and theoretical piece that we make transparent how we relate to and engage with the research topic. Through this writing, it is made evident how we position SCT and CDST with each other in light of our own respective histories and scholarly identities.

Author 1

Author 1's research interests are grounded in Vygotskian SCT and centered around language teacher cognition and identity, second language teacher education (SLTE) pedagogy and practice, language teacher professional development, and SLA. SCT is the lens through which he sees the world, conducts his research, and frames his thinking and activity as a teacher educator and scholar. Working with teachers and teacher educators, he is interested in understanding how each perspective brings about new insights to the activity of teaching-and-learning.

Author 2

Author 2's research is situated at the intersection of bilingual education, im/migration, and language and literacy development from a sociocultural perspective. As a former English as a foreign language teacher, Author 2's training as a language educator and prior research engagement in the field of Applied Linguistics was grounded in SCT. Working closely with K-12 educators through ethnographic research in bilingual education programs in the U.S., she is interested in understanding how issues of theoretical (in)commensurability among prominent research traditions in the field of language education affect everyday classroom instruction.

Critical Literature and Theoretical Review

Key Tenets of Activity Theory

Vygotskian Cultural-Historical Psychology (CHP; Vygotsky, 1978), often called Sociocultural Theory (SCT; Lantolf & Thorne, 2006) in L2 research, is a theory of mind "that recognizes the central role that social relationships and culturally constructed artifacts play in organizing uniquely human forms of thinking" (Lantolf, 2004, pp. 30-31). Vygotsky (1978) argued that "human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them" (p. 88). This signifies that how people learn and develop, and the kinds of knowledge they develop, are intricately connected to the goal-directed social activities and contexts in which the experience occurs. The unit of analysis for the study of development is not simply the individual acting alone but rather the "the interpersonal functional system formed by people and cultural artifacts jointly to bring about development" (Poehner & Lantolf, 2005, p. 238).

Within SCT, Lantolf and Genung (2002) and Kim (2005a, 2005b, 2009) have pointed to the usefulness of incorporating the descriptive and analytic framework of Activity Theory (AT) specifically to the study of L2 learning and motivation (see also Coughlan & Duff, 1994; Lantolf & Pavlenko, 2001). AT presents an alternative to reductionist and positivistic paradigms to L2 motivation by providing a more integrated and comprehensive framework (Kim, 2005a). While some work has been done to apply AT to these endeavors, the motivational dimension of SCT remains relatively under-scrutinized with regard to L2 learning (Kim, 2005a, 2005b). This, however, is not the case with regard to SCT in general and to the psychology of motivation. For this reason, this section will first review

motivation more broadly within SCT and AT, and then zoom in on the few existing empirically-based L2 studies which centralize motivation and L2 learning. Following, we briefly address the concept of *perezhivanie* as it is understood and applied to L2 learning more recently.

The origins of AT, an extension of SCT, are found in Vygotsky's central tenet that human consciousness is mediated through culturally-constructed mediational means which themselves have been developed culturally and historically[2]. There have been three major iterations of AT[3] (see Engeström, 2001; Lantolf & Thorne, 2006), and we focus in this article on the third generation (Engeström, 1987, 1999), commonly referred to as Cultural-Historical Activity Theory (CHAT). The first two iterations of AT were presented as triadic models in which the subject (an agent carrying out the activity) pursued an object (goal) through the meditation of artifacts (tools). Building on the work of A. N. Leont'ev (1978), the third generation of AT emphasizes that human activity is directed toward objects, and that actions towards those objects are mediated by the elements of the activity system, namely, the community, its cultural norms and values (rules), physical and symbolic mediating artifacts, and the expected division of labor within the system. Human activity, then, "arises from concrete, historically formed motives and is always goal-directed and, most importantly, dynamic" (Lantolf & Genung, 2002, p. 191). With these relations brought to the surface, how an individual (i.e., subject) enacts agency within a larger social structure is foregrounded, as well as on how the "internal contradictions within activity systems might act as generators of change" (V. Ellis, Edwards, & Smagorinsky, 2010, p. 3).

From this perspective, motivation is not located solely within an individual but is constructed and constrained by the context and emerges and evolves as individuals participate in goal-directed activity. As D. A. Leontiev (2012a) noted, "a person's interaction with the world mediated by culturally transmitted tools, rather than inborn potentialities or environmental pressures, is considered the source of mental and personality development, the source of human motivation." (p. 15). Individuals are socioculturally embedded actors (not processors or system components). Or, as Daniels (2001) put it, "the individual and the cultural should be conceived of as mutually formative elements of a single, interacting system" (p. 84).

For D. A. Leontiev (2012b), human motivation "refers to the field covering all the psychological structures and processes that make human activity happen" (p. 66). Within AT, D. A. Leontiev (2012b) centered personal meaning[4] as energizing and explaining the dynamic qualities of motivational processes. Here, personal meaning, or sense, (i.e., *smysl*) is seen as distinct from cultural meaning (i.e., *znachenie*). According to Vygotsky (1987), cultural meaning (*znachenie*) is the meaning for which there is consensus across individuals within a cultural group (i.e., dictionary definition). Words and concepts, however, accrue personal, idiosyncratic meaning according to an individual's experiences (*smysl*). D. A. Leontiev (2012b) distinguished these concepts based on two features: 1) *context dependence*, defined as how "something has meaning for a person only within some meaningful context" (D. A. Leontiev, 2012, p. 67) and changing the context would then change the meaning of the same action, image or utterance; and 2) *intentional or transcendent*

quality, defined as how "personal meaning unifies the person to the world, and the world to the person's subjective experience; personal meaning implies the potential for activity and is thus regulating this activity" (D. A. Leontiev, 2012b, p. 67).

In AT, the unit of analysis is the activity itself (see Lantolf & Thorne, 2006). Activities are composed of goal-directed actions that are undertaken to fulfill the object. Most human activity has multiple motives, with a motive being defined as "an internal characteristic of the structure of an activity" (Markova, 1990, p. 23). This motive changes and is transformed as the activity is developed. When a need meets an object, a motive arises and the motive is what puts energy into the system to impel the person to act. However, the level of commitment to fulfilling a motive can vary, and this is where motivation comes into play as motives are impacted by the level of motivation. According to Markova (1990), motivation is "the realization of motives" (p. 28). A motive has three main functions: it is driving, directing, and sense-forming (D. A. Leontiev, 2012b). The latter underlies any motive and without the sense-forming function, it is impossible to preserve the driving and directing functions of a motive. An individual can maintain movement toward a motive by shifting a goal. In addition, it depends on how much sense it makes for an individual to do something, and this affects whether or not the driving and directing functions are sustained. Therefore, A. N. Leont'ev's (1978) AT "is a meaningful relationship rooted in the being-in-the-world that connects a person with a situation" (D. A. Leontiev, 2012b, p. 71).

An SCT Perspective to L2 Motivation Research

AT has been applied to L2 learning and to L2 motivation in a variety of settings, including study abroad (Allen, 2010), high school (Song & Kim, 2017), and university contexts (Li, 2021). One of the earliest studies is Lantolf and Genung (2002). This study investigates the activity system of a graduate student enrolled in a summer intensive Chinese as foreign language course in order to fulfill her language requirement for her doctoral degree. The focal participant, PG, was a colonel in the U.S. Army, a fluent speaker of German with extensive experience in several languages, had lived in Germany for several years, and was conducting her doctoral research on the acquisition of German as an L2. The student, because of her negative reactions to the organizational structure of the Chinese language classroom, was not motivated to learn Chinese for communicative purposes (her original motive), but rather to fulfill the language requirement for her doctoral degree. The pedagogical approach adopted in this particular Chinese language classroom (an audio-lingual method) and the teaching techniques incorporated by the L2 teacher did not correspond to PG's ideal of language learning. Because of this, PG's motive for participation was reformulated toward that of simply passing the course. From an AT perspective, motives emerge in the process of activity and are shaped by sociocultural contexts with a "necessary, dialectic, link between individuals and social structures" (Lantolf & Genung, 2002, p. 176).

In another representative study, for Kim (2006), motivation for L2 learning results from the alignment of a motive and goal with a sense of participation (see Lave & Wenger, 1991) in a community of practice. This participation relates not

only to physical involvement in the learning situation (as participation may only be peripheral), but also to imaginary involvement. Kim (2006) conducted a 10-month longitudinal emergent case study of five Korean Adult English as a second language (ESL) students living, working, and studying English in Canada and their changing motivations over time with regard to L2 learning. Here, Kim defines L2 motivation "as an L2 learner's realization of personal significance of an L2-related activity, resulting from the L2 learner's sense of participation in L2 activity systems" (p. 55). The author found that the integration resulted in sensitization points, defined as "the moment when an L2 learner recognizes the gap between his or her current L2 proficiency and the desirable L2 proficiency to be attained" (p. 65). Kim's research demonstrated that L2 learners' sensitization resulted in the creation, maintenance, and / or termination of L2 learning motivation, and the sensitization reflects the dialectical and mediational process between the learner and their personal histories and the context (real or imaginary).

Kim (2011; see also Kim, 2013; Kim & Kim, 2013) also demonstrates that it is not necessarily "demotivating factors" or the context per se, but rather, the L2 learners' perception of these factors that influences the L2 learning process. Kim (2011) examined the longitudinal trajectories of two highly-skilled Korean ESL immigrants' L2 learning motivation to investigate the inseparable relationship between each individual's prior lived experiences (i.e., their histories), their perceptions of their current sociocultural surroundings, and their impacts on L2 learning motivation. Although these L2 learners were located in similar ESL contexts, one learner perceived and believed the context as beneficial to L2 learning and their personal goals for ESL learning and obtaining a job, whereas the second learner did not fully recognize the affordances of living in an English-language context and gradually became demotivated after, among other external forces, several failed attempts to obtain a job interview and their belief in the superiority of native English speakers. In other words, the second participant had difficulty in finding personal meaning in their L2 related experiences. This understanding of motivation foregrounds learner beliefs and agency, which links motivation to action and motive. As such, agency is a co-constructed phenomenon, constantly renegotiated with those around the individual (Lantolf & Pavlenko, 2001) and posited as a key factor in the development and maintenance of motivation (Kim, 2007). L2 learners are viewed as historical agents who "actively engage in constructing the terms and conditions of their own learning" (Lantolf & Pavlenko, 2001, p. 145). In addition, as shown in Kim (2011), humans endow their environment with ideal properties which help determine the type of activity in which they participate (see Ilyenkov, 2014). This ideal is constructed as individuals participate in social life and is materially present.

While AT offers an alternative and holistic perspective to the study of human interaction in its situated sociocultural surroundings, it has received criticism for its implications in understanding human personality and subjectivity (see González Rey, 2015, 2016; Stetsenko, 2013). In addition, AT has been criticized for its use of activity not only as the unit of analysis but also as the theoretical and explanatory principle (see Kozulin, 2005). Vygotsky recognized that to study

something as complex as human consciousness required a unit of analysis that reflected the object of study. Initially, Vygotsky proposed the unity of thinking and speaking, captured in word meaning, as the unit of analysis. In later writings, recognizing that verbal thinking represented only one part of the overall picture, Vygotsky conceptualized *perezhivanie* as the theoretical unit of analysis of individual consciousness in the development of human personality (Veresov, 2017). *Perezhivanie* captures not only the dialectical unity of cognition-and-emotion, but also the dialectical unity between an individual and the social situation in which they are engaged (see Lantolf, 2021; Lantolf & Swain, 2019). This relationship is captured in the concept of the "social situation of development" (Vygotsky, 1994) in which the environment is refracted through the prism of an individual's already developed psychology and defined as the "dynamic system of relations and interactions" between a given individual and the social environment (Veresov, 2017, p. 52). As Lantolf (2021) noted, "Vygotsky distinguishes between an objective social situation, which would be open to inspection to a third party and a subjective social situation, which is how that objective circumstance is refracted through the psychological system of the individual(s)" (p. 2). The same social environment is not only refracted through, and therefore impacts on, different individuals in different ways, but also at different phases of the individual's development. At the same time, as a dialectic, the individual also contributes to the formation of the environment. Pere*zhivanie*, then, as a theoretical concept, is inseparably linked to the social situation of development. With this, future studies exploring human motivation from an SCT perspective should consider this concept and unit of analysis.

Key Tenets of Complexity/Dynamic Systems Theory

Although Complexity/Dynamic Systems Theory (CDST) was originally developed within the natural sciences, it has also been adopted by several disciplines that range from meteorology and ornithology, to many others in the social sciences, including law (Rosmawati, 2014). CDST's integration into the field of developmental psychology occurred only recently, in the 1990's, with the publication of the seminal works of Thelen and Smith (1994, 2006). Ever since, scholars have advocated for a broader application of CDST perspectives to understanding, for example, second language acquisition (Larsen-Freeman, 2006; 2007), cognitive and behavioral development (Perone & Simmering, 2017; van Geert, 2011), and identity development (Kaplan & Garner, 2017). For Rosmawati (2014), this theory's appeal among scholars from various fields stems from its ability to generate new insights to account for change and growth in dynamically developing systems, as well as offer new conceptual abstractions and tools (Rosmawati, 2014). In Applied Linguistics, Larsen-Freeman (2012) argued that CDST offers the potential to contribute a transdisciplinary theme that transcends traditional disciplinary bounds and generates creative forms of inquiry into language and language development.

In the field of SLA, authors have outlined the benefits and promises of leveraging CDST in the study of L2 phenomena. For example, de Bot et al. (2013) argued that CDST "has the potential to connect *middle-level* theories that tend to

focus on social, contextual, or cognitive issues in relative isolation" (p. 200). According to the authors, this is due to the fact that CDST's principles hold for aspects of the language user and language development at different levels of granularity. Similarly, Rosmawati (2014) positioned CDST as a promising meta-theory that can bridge the gap between behaviorist and interactionist perspectives and form a more cohesive approach to language acquisition. Waninge, Dörnyei, and de Bot (2014) argued that the CDST framework brings a twofold contribution to the analysis of SLA data. First, it allows researchers to identify relatively stable phases and patterns within the variation of the system's behavior. Second, CDST acknowledges that the context in which a system's behavior occurs is part of the developing system, instead of being simply a background variable. Along these lines, Hiver, Al-Hoorie, and Evans' (2021) scoping review of over 150 research reports grounded in CDST outlined prominent contributions of the studies within this tradition. For example, these studies were able to describe various complex systems, demonstrate the existence of dynamic regularities in development, and foreground the role of context in understanding development.

In CDST-oriented research, it is first necessary to identify whether, or to what extent, the object under study can be justifiably conceived of as a complex system. For a system to be considered *complex,* it must present at least two interrelated components, although typically it is composed of multiple entities. van Geert (2011) explained that the interaction between the interrelated components of a complex system changes their individual properties and generates properties on a macroscopic level, that is, "a level that exceeds the events on the level of the individual components or that cannot be reduced to the sum of such events" (p. 274). This perspective is echoed by Larsen-Freeman (2012) who explained that the complexity of complex systems is not built into any single component, instead emerging from their interactions. A complex system's behavior arises from the interactions of its elements or agents; engendering processes such as self-organization, or the spontaneous formation of more complex orders, and demonstrating creativity in such interdependent relations (Larsen-Freeman, 2012). Additionally, each component of a larger complex system may itself be a complex system, which leads to the existence of nested complex systems. This process may descend at various levels (Mercer, 2011) and result in fractal shapes (Rosmawati, 2014). Complex systems are also dynamic by nature, which means that all of the elements of a complex system (i.e. the system as a whole) and their interconnections are always changing due to internal forces and interactions with the environment (de Bot et al., 2013; Larsen-Freeman, 2012). Such changes can either occur gradually and smoothly over time, or be the result of larger perturbations, leading to dramatic and abrupt transformations. Another important characteristic of complex systems is *emergence*, which stems from observations (in the non-organic world) that complex systems allow unexpected patterns of behavior to emerge that transcend individual constituents (Kostoulas & Stelma, 2016). Emergence is considered a consequence of the heterogeneous nature of complex systems.

According to Dörnyei (2014), another important step in CDST research is to examine when, and to what extent, the targeted system's behavior is at a point of

sufficient (temporary) stability so that it is feasible to investigate its aspects. This research strategy is needed in light of the profound differences between the main unit of analysis in social scientific research and the objects of study in the natural sciences. While in the natural sciences it is possible to reconstruct the movement of a system by applying mathematical computations, the dynamic situations found in the social sciences tend to be too complex and multi-layered for accurate results solely through mathematical modeling. This unpredictability is referred to as *nonlinear change* and indicates that a constellation of system components (i.e., how these entities work together) is what determines the system's behavioral outcome. However, it is also important to stress that several scholars working within CDST have diverged from this stance in their approach to social scientific research; and some scholars have relied on mathematical models to explain human developmental processes and trajectories (Molenaar & Campbell, 2009; van Geert, 1991).

A significant challenge faced by scholars working in CDST is how to operationalize such a dynamic approach in research terms since typical research paradigms in the social sciences tend to analyze variables in relative isolation (Dörnyei, 2014). Larsen-Freeman and Cameron (2008b) argued for a CDST research methodology that describes dynamic systems and behavior retrospectively. Specifically, although stability is not the norm, complex dynamic systems tend to self-organize and at times allow for the emergence of relatively stable prototypes. When this occurs, scholars can follow the methodological procedure of "working backwards," pinpointing the main factors and forces that led to specific states. This process, referred to as retrodictive qualitative modeling (Dörnyei, 2014), is geared toward understanding salient patterns associated with typical system outcomes. Issuing generalizations or predictions of system behavior with certainty is not possible from this perspective; but retrodiction supports researchers in identifying patterns that are "fundamental enough to be useful in understanding the dynamics of a range of other situations" (Dörnyei, 2014, p. 89). However, we highlight that retrodiction is different from the process of studying *history* backwards, or tracing developmental histories, often implemented by researchers working within SCT. Using history in psychological research is not "an auxiliary feature but a basic approach to all research aimed at understanding higher mental processes" (Lantolf & Thorne, 2006, p. 28).

Dörnyei (2014) proposed three strategies for investigating complex dynamic systems, focusing on: 1) identifying strong attractor-governed phenomena; 2) identifying typical attractor conglomerates; and 3) examining typical dynamic outcome patterns. Hiver and Al-Hoorie (2016) proposed a blueprint of complexity considerations titled "the dynamic ensemble" that can inform the design and implementation of any CDST-informed research effort. This practical catalog brings questions that can be consulted at various stages of the research process to inform decisions, including operational, contextual, macro-system, and micro-structure considerations. Larsen-Freeman (2016) argued for the affordances of using a CDST perspective in classroom-oriented research to understand teaching and learning. This perspective compels researchers to orient to a classroom ecology as one complex dynamic system that is emergent from the interaction of various components (e.g.,

agents, properties of physical and temporal environment), comprises one of many systems nested within other systems, and is temporally and spatially situated. Larsen-Freeman indicated the potential of compatible research methods with CDST, including microdevelopment and ideodynamic approaches, social network analysis, design-based research that responds to the emergent features in an event and examines multiple dependent variables, practitioner-led action research that actively promotes perturbation into the system, and relational model building. Despite such developments, Hiver and Al-Hoorie (2019) commented on the limited methodological guidance that exists for researchers who intend to conduct CDST-informed research projects, since CDST research in the social sciences is often framed conceptually and not geared toward practical application or ensuring compatibility between empirical designs and theoretical tenets. On one hand, the authors elucidated how a range of methods, split along qualitative and quantitative lines, can be conceptually compatible and practically leveraged for CDST-informed research (Hiver & Al-Hoorie, 2019). On the other hand, they argued for a unifying transdisciplinary framework that integrates qualitative and quantitative methods as well as group-based and individual designs in future CDST research in Applied Linguistics (Hiver & Al-Hoorie, 2019; Hiver, Al-Hoorie, & Larsen-Freeman, 2022).

A Complexity/Dynamic Systems Perspective to L2 Motivation Research

Concerning research on L2 motivation, studies that leverage frameworks based on CDST are fairly recent. According to Waninge, Dörnyei, and de Bot (2014), the *educational shift* in the 1990's brought the notion of motivation as a situated construct, and highlighted its prominent temporal dimension. As a consequence of this paradigmatic shift, several *process models* were introduced (Williams & Burden, 1997; Dörnyei & Ottó, 1998), indicating a movement towards a more dynamic view of L2 motivation. However, these studies were still based on cause-effect relationships, in terms of efficient causality, and could not account for the singularities of the L2 motivational process. Waninge, Dörnyei, and de Bot (2014) argued that a dynamic systems approach seems to be an attractive alternative, since this framework can account for fluctuations in learners' motivational dispositions, bringing a key contribution to understandings of L2 motivation.

In CDST, L2 motivation is seen as a complex dynamic system, and thus presents variability and nonlinearity as some of its fundamental characteristics. As noted by N. C. Ellis and Larsen-Freeman (2006), "motivation is less a trait than fluid play, an ever-changing one that emerges from the processes of interaction of many agents, internal and external, in the ever-changing complex world of the learner" (p. 563). In a discussion about CDST research, and L2 motivation more specifically, Dörnyei, MacIntyre, and Henry (2015) argued that conceptualizing motivation in a more dynamic fashion was imminent after the 1990's educational shift. Embodying this approach, Papi and Hiver (2020) drew on CDST to examine six English learners' motivational trajectories and patterns of emergent stability at different stages of the language learning process through quasi-narrative accounts of their language learning trajectories generated during interviews. The authors found that adaptive or competitive interactions between value-, control-, and truth-related

motivations and the context in which they emerged led to specific motivational trajectories. This, in turn, shaped these learners' language-learning choices and experiences. Providing tangible, CDST-based recommendations and strategies to classroom educators, Bahari (2019) introduced a taxonomy of nonlinear dynamic motivation-based strategies (NDMSs) for L2 teaching, with the goal of fomenting motivation-oriented L2 teaching-learning contexts. According to the author, NDMSs are applied at three stages: 1) pre-motivational stage, including potential motivation diagnosis, dynamic compatibility, and nonlinear integration; 2) motivational stage, which is grounded in cultural, social, and psychological constructs and strategies at the individual level; and 3) post-motivational stage, including nonlinear dynamic reinforcement and appraisal procedures as well as scaffolding and feedback. Kiss and Pack (2022) leveraged network analysis to examine students' motivation to learn English for Academic Purposes at a university in China. They found that motivational factors that play central relational links may not be the most frequently cited by learners; this unpredictability (and thus the impossibility to locate universal [de]motivating factors) is related to the fact that "different motivational factors affect students differently because they are highly connected and contextualized" (p. 21). Additionally, the authors found that positive and negative motivational factors were strongly interconnected for the participants in the study, suggesting that it is their interaction that propels the dynamicity of the motivational system.

In CDST-oriented L2 motivation research, Dörnyei's (2009) "L2 Motivational Self System" has been influential. The L2 Motivational Self System was strongly influenced by Markus and Nurius' (1986) theory of "possible selves," a perspective that explicitly addresses the interconnected nature of the self-system and motivated behavior. Markus and Nurius' notion of possible selves represented "the individual's ideas of what they *might* become, what they *would like* to become, and what they are *afraid of* becoming" (Dörnyei, 2009, p. 11). Thus, their position on possible selves is notably future-oriented, which differs from the traditional view of possible selves as the summary of how the individual currently sees themself based on past experiences. Moreover, self-relevant imagery occupies a key place in the possible selves theory. Self-relevant imagery involves tangible images and senses, that is, existing as a reality for the individual. The imagery component also marks the motivational function of future possible selves according to the principles of the self-discrepancy theory (Higgins, 1996). Precisely, individuals are motivated to reach a condition where their present idea of themselves matches their future possible selves (Dörnyei, 2009).

In their conceptualization, Dörnyei (2009) introduced L2 motivation as a part of the learner's self system. The author proposed three components that form the L2 Motivational Self System: *Ideal L2 Self*, *Ought-to L2 Self*, and *L2 Learning Experience*. The first component, the *Ideal L2 Self*, refers to the attributes that one would ideally like to have in the context of L2 learning (i.e. the person one would like to become speaks an L2). As Dörnyei (2009) pointed out, "the ideal L2 self is a powerful motivator to learn an L2 because of the desire to reduce the discrepancy between our actual and ideal selves." (p. 29). The second component, *Ought-to L2 Self*, concerns the attributes that one believes one ought to possess to meet external

expectations, such as social and familial, and to avoid possible negative outcomes. According to Dörnyei and Chan (2013), the *Ought-to L2 Self* takes into account one's perceived duties and obligations as well as others' expectations, which may, at times, have little to do with one's own desires. Papi (2010) found that the *Ought-to L2 Self* significantly contributed to anxiety in a study informed by the survey answers of over 1,000 Iranian adolescent learners of English. Dörnyei and Chan (2013) drew on the survey answers of 172 Chinese students (ages 13-15) to explore the links among learner characteristics, L2 self-guides (ideal and ought-to L2 selves), and learning achievement in English and Mandarin. The authors found that students' *Ought-to L2 Self* (framed as externally sourced self-images) correlated positively with intended efforts for both English and Mandarin, but there was no direct link between the *Ought-to Self* and students' course grades. This stresses the *Ought-to L2 Self*'s limited motivational capacity and weaker links with the criterion measures than the *Ideal L2 Self*. Focusing on a group of undergraduate students from an international university in Thailand, Rattanaphumma (2016) found that students' *Ideal L2 Self* was influenced by personal, career, and financial aspirations as well as a desire to leverage the L2 to communicate in the globalized world. Rattanaphumma also explained that these students' *Ought-to L2 Self* was shaped by society, parents, and peers, including circulating perceptions in the local community that linked competency in English to visions of an "educated person." Thompson (2017) proposed the construct of an *Anti-Ought-to Self* and articulated how it connects to the original L2 Motivational Self System. The *Anti-Ought-to Self* is "motivated by the opposite of what the external pressures demand: choosing to study a language to go against the norms of society" (p. 39). This study, using narrative inquiry to examine language learning journeys, honed in on the synergies between learners' *Ought-to Self* (e.g., learning an L2 for the prospect of employment) and *Anti-Ought-to Self* (e.g., learning an L2 to prove a teacher wrong about "not being good at learning language").

Finally, the *L2 Learning Experience* concerns the situated and executive motives related to the immediate learning environment and especially prior experience interacting with the present learning environment. Although the least theorized component of the L2 Motivational Self System, the *L2 Learning Experience* is often the most powerful predictor of motivated behavior (Dörnyei, 2019). Drawing on the concept of student engagement from educational psychology, Dörnyei (2019) proposed a view of the *L2 Learning Experience* as the perceived quality of the learners' engagement with multiple elements of the language learning process. These elements include, for example, the school context, the syllabus and adopted teaching materials, the proposed learning tasks, as well as student-teacher and student-student relationships and dynamics. A burgeoning number of studies leveraged Dörnyei's L2 Motivational Self System to examine, for example, Korean L2 learners' writing strategy usage and writing quality (Jang & Lee, 2019) and Indonesian high school students' motivation to learn English as a foreign language (Lamb, 2009).

Connecting motivation and agency from a CDST perspective, Mercer (2011) attempted to provide an "initial contribution towards an ongoing

conversation about both the nature of learner agency and what complexity theory can offer researchers, and more challengingly in practical terms, educators in this field" (p. 435). In this discussion, the author argued for a view of language learner agency as a complex dynamic system composed of several components (i.e., subsystems). This approach rejects perspectives of learner's agency as a single, monolithic factor, and tries to reconcile discrepant views that assign prominence to either the individual's cognition or the social context in their explanation of this concept. According to Mercer (2011), a realist view of learner's agency focuses on the complex dynamic interactions between social structure and agency, conceiving them in a reciprocal relationship. Such a view leads to the understanding of humans as creative agents that influence (and are influenced by) their contexts, and not determined by them. In her longitudinal study with a female tertiary-level EFL learner, Mercer (2011) concluded that "learner agency exists as a potential to engage in self-directed behavior but how and when it is used depends on the learner's sense of agency involving belief systems, control parameters of motivation, affect, metacognitive / self-regulatory skills, as well as actual abilities and the affordances, actual and perceived, in specific settings" (p. 435). The author also pointed to the variability of the learner's agency, a key aspect of complex systems, as it seems to be continually developing and adapting to changes in different parts of the system. Larsen-Freeman (2019) also proposed that the transdisciplinarity of CDST be leveraged to the investigation of second language learners' agency, positioning the dynamic relationship between social structure and agency as an irreducible system that moves through time and space. The author foregrounds a view of agency as: relational, or engendered from the dynamic interaction of factors internal and external to the system; emergent; spatially and temporally situated; achieved by means of an environment; changing through iteration and co-adaptation; multidimensional; and hierarchical. This view, in turn, has implications for classroom practice and how to support learner agency. This includes teacher practices that are adaptable, support learners in optimizing conditions for their own learning, investigate language together, encourage learners to reflect meta-pragmatically on the relationship between language and identity, and implement learner-driven feedback.

Discussion

In terms of the first research question guiding this critical literature and theoretical review, on the surface both SCT and CDST seem to share similarities in how they portray the complexity of L2 motivation. Each perspective tries to unify the individual and social and addresses the relationship between L2 learners' motivation and the mediating effects of the sociocultural environment, the role of social processes that influence uniquely individual motivation, and propose future-oriented approaches. In both perspectives, L2 motivation is seen as situated, complex, dynamic, and changing over time, with many interrelated factors. In addition, as each L2 learner has their own unique trajectory, their motivation is not guaranteed and is variable in its outcome even though they may share similar contexts.

However, when examined further, several fundamental differences emerge not only in the context of L2 motivation research (e.g., that which propels and sustains motivation) but also in their overall guiding theoretical principles. In what follows, we turn to the specific dimensions that distinguish SCT and CDST that became apparent through our analysis, namely their philosophical foundations and units of analysis, as well as orientations to the role of history, culture, context, and individual agency.

Philosophical Foundations

The first aspect that differentiates SCT from CDST is its philosophical foundation. These philosophical differences have major implications for the study and conceptualization of motivation, and in particular L2 motivation. Vygotsky's SCT perspective is grounded in Marx's historical materialism to investigate the cultural development of higher mental functions (see Cong-Lem, 2022; Poehner, 2017; Stetsenko & Arievitch, 2010). A dialectic is the relationship between objects, events, actions, and people–we are who we are in relation to other things and there is nothing that exists independently of its relations. From a dialectical perspective, there can only be complex systems because of relations, nested or not, and there exists no system independent of the environment. These complex systems themselves have goals and purposes. Vygotsky viewed development as a qualitative transformation of the individual and advocated for the examination of objects in their mutual connections. Therefore, L2 motivation can be considered to emerge from a dialectical interaction between L2 learners' agency and their sociocultural surroundings (Kim, 2005). Importantly, with the social situation of development in mind, individuals and their sociocultural surroundings exist in a dynamic and reciprocal relationship. That is, while the sociocultural environment contributes to the formation of the individual, the individual also contributes to the formation of the environment.

CDST, on the other hand, originates from the natural sciences. As such, it is important to critically consider whether the CDST is an appropriate theory to account for human mental behavior, motivation, and aspects of language development. These are questions raised by prominent CDST scholars themselves (see de Bot, Verspoor, & Lowie, 2005; Larsen-Freeman, 2011). Specifically, since CDST was developed to account for the non-organic world, which is notably far less complex than the biological world (Deacon, 2011), a new type of theory may be needed if complex organic systems are to be understood. Additionally, adopting a broad definition of system in CDST, Larsen-Freeman and Cameron (2008a) stated that "a system is produced by a set of components that interact in particular ways to produce some overall state or from a particular point in time" (p. 26). With its distinct methodological perspective, CDST is interested in interconnected self-organizing systems which are fueled by perturbations from the outside (Larsen-Freeman, 2011). CDST emphasizes the orderly but dynamic interconnection among nested complex systems contributed by the learner and the environment. In CDST, it is possible to look at a system unto itself (i.e., as separate variables such as the L2 Motivational Self System) and as such, it is possible to lose sight of the overall relations.

Unit of Analysis

Although scholars have argued that CDST is a way to bridge the schism in the L2 motivation research (i.e., between downward and / or upward reductionism), it is our belief that contextual CDST is still a complex form of reductionism, which continues to dominate the natural sciences. Reductionism breaks up any dynamic whole by reducing it and looking at its parts, rather than dialectically seeing the interconnectedness and mutual influence of the parts or seeing the whole as much greater than the sum of its parts.

From a dialectical understanding, dialectics is opposed to reducing the object of study to its minimal elements (i.e., an atomistic analysis). To illustrate, Vygotsky puts forward an analogy with the chemical analysis of water into the elements of hydrogen and oxygen. Isolated, these elements have properties that are not found in the whole (i.e., water) and the whole has properties that are not present in its elements; for example, its capacity to extinguish fire. The whole is qualitatively distinct from its isolated elements and no object can be understood without taking account of its interactions with other objects so that the properties of the whole can still be maintained. In other words, "[e]verything has to be understood in relation to other things, so that these relations become the very being of that thing" (Marcuse, 1954, p. 68, as cited in Buss, 1979, p. 78).

From an SCT perspective, the whole is found in the parts, which is why Vygotsky, following Marx, searched for a unit of analysis rather than reducing the object of investigation to its elements. Initially, Vygotsky argued that consciousness is composed of the dialectic between thinking-and-speaking (i.e., verbal thinking) and tried to find a unit that included both as a reflection of consciousness (i.e., the word). Later, Vygotsky recognized the unity of emotion-and-verbal thinking which is captured in his theoretical use of *perezhivanie* (Lantolf & Swain, 2019). In SCT, Vygotsky (drawing upon Marx who drew upon Hegel), understood the importance of making abstractions and breaking down processes into manageable units for analysis. For SCT, there is no system independent of the environment. Importantly, Vygotsky recognized the need to put the parts back into the reconstituted whole. As cited in Ollman (2003) in reference to Marx and the process of abstraction:

In his most explicit statement on the subject, Marx claims that his method starts from the "real concrete" (the world as it presents itself to us) and proceeds through "abstraction" (the intellectual activity of breaking this whole down into the mental units with which we think about it) to the "thought concrete" (the reconstituted and now understood whole present in the mind) (Marx, 1904, 293-94).

In contrast, CDST seems to present a different orientation and approach to the relationship between interrelated parts and their sum. According to Larsen-Freeman and Cameron (2008a), CDST "aims to account for how the interacting parts of a complex system give rise to the system's collective behavior and how such a system simultaneously interacts with its environment" (p. 1). A system, then, is a collection of interacting parts (i.e., variables) that influence each other, in what appears to be a cause-effect relationship, able to be studied in isolation, eventually giving rise to the system's collective behavior. This logic is also found in Thelen

and Smith's (1994, 2006) CDST model of human thinking. An adequate philosophical framework and methodology for CDST still appears to be missing.

The Role of Studying History

Broadly, Both SCT and CDST are interested in studying the process of change over time and attempt to trace trajectories that have resulted in current states of being. While on the surface, both retrodictive qualitative modeling (CDST) and studying history backwards (SCT) appear to be similar, they are methodologically distinct. These methodological differences are summarized by McCafferty (2016) as "SCT concentrating on the social genesis of consciousness and DST on how systems develop" (p. 84).

Applied to CDST, the goal of retrodiction is that by "identifying the main emerging system prototypes we can work 'backwards' and pinpoint the principal factors that have led to the specific settled states" (Dörnyei, 2014, p. 85) and trace why the system has the particular outcome that it does. This, then, provides a "retrospective qualitative model of its evolution" (Dörnyei, 2014, p. 85). Vygotsky, on the other hand, meant something different by his use of "history." From an SCT standpoint, "the task of psychology...is to understand how human social and mental activity is organized through culturally constructed artifacts" (Lantolf, 2000, p. 1). To capture the impact of culturally constructed mediating artifacts, consciousness must be studied "in flight" (Vygotsky, 1978, p. 68) and "to study something historically means to study it in the process of change" (Vygotsky, 1987, pp. 64-64). This indicates that consciousness must be studied in activity, and in the process of its genesis.

A very important difference between CDST and SCT is that SCT is not just a lens to examine development, but is also a theoretical perspective that aims at provoking development. In this regard, Vygotsky was not only interested in studying history backwards, but also in studying history forward. The process of studying history forward is captured in Vygotsky's use of the Zone of Proximal Development (ZPD) which is defined as a metaphorical space between what learners are able to do with mediation (i.e., what they can do today) and what they may be able to do without mediation (i.e., what they can do independently tomorrow) (Vygotsky, 2012).

The Role of Context and Culture

In regards to L2 motivation research, Dörnyei, MacIntyre, and Henry (2015) have described the L2 Motivational Self System as a "dynamic 'motivation–cognition–emotion amalgam'" (p. 4). In this approach, motivation is approached as one's striving to or avoidance of possible selves in order to achieve their own inner-most potential (MacIntyre, Mackinnon, & Clément, 2009). Emotions are an important component of the learner's self-system, being deeply interconnected with motivation and action. Markus and Ruvolo (1989) viewed that the main advantage of framing future goals in terms of possible selves is that these representations seem to capture some aspects of what individuals experience when they are engaged in motivational behavior (i.e., their thoughts and feelings). On the other hand,

grounded in the general principles of AT, motivation becomes viewed as a socially mediated phenomenon (Ushioda, 2003) that integrates motive, goal, and participation. This implies that the genesis or emergence of L2 motivation is not from within the individual (as it seems to be within the L2 Motivational Self System approach), but rather from the broader society; that is, the dialectical interaction between an individual and their sociocultural surroundings. For SCT, agency is the result of interaction with the sociocultural surroundings from the beginnings of life.

When placed side-by-side, it seems that AT, and SCT in general, emphasizes how culture shapes and creates new motives and motivational processes. For Dörnyei's L2 Motivational Self System, the focus is on the motivational function of the gap between "present self-concept and knowledge" and the future "L2 ideal and ought-to selves." Although Dörnyei's dynamic approach brings the L2 learning environment as one component of the L2 motivational self-system, the construction of the learner's possible selves seems to receive little emphasis. Precisely, even though previous experiences in the learner's environment and their future possible selves are integral parts of the learner's motivational self system, sociocultural elements and their influence in the entire L2 motivational self system could be further explored. Therefore, it seems that motivation in Dörnyei's approach is mainly an "individual" construct, formed and maintained by one's own self-oriented images of oneself in the future, achieving a goal.

Furthermore, in Rosmawati's (2014) discussion on how CDST accounts for issues in L2 learning, the place occupied by the notion of motivation seems underprivileged when compared to the same concept in AT. Rosmawati (2014) saw motivation as one of the essential resources for language development along with, for example, input and memory. However, this author seems to argue that language learning is possible without motivation, since other resources available can make up for its absence: "When one type of resource is depleted — for example, lack of motivation — the system can hardly maintain its optimal state and may slide back to its previous state *unless compromised by other types of resources; for example, extensive exposure to the target language and the need to communicate*" (2014, p.70, emphasis added). This goes against compelling examples in the literature that show that one can have extensive exposure to a second language, and the need to communicate, and yet fail to develop (e.g., Schmidt, 1983). Additionally, it is important to highlight that the need to communicate may serve as a key type of motivation for language learners (Cameron, 2013; Freiermuth & Huang, 2018). Overall, this view put forth by CDST scholars differs, in regards to the role of motivation, from that advocated within AT specifically and SCT more broadly. For the latter, motivation propels human engagement in activity and is seen as a result of an individual's cultural development.

The Role of Agency

Mercer (2011) argued that the CDST perspective adopts a more balanced perspective on agency, emerging as the "common ground" between two opposite views that assign primacy to either the individual's cognition or to the social contexts. However, while agency is an important topic within CDST, it is not more

important than other elements in the system (Kim, 2016). In this way, it appears that agency, similar to L2 motivation, may be viewed as the sum of interacting elements within the system and is the result of various system parameters and attractors. While scholars have addressed the issue of agency and intentionality from a CDST perspective and noted that "agency or intentionality are not ignored in these applications" (Larsen-Freeman, 2011, p. 58), "it remains to some extent an open question as to how far complexity theory can accommodate deliberate decision-making" (Larsen-Freeman & Cameron, 2008, p. 76). This is especially the case as CDST is applied to human motivation (see Al-Hoorie, 2015) and is a topic of ongoing discussion and debate.

Revisiting the principles of Vygotsky's cultural-historical perspective compels us to reconsider Mercer's argument. First, SCT and AT do not assign primacy to the social context in the formation of the mind. As Lantolf and Johnson (2007) put it, "the argument is not that social activity influences cognition, but that social activity is the process through which human cognition is formed" (p. 878). In this sense, there is no environment apart and it is a distributed system from the beginning. Furthermore, in AT, human conduct is seen as directed, yet mediated by mediational means, such as tools and signs (Leont'ev, 1978, Vygotsky, 1978). One cannot be separated from the other as they exist in a dialectical relationship. As Kim (2006) reminds us, L2 motivation is "a creative construction or dialectical interaction between L2 learners' agency and their sociocultural surroundings" (p. 53).

Conclusion

Both an SCT and CDST perspective to the L2 learning and development process have undoubtedly made great contributions to the field. Within the ongoing debate of the commensurability of SCT and CDST, scholars have pointed to a theoretical overlap between SCT and CDST, noting that "both try to unify the social and the cognitive, although they do so in different ways, and neither is exclusively a theory of SLA" (Larsen-Freeman & Cameron, 2008a, p. 157). In terms of L2 motivation, and pointing to the viability of each perspective in capturing the complexity of L2 motivation, Kim (2016) states that there "exists a considerable interface between CDS and SCT" (p. 45). Kim (2016) goes on to state that since both perspectives can help to capture and / or emphasize various aspects, that they "are not in opposing positions, but instead have their strengths in different areas and thus warrant complementary co-habitation" (p. 46). Another scholar suggests that "applying CDST can see L2 motivation from a much broader and flexible perspective" (Kimura, 2014, p. 326).

In light of the arguments proposed in this critical literature and theoretical review, our response to our second research question is that it does not seem that these theories are commensurable in general or in their view of L2 motivation. On one level, it seems that this incommensurability stems from their origins (CDST originating from the natural sciences) and their grounding on (or lack thereof) a philosophical foundation. Regarding the latter, a philosophical foundation still appears to be absent from CDST. These differing origins and orientations have implications for how motivation is conceptualized within each respective tradition.

While there appears to be shared elements between SCT and CDST (Karimi-Aghdam, 2016, 2019; McCafferty, 2016), more careful attention and further scrutiny is warranted, especially as fundamental differences may arise in interpreting data, as more L2 studies are designed and implemented, and as researchers-practitioners continue to work within the theory-practice divide. We hope to continue this discussion as both sides can learn a great deal from each other. It is our hope that this piece can generate productive dialogue between scholars, researchers, and teachers.

Acknowledgments

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Note

1 We adopt this term from Atkinson (2011) who positions these theories as "alternative" to the dominant cognitivist orientation in SLA.

2 These mediational means are described as physical (e.g., pencils, paper, computers) or psychological (e.g., language, concepts) tools and shape the framing of our mental activity, our interactions within our situated contexts, and enable us to gain control over our higher mental functions (Lantolf & Appel, 1994; Vygotsky, 1931).

3 A survey of the development of Activity Theory (AT) through its three phases is beyond the scope of this study. For an overview, see Engeström (1987, 1999, 2001).

4 For an overview of the diverse meanings of the concept of meaning and a historical treatment from varied fields, see D. A. Leontiev (2012b).

Authors' Biographies

Michael D. Amory is Assistant Professor in TESOL / Applied Linguistics at Oklahoma State University. His research interests are grounded in Vygotskian Sociocultural Theory (SCT) and centered around Language Teacher Cognition and Identity, Second Language Teacher Education (SLTE) Pedagogy and Practice, Language Teacher Professional Development, and Second Language Acquisition. His current work focuses on exploring and refining the dialectical interaction of emotion and cognition.

Mariana Lima Becker is an Assistant Professor in the Department of Educational Theory and Practice at the University of Georgia. Her research is situated at the intersection of education for bi/multilingual learners, im/migration, and language and literacy studies. Grounded in critical childhood studies and decolonial transborder approaches, her current work centers racialized bilingual children with recent histories of migration, foregrounding how they (co-)construct belonging and subalternized knowledge in and out of schools.

Can Concept-Based Language Instruction Change Beginning Learners' Aspectual Development? Preliminary Experimental Evidence that Novice Learners Taught *Boundedness* Are Less Influenced by Lexical Aspect

Elizabeth M. Kissling

Associate Professor of Spanish and Applied Linguistics, Department of Latin American, Latino & Iberian Studies, University of Richmond, Richmond, Virginia, United States of America
ORCID: 0000-0003-0359-496X   Email: ekisslin@richmond.edu

Abstract

Concept-Based Language Instruction (C-BLI) is rooted in Vygotskian sociocultural theories (SCT) of learning and modeled after Systemic Theoretical Instruction. Investigations of C-BLI have reported positive instructional outcomes such as increased conceptual awareness and control for a variety of targeted concepts in a variety of languages, including aspect in Spanish. This study followed suit, by exposing novice Spanish learners ($n = 26$) to the concept of viewpoint aspect as a matter of boundedness. It also directly tested the learners' ability to form nonprototypical associations between preterite-imperfect morphology and lexical aspectual categories, which is the kind of learner development most of interest to scholars working in semantic theoretical perspectives outside of SCT such as the Aspect Hypothesis (AH). Comparisons with corpus data ($n = 75$) suggested that the C-BLI learners were able to use the Spanish preterite and imperfect non-prototypically, more like advanced learners than novices. The results suggest that C-BLI can facilitate aspectual development applied to disassociating viewpoint aspect from lexical aspect. It is argued that C-BLI and other approaches rooted in SCT principles could be enriched by engaging with new ways of examining learner development, and thereby perhaps garner the interest of scholars working outside of SCT. It is further argued that research on the AH could be enriched by considering data that elucidates effects of specific instructional approaches.

Keywords: Concept-Based Language Instruction, Concept-Based Instruction, Aspect, Aspect Hypothesis, preterite and imperfect

Introduction

Tense locates events in time, and aspect communicates different ways of viewing those events. Definitions of both tense and aspect abound, but the current study adopts a Cognitive Linguistics-based view that invokes the metaphor of time as space. This implies that the present is close and the past is distal, and that humans conceive events metaphorically as physical objects located on that timeline (Janda, 2015). Aspect entails adopting either a bounded viewpoint of events (viewing them from the outside with a holistic perspective) or an unbounded viewpoint (viewing them internally without focusing on their beginning or end) (Janda, 2015). This sense of viewpoint is created by combining several elements, which include lexical aspect (inherent in verbs and their predicates), knowledge of how events typically take place in the real world, temporal adverbials, and grammatical aspect morphology such as the Spanish preterite (PRET) and imperfect (IMP). For instance, in the utterance "I was playing with my son when you called," "I was playing" would typically be interpreted with a progressive reading, which is an unbounded viewpoint focusing on the middle stages of the action in progress. "I was playing" would most typically be expressed in Spanish with the imperfect (*jugaba*). In contrast, the speaker views "you called" as completed, not in progress, which indicates a bounded viewpoint (*llamaste* –[PRET]).

English-speaking Spanish L2 learners face many challenges with regard to aspect. First, they are faced with form-meaning mismatches between their L1 and L2. While viewpoint is marked obligatorily on all past tense verbs in Spanish, it is not marked obligatorily on verbs of state in English. For instance, *fui* [PRET] *feliz* and *era* [IMP] *feliz* both mean "I was happy." Whereas the unbounded viewpoint is always marked with IMP morphology in Spanish, it can be expressed optionally through non-morphological means in English, as in *Yo miraba* [IMP] *la televisión todos los días* "I watched" or "used to watch" or "would watch television every day." Second, L2 learners must learn that viewpoint aspect works in concert with but operates independently of lexical aspect. Lexical aspect depends on the inherent semantics of verbs and their predicates and can be understood as grouping predicates into categories such as Vendler's (1967) states (e.g. be a good painter), activities (e.g. paint), accomplishments (e.g. paint a picture), and achievements (e.g. start painting). States are frequently construed as unbounded event-objects, since we often use state verbs to express conditions with a focus on their middle stages rather than their completion. Achievements are frequently construed as bounded event-objects, since we often use achievement verbs to express the beginning, ending, or completion of actions. Yet any verb and predicate can be viewed with either perspective. The third challenge for L2 learners is learning how to take into account the greater discourse context in order to make appropriate use of viewpoint aspect even in less prototypical ways. For instance, when discussing a past relationship, one might alternate between expressing "s/he/they loved me" as *me quería* [IMP]— to focus on the middle stages of the state of being in love— and *me quiso* [PRET] to focus on its end.

In the US, explicit instruction on Spanish PRET and IMP typically presents learners with a list of rules that make simplistic generalizations attempting to capture

their prototypical uses (Author, 2021; Frantzen, 1995). For instance, PRET is described as expressing completed actions, the beginning or end of actions, and series of actions that advance the plot (Frantzen, 1995; Yáñez Prieto, 2008). The IMP is described as expressing habitual and ongoing actions as well as background information including emotions, states, and descriptions. US learners are generally taught that certain key words cue the PRET (i.e. *ayer* "yesterday") or IMP (i.e. *siempre* "always"). They are also taught that some verbs such as *poder* change meaning depending on their formulation, meaning "be able to" in the IMP but "manage to" in the PRET. While attractive in their apparent simplicity, these rules are linguistically inaccurate (Frantzen, 1995), confusing for learners (Author, 2021; Liskin-Gasparro, 2000), misapplied by learners to the detriment of their productive accuracy (Rothman, 2008), and potentially an obstacle to developing more accurate concepts related to aspect later on (Yáñez Prieto, 2008).

Rooted in Vygotskian sociocultural theories of learning (e.g. Vygotsky, 1978) and modeled after Gal'perin's Systemic Theoretical Instruction (1989, 1992), a promising alternative to conventional, rule-based instruction is Concept-Based Language Instruction (C-BLI) (Negueruela, 2003). In C-BLI, the instructor selects a scientific concept as the minimal unit of instruction, materializes it in a didactic model, and guides learners through an intense process of mediated verbalization and conscious conceptual manipulation (García, 2018). Investigations of C-BLI have reported positive outcomes for a variety of concepts in various L2s, including aspect in Spanish. However, the way learner development is framed in C-BLI studies is not aligned with many aspect studies outside SCT, such as semantic approaches to aspect inspired by the Aspect Hypothesis (AH) (Andersen, 1991). To connect these two areas of aspect research and highlight their commensurabilities, this study taught novice Spanish learners (*n* = 26) the concept of boundedness via C-BLI and then directly tested the learners' ability to form nonprototypical associations between aspect morphology and lexical aspectual categories, which is the kind of learner development of interest to scholars working within the AH.

Literature Review

Concept-Based Language Instruction for L2 Spanish Aspect

Concept-Based Language Instruction (C-BLI) entails three stages (García, 2018; Negueruela, 2003; Negueruela & Lantolf, 2006). First, the instructor identifies a *scientific concept* (in Vygotskian terms) as the minimal unit of instruction. The concept must be generalizable, abstract, systematic, explicable, functional, and context-independent (Negueruela, 2003). The instructor then materializes this concept into a didactic model or SCOBA (Scheme for a Complete Orienting Basis of an Action), a schematized graphic illustration of the concept, or some other design aimed to mediate conceptual development and orient learner activity. The third stage is conceptual manipulation, when learners are encouraged to verbalize and reflect on their understanding and use of the concept as a tool to mediate their thinking in the L2 as they engage in communicative activities. Learners are encouraged to consciously manipulate the concept, making it unique and personally relevant to them (García, 2018). The instructor mediates learners' verbalizations and

manipulation of the concept taught. C-BLI has proven effective for a variety of topics in Spanish and other L2s (García, 2018, p. 184).

C-BLI and STI have been explored in at least four empirical studies of aspect in US Spanish L2 instructed learning contexts (Gánem Gutiérrez, 2016; García, 2012; Negueruela, 2003; Yáñez Prieto, 2008), all of which reported positive learning gains overall, though they showcased small numbers of participants at the intermediate to advanced levels in collegiate settings (no novices) and presented no control groups. These researchers tracked learners' development of conceptual awareness as well as learners' control of the concept. All four studies evinced notable conceptual development on the part of learners, although the authors noted that some learners were unable or reticent to develop complete concepts after instruction.

There is some evidence that C-BLI promotes the ability to distinguish lexical aspect from viewpoint aspect. García (2012, 2017) and Negueruela (2003) used SCOBAs that highlighted viewpoint aspect based on the notion of boundedness as well as the role of that lexical aspect plays by prompting learners to distinguish between cyclic and noncyclic verbs. In these studies, learners' definition, performance and verbalization data suggested that after C-BLI the learners developed conceptual awareness and demonstrated awareness of how lexical aspect contributes to viewpoint aspect. Gánem Gutiérrez's study (2016) was inspired by C-BLI and presented learners electronic concept maps teaching a Cognitive Linguistics-based notion of boundedness. After instruction, learners demonstrated metalinguistic knowledge about both lexical and viewpoint aspect. In terms of communicative performance data, Yáñez Prieto (2008) reported that all (n = 13) students were able to manipulate viewpoint in their creative writing after STI. Negueruela (2003) found that learners improved remarkably in the emergence and coherence of aspect in their personal narratives after C-BLI, whereas García's (2012, 2017) case study reported ceiling effects in the performance data. However, none of these studies directly tested the effect of lexical aspect in learners' oral or written narratives. Indeed, it is difficult to do so without employing more controlled tasks. In an investigation of Cognitive Linguistics-based notions of aspect taught to novice learners (n = 22) via Processing Instruction, Palacio Alegre (2013) employed controlled tasks and reported that there appeared to be no influence of lexical aspect on learners' production or comprehension, which was interpreted as evidence that the non-target-like uses of PRET and IMP learners typically display are actually motivated by the rules that they are taught in conventional instruction. It may be the case that C-BLI helps learners to rely less on lexical aspect to make choices about PRET and IMP when communicating in the target language, which is a developmental milestone of great interest to those working within semantic approaches to aspect such as the Aspect Hypothesis.

The Aspect Hypothesis

Andersen's (1991) Aspect Hypothesis (AH) proposes that regardless of their L1, L2 learners' production of aspect follows a predictable sequence: they first produce perfective morphology with achievements, then gradually begin to produce

it with other aspect classes across the spectrum, and lastly with states, whereas imperfective morphology appears first with states and lastly with achievements. There is a great deal of evidence drawn from various learner populations and experimental tasks that supports the AH fully or partially. Many studies have reported that the role of lexical aspect is important but also mediated by other factors both internal to the verb (e.g. frequency, irregularity) and external to it, such as learner proficiency and elicitation task (Bardovi-Harlig & Comajoan-Colomé, 2020).

For instance, Domínguez et al. (2012) evaluated the PRET and IMP use of 15 L1 Spanish speakers and 60 L2 learners of different proficiency levels using three oral tasks that ranged from controlled to spontaneous. The controlled task presented infrequent form-meaning contexts to test the AH by eliciting IMP with achievements and accomplishments and PRET with activities and states. They found that the AH was supported in the least controlled tasks. However, in the controlled task, beginning and intermediate learners associated IMP with states and PRET with all other verbs. This study is one of just "four studies that have begun to address the question of nonprototypical associations of past morphology and lexical aspectual categories" as identified in Bardovi-Harlig and Comajoan-Colomé's review of the past 20 years of research on the AH (2020, p. 1160). Tracy-Ventura and Myles (2015), using the same task and the same learner corpus, also highlighted the importance of task variability. They concluded that the "less controlled tasks encouraged few instances of more advanced features, suggesting that not all task types are equally successful at eliciting the range of tense-aspect morphological contrasts theoretically relevant for SLA research on tense and aspect" (2015, p. 58).

In sum, the AH is still a highly productive area of research, and it seems relatively uncontroversial to claim that beginning learners' production of aspect morphology is influenced by lexical aspect. Various possible explanations for the effect have been explored, including general principles of cognition and sensitivity to a distributional bias in the input (Bardovi-Harlig, 2002). Both naturalistic and instructed inputs tend to present learners with a limited number of statives that appear most frequently in the IMP, and a variety of achievements and other telics in the PRET (Daidone, 2019; Tracy-Ventura & Cuesta Medina, 2018). Conventional rule-based instruction further reifies this pattern of correlation by emphasizing only prototypical uses of PRET and IMP. Learners' tendency to conflate lexical aspect with viewpoint aspect, then, is perfectly understandable, but of course it is an incomplete conceptualization of aspect that might limit their ability to develop more accurate concepts later on (Yáñez Prieto, 2008) or improve their accuracy (Rothman, 2008). The unsystematic and incomplete conventional rules constitute faulty cognitive tools that can in fact delay learners' conceptual development rather than facilitate it (Negueruela, 2003). The question is, then, can a different kind of instruction counteract this tendency in beginning learners? Can instruction prompt learners to develop a concept of viewpoint that is generalizable to all contexts and predicates alike? The research question motivating the current study was: Does Concept-Based Language Instruction help novice learners avoid relying on lexical aspect to motivate their uses of Spanish preterite and imperfect?

Method

Participants

Participants included beginning learners in the USA ($n = 26$), beginning learners in the UK ($n = 20$), intermediate learners in the UK ($n = 20$), advanced learners in the UK ($n = 20$), and L1 Spanish speakers (NSs) in Spain ($n = 15$). The UK learners and NSs were the comparison groups, and their data were taken from the Spanish Learner Language Oral Corpora (SPLLOC) project. According to the project website, the learners were all English L1 speakers who learned L2 Spanish in instructed contexts and were matriculated in three different course levels (Table 1).

Table 1

Participants

L2 Spanish level	Typical age (Years)	Approx. hours of instruction	Educational level	Approx. CEFR level
Beginners in US (C-BLI group) $n = 26$	18-21	85	University (Years 1-4 US system)	A1
Beginners in UK $n = 20$	14-15	240	Lower secondary school (Year 10 English system)	A2
Intermediate $n = 20$	17-18	750	Upper secondary school (Year 13 English system)	B1-B2
Advanced $n = 20$	21-22	895 + year abroad	University (Year 4 English system)	C1-C2
L1 Spanish speakers $n = 15$	14-28	n/a	Lower secondary school – post-University	n/a

US participants were students at a small liberal arts college in a Spanish course for true beginners, taught by the researcher. They had never studied Spanish before enrolling in the course. An entrance questionnaire confirmed that their only prior exposure to Spanish was sporadic passive listening to music, television, or interacting with friends and family. Most (23) were English L1 speakers, and three were English L2 speakers with advanced proficiency. Four were L1 speakers of English and another language, but English was their most dominant language. Some had taken 1-4 years of courses in another second language (6 students took Latin, 3 French, 1 Italian, and 1 Mandarin).

Materials and Instruments

Instruction

The course met seven times weekly for a total of 6.5 hours of instruction per week. The C-BLI intervention occurred during week 13, by which point learners had approximately 85 hours of instruction. The course had covered 11 thematic units (e.g. university life, family, and travel) that included cultural texts and a grammatical syllabus covering the present tense, copular verbs, and various types of pronouns. Typically, students studied and practiced new grammar lessons before class using an online textbook, and class time was used for communicative activities in the target language. However, the C-BLI unit was taught differently (Figure 1).

The formation of the preterite (PRET) was taught in three lessons stretched over four weeks so that learners could master its many forms. In terms of use, the lessons were prefaced by telling learners that "The preterite is one Spanish past tense form. It is used to talk about the past with a certain viewpoint (called 'bounded,' which will be explained later)." The formation of the imperfect (IMP) was taught in one lesson the next week. As for use, learners were told that "the imperfect expresses a different viewpoint of the past, called the 'unbounded viewpoint.'" The following week learners were led through a three-lesson C-BLI sequence focused on the concept of boundedness (Figure 1). Though C-BLI typically presents concept before form, in this case the form-focused lessons were embedded across multiple instructional units that could not be modified as per institutional policy, and so the concept was instead presented briefly at the outset and then brought into greater instructional focus once all forms had been presented.

In the orientation stage, learners read a summary of [±boundedness] (Figure 2) before class. In class it was materialized with an animated video series that explained [±boundedness] and illustrated it by presenting a short story about a girl who walked to class, missed her best friend from high school, called her, and then felt better. The same story was told many times but in different ways, by depicting the same events and states as variably bounded or unbouded. [±boundedness] was communicated visually by framing off events and states with a black box, then shrinking the box and moving it to the side, to indicate distance from the perspective of the speaker, as the next event or state in the story appeared (Figures 2, 3). In contrast, unbounded events and states were visualized as enlarging and zooming in and then fading away as the next event or state appeared. Verbs also appeared in text, with bounded verbs (PRET) underlined, whereas unbounded verbs (IMP) were marked with an undulating line to communicate focus on their middle stages in progress.

Figure 1

Sequence of C-BLI and Assessments

Pre-testing

In Class   Homework

Lesson 1

In Class   Homework

Lesson 2

In Class   Homework

Review   Composition: one of the best or

Lesson 3

In Class   Homework

Group mediation of verbalization homework   Guided conversations in groups,

Conversations: Best or worst day ever,   with variety of prompts, feedback

Post-Testing

In Class   Homework

Definition test   Written narratives

Delayed Post-Testing

In Class   Homework

Definition test (3 & 10 weeks' post)   Written narratives (3 weeks' post)

The visual depiction of [±boundedness] was reinforced in the classroom with corporal gestures, which are known to be important interactional classroom resources that can support aspectual development (Lantolf, 2010). Whenever communicating a distinction in [±boundedness], the instructor either placed her hands in the form of a square frame close to her eyes and then moved them out of her view (bounded) or slowly brought her hands towards her face and opened them wide while waving them in an undulating fashion (unbounded).

Figure 2

Orientation to the Concept of [±boundedness]

The preterite expresses a bounded viewpoint. This is like viewing past events and states from a distance, without viewing their middle stages.	The imperfect expresses an unbounded viewpoint. The imperfect zooms into the past to view the middle stages of events and states..
BOUNDED (PRETERITE)	**UNBOUNDED (IMPERFECT)**
"Caminamos a..." might be translated as "We walked to..."	*"Caminábamos a..."* might be translated as "We were walking to..."

* To apply this concept well, you must be careful about **the specific verb phrase** you use. Different verbs are viewed in different ways because real-life events happen in different ways. For instance, some happen instantaneously, others over time. Some have natural end points, some don't.

* You also have to think about the **overall context**. Adverbs (like *mientras*-while) help create a certain viewpoint. The sequence of events in a story should be logical.

* **Translation is not reliable**, because Spanish expresses viewpoint differently than English. Examples:
- Given enough context, the imperfect *caminábamos* could be translated as "we walked", for instance, "*Mientras caminábamos, hablábamos*" is expressed as "While we walked, we talked."
- *Fuimos* and *éramos* both mean "we were," but they express different viewpoints.

This C-BLI implementation did not directly address the differences between viewpoint aspect and lexical aspect, other than to instruct learners to pay attention to the precise verb they used and its features. Lexical aspect was not a key component of the concept taught to students (as it was, for example, in the SCOBA used by García, 2012 and Negueruela, 2003). However, it was recognized that English speakers find statives to be most challenging because English does not obligatorily mark statives for aspect as Spanish does, and so the videos highlighted the difference between bounded and unbounded construals of various state verbs, including (a) verbs that describe weather like *hacer sol* "be sunny" (Figure 3), (b) verbs of emotion like *estar alegre* "be happy" as opposed to *alegrarse* "become or

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be made happy," and (c) state verbs that are presented in conventional rule-based instruction as changing meaning in the preterite such as *saber* "know, find out." The video series was the product of four years of action research in the author's classes. The action research process included iterative cycles of materials piloting and revision based on the results of various assessments of learning and one-on-one interviews. All components of the videos were created collaboratively with former students, heeding the call of Negueruela (2003, p. 471) to include students in the creation of didactic models to ensure their usefulness.

Figure 3

Illustration of a Contrast in Boundedness

"Yesterday it was [PRET] sunny."

"That's why I walked [PRET] to my class."

"Yesterday it was [IMP] sunny

while I walked [IMP] to my class."
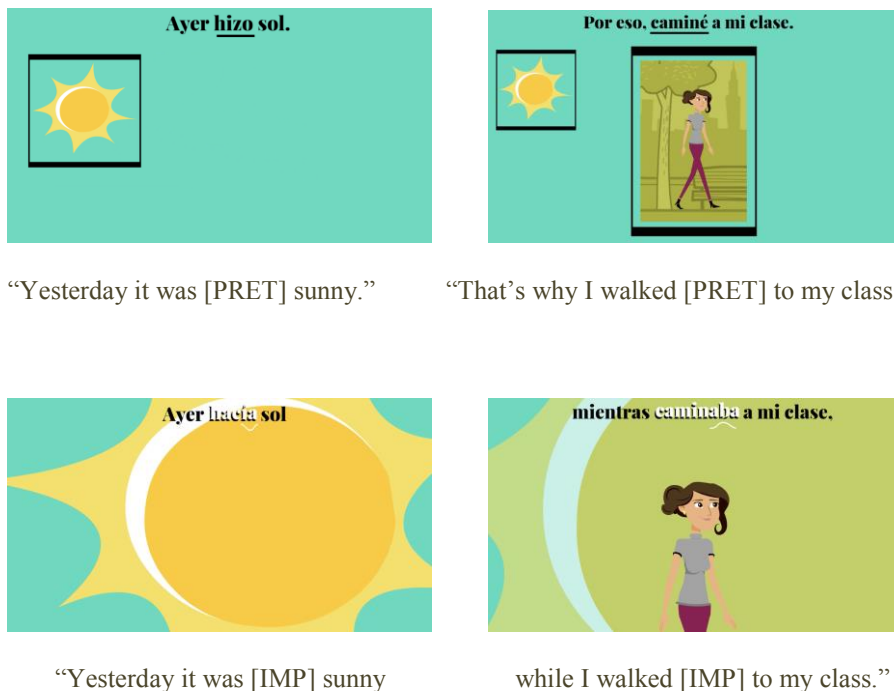
The C-BLI stage of verbalization, in which internalization of the concept is supported by external speech, was carried out both inside and outside of class (Figure 1). During in-class viewings of the didactic model (the animated video series), learners paused regularly to describe what they were understanding of the concept and express any confusion. Class time incorporated a variety of communicative tasks in all modalities, as well as practice with conventional gap fill textbook activities. Learners were encouraged to apply the model and verbalize how they used the model to inform their aspect choices in all these activities. These verbalizations were mediated by the instructor one-on-one and as a whole class. Outside of class learners videotaped themselves explaining the use of PRET and

IMP in stories that they read, personal narratives that they wrote, and cloze passages that they completed. The instructor viewed all of these video-recorded verbalizations and then offered mediation in class by addressing common misunderstandings that surfaced in the verbalizations and leading the class through a close examination of at least two individuals' recordings that were representative of the challenges faced by their classmates. Learners had multiple opportunities to verbalize the concept in their own words and consciously manipulate the concept (García, 2018) so as to personalize and internalize their own concept of aspect. Learners were not, however, required to draw their own model as is often recommended for Conscious Conceptual Manipulation (see García, 2018), because animation of visual images was considered necessary to visualize changes in viewpoint, but requiring learners to work with animation software was considered too onerous.

The data from the UK participants was taken from a public corpus (SPLLOC), which does not provide information about the type of instruction that they received. It would be impossible to report their instruction in detail in any case, because participants attended different schools and classes. However, it is fair to assume that they received explicit instruction on aspect and that their instruction was relatively conventional (e.g. rules followed by practice) (L. Domínguez, personal communication, April 29, 2020) and thus quite different from the C-BLI provided to the US participants. All participants completed the same task; the corpus data comes from this task.

Controlled Impersonal Narrative Task

A variety of measures was used to assess aspectual development, namely definition data, verbalization data, and performance data on oral and written narratives, the same measures typically included in C-BLI research (e.g. Negueruela, 2003). However, because conceptual development is not the main object of inquiry here, and those data have already been reported in full elsewhere (Authors, 2022), they will not be described in detail here. The goal of the current study was to test the effect of lexical aspect on learners' performance after C-BLI, as measured with an experimental task.

The "Sisters task," a picture-based story retell task adapted from Domínguez et al. (2012), was designed to assess learners' ability to produce less frequent form-to-meaning associations. The story was about two sisters who took a trip and reminisced about their childhood. Learners took up to five minutes to review a series of slides with illustrations accompanied by 25 infinitival verbs. They then recorded themselves narrating the story in 5 minutes or less using those target verbs. The task prompted the past tense by introducing the story with a slide that read *Las vacaciones de Sarah y Gwen en España. Verano del 2006* ("Sarah and Gwen's vacation in Spain. Summer of 2006."). The foregrounding and backgrounding of the narrative prompted learners to use 21 of the target verbs in non-prototypical contexts (Table 2). The task was administered directly after C-BLI and again 10 weeks later (Figure 1). No pretest was administered because the concept of boundedness had been incorporated into learners' very first exposure to

PRET and IMP, so they had no prior knowledge of PRET and IMP that was not informed by C-BLI.

Table 2

Target Verbs and Expected Form (PRET, IMP) Given Context of Controlled Task

States	Activities	Accomplishments	Achievements
haber un revuelo "there was a commotion" (P)	visitar la ciudad "visit the city" (P)	leer un libro "read a book" (I)	despertarse "wake up" (I)
creer "believe" (P)	comer tapas "eat tapas" (P)	pintar un cuadro "paint a picture" (I)	terminar los deberes "finish homework" (I)
sentir "feel" (P)	beber vino "drink wine" (P)	escribir una carta "wite a letter" (I)	llegar tarde a clase "get to class late" (I)
necesitar "need" (P)	hablar "talk" (P)	ver una película "watch a movie" (I)	coger el tren "take the train" (I)
	ayudar "help" (P)	ir al colegio "go to school" (I)	
	reírse "laugh" (P)	hacer los deberes "do homework" (I)	
		acostarse "go to bed" (I)	

Coding

The task recordings were transcribed and coded independently by two trained assistants, one L1 Spanish speaker and one advanced L2 speaker. Given that the focus of the study was to promote aspectual development and that the participants were novices with limited experience producing PRET and IMP morphology, the data were coded as perceived attempts to use PRET, IMP, or another form. For instance, non-target-like but accepted attempts to express PRET included *crieron and *comío (in place of creyeron "they believed" and comió "he ate"). Attempts such as *leya and *sentiria (for leía "I read" and sentía "I felt") were accepted as IMP. It was assumed that learners were not attempting to produce the future, conditional, subjunctive, or other forms they had never been taught. A few ambiguous responses (e.g., *craí) were eliminated. Inter-rater agreement reached 98%, and all discrepancies were discussed with the researcher to determine

the final coding decision. The same procedures were used to code the comparison data, which were taken from the Spanish Learner Language Oral Corpora project (SPLLOC).

Data Analysis

Only the 21 target verbs presented in non-prototypical contexts were analyzed. This decision was made after seeing that beginning learners tended to produce only the verbs shown on the slides without adding extra information, and that when participants (of all levels) did add information, it tended to be verbs in prototypical contexts. On average learners in the C-BLI group added 0.08 verbs and skipped 1.35 of the target verbs. On average learners in the UK beginners group added 1.10 verbs and skipped 0.90 of the target verbs. In contrast, the advanced learners added 8.10 and skipped 3.95, and the L1 Spanish speakers added 18.67 and skipped 5.47. It was decided that limiting the analysis to the target verbs only would make for fairer comparisons across groups. Target verbs were considered to be skipped if a participant modified their context or shifted their lexical aspectual class. For instance, some learners changed the item *(ver) una película* "(see) a movie" , which is an accomplishment, to *le gustaba ver una película* "liked/was pleased to see a movie," which is a state. Some changed *(sentir) agua* "(feel) water," a state, into *empezó a sentir agua* "began to feel water," an achievement. Thus, given the research question and the very limited number of target verbs in prototypical contexts (4 total), only the 21 non-prototypical pairings presented in the task itself were analyzed.

The number of target verbs each participant produced in PRET, IMP, or other forms (e.g. present tense, infinitive, gerund) was calculated as a proportion of verbs they attempted in each lexical aspectual class. For instance, if a learner used PRET for three of the six activity verbs, then the PRET proportion for activities was 50%. In cases where a participant skipped half or more of the target verbs in a verb class, the data were removed from analysis of that verb class. This resulted in losing one or two of a groups' participants in most lexical aspectual classes. In order to compare the participant groups, means of the proportions were calculated for each group and each lexical aspectual class, then graphed. Since the data were not normally distributed (target-like performance for achievements, for example, was 0% PRET and 100% IMP), parametric tests could not be used. Group differences were instead interrogated with Fisher exact tests, which are similar to chi-square tests but allow for small sample sizes. Raw count data were entered into a series of 2x2 contingency tables representing the number of times participants in two groups used PRET and IMP for each lexical aspectual category. Fisher exact tests are essentially a discrete form of a correlation test. They determine whether there is a relationship between the variable describing the columns (PRET or IMP) and the variable describing the rows (group membership) in the contingency table. The resulting *p*-value represents the likelihood that the two variables are independent.

Results

Recall that a variety of measures was taken in order to assess whether learners developed in terms of conceptual knowledge, and those results were reported in full elsewhere (Authors, 2022). Given that the learners clearly did develop conceptually and improve their performance overall, the current study went a step farther to investigate whether their conceptual development prompted learners to reduce their reliance on lexical aspect to inform choices about PRET and IMP usage. To that end, the data from the controlled story retell task are reported here in detail.

The Sisters task prompted the IMP with four achievements (Table 2) by putting them in the context of habitual actions in the past (i.e. what the sisters used to do when they were children), adopting an unbounded viewpoint of them. As shown in Figure 4, in the corpus data, L1 Spanish speakers marked 100% of these achievements with the IMP, as expected. A cross-sectional comparison of Spanish learners in the corpus representing different proficiency levels indicated that more proficient learners increased their use of IMP and decreased their use of PRET and other forms (e.g. present tense). This is exactly the pattern of results that would be predicted by the AH. However, the beginning learners instructed with C-BLI produced IMP at rates that were much more similar to intermediate ($p = .20$) and advanced learners ($p = .20$ on Fisher exact tests) than the beginning learners in the corpus ($p < .001$). The C-BLI learners' performance was different than L1 speakers at posttest ($p < .001$), but the subgroup of 10 learners that took the delayed posttest 10 weeks after receiving C-BLI almost reached full target-like usage of 100% IMP, performing like L1 speakers ($p = .43$).

Figure 4

Use of Forms for Non-Prototypical Achievements (Expected Form: Imperfect)
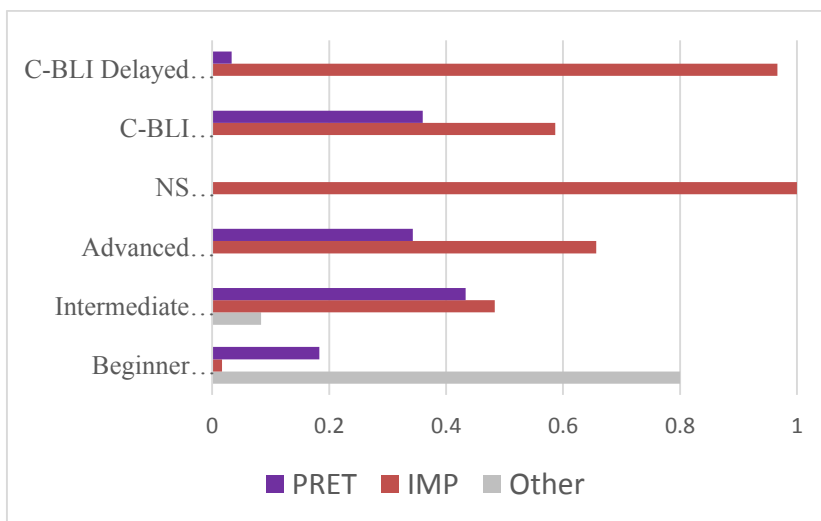
The Sisters task similarly prompted the IMP with seven accomplishments (Table 2) framed as habitual actions in the past (unbounded viewpoint). L1 Spanish speakers marked them all with IMP, and more proficient learners tended to increase their use of IMP and decrease their use of PRET and other forms (e.g. present tense), as predicted by the AH. All groups in Figure 5 performed significantly differently from one another (all $p < .05$), but the beginning learners instructed with C-BLI seemed to pattern more like the L1 speakers than any other learner group at posttest, and even more so at the delayed posttest.

Figure 5

Use of Forms for Non-Prototypical Accomplishments (Expected Form: Imperfect)
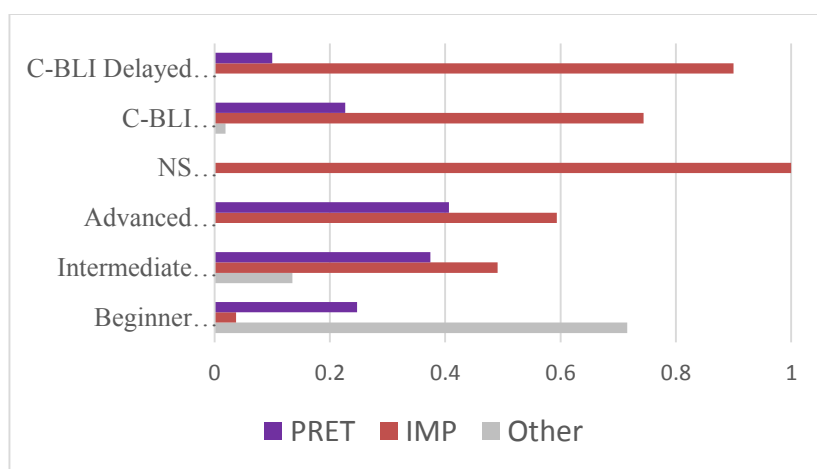
Figure 6

Use of Forms for Non-Prototypical Activities (Expected Form: Preterite)
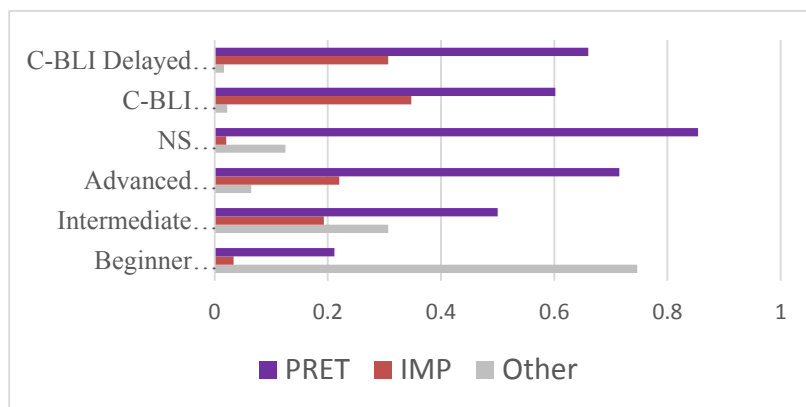
The Sisters task prompted the PRET with six activities (Table 2) by putting them in the foreground as actions that advanced the plot, adopting a bounded viewpoint of them. L1 Spanish speakers were expected to use PRET with all these activities, but they occasionally produced some IMP and present tense, usually the historical present as a means to begin or end the narrative, because most of the activities were located at the beginning or end of the story. The cross-sectional data indicated again that increases in proficiency were associated with gradually approaching L1 rates of PRET and IMP production (Figure 6). Here the novice learners who received C-BLI performed better than beginning learners in the corpus ($p = .02$) and similarly to intermediate learners ($p = .13$) who had much more L2 experience (see Table 1). C-BLI learners did not do as well as advanced learners or L1 speakers ($p < .001$).

Figure 7

Use of Forms for Non-Prototypical States (Expected Form: Preterite)
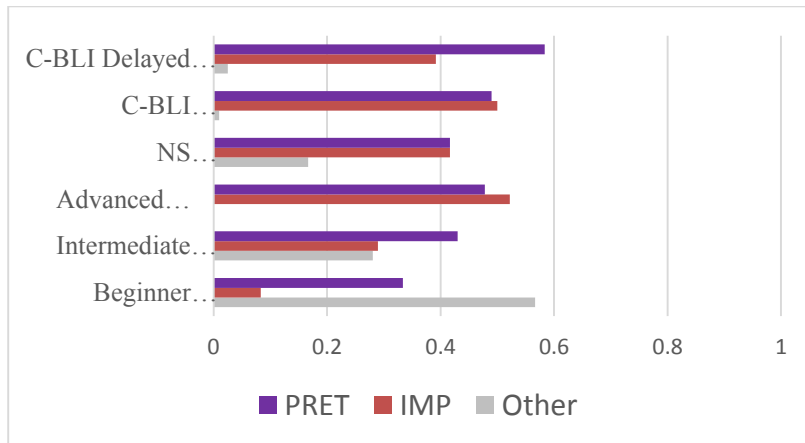
Finally, the Sisters task prompted the PRET with four states (Table 2) by foregrounding them, adopting a bounded viewpoint. L1 Spanish speakers were expected to use PRET with all these states, but they actually produced equal amounts of PRET and IMP, as well as some present tense (Figure 7). It seems that the task design did not provide quite enough discourse context to always elicit the expected forms with states. For example, one L1 speaker said *"De repente en el tren hubo* [PRET] *un gran revuelo. Creían* [IMP] *que había* [IMP] *un problema. Esto no tiene mucho sentido (...) con la otra, pero. Sentían* [IMP] *el agua de la lluvia."* (H24N). "Suddenly in the train there was [PRET] a big commotion. They thought [IMP] that there was [IMP] a problem. This doesn't make a lot of sense (inaudible) with the other one, but. They felt [IMP] water from rain." With states, then, L1-like usage in this task could be characterized as roughly equal amounts of PRET and IMP. There is not a clear pattern of how learners in the corpus developed across proficiency levels. However, the C-BLI learners clearly were able to use PRET in

equal or greater amounts than the IMP with these states in non-prototypical contexts, and their distribution of PRET versus IMP forms approximated that of intermediate learners ($p = .23$), advanced learners ($p = .75$), and L1 speakers ($p = 1$). Their ability to use PRET with states only increased in the delayed posttest.

Discussion

The current study investigated whether or not Concept-Based Language Instruction (C-BLI) teaching the concept of [±boundedness] helps novice Spanish L2 learners avoid relying on lexical aspect (aspect inherent in verbs and predicates) to motivate their uses of Spanish preterite (PRET) and imperfect (IMP), as the Aspect Hypothesis (AH) predicts they will do in the early stages of learning. A controlled impersonal narrative (story retell) task was used to elicit PRET and IMP forms in non-prototypical contexts. Novice learners in the US instructed with C-BLI ($n = 26$) were compared with corpus data from L2 learners ($n = 60$) and L1 speakers ($n = 15$). The results from the experimental task suggest that novice learners who received C-BLI produced PRET and IMP forms in nonprototypical contexts in proportions similar to more advanced learners and L1 speakers than expected given their very limited exposure to the target language.

The particular C-BLI intervention described here focused on the scientific concept of boundedness as materialized via animated illustrated narratives and internalized via a series of asynchronously and collectively mediated recorded verbalizations. This particular C-BLI intervention lead to conceptual development and improvements in accuracy of using PRET and IMP in personal narratives for the novice learners recruited (as reported in Authors, 2022). Indeed, the main pedagogical implication of the current study is that scientific concepts (Gal'perin, 1989, 1992) are useful for orienting learners' thinking about complex L2 phenomena. Scientific concepts are more systematic, linguistically accurate, generalizable to many contexts, flexible, and agentive for the learner than the conventionally taught rules of thumb. The Cognitive Linguistics-inspired scientific concept of boundedness was chosen here because it accounted reasonably well for the main contrast of viewpoint between PRET and IMP while still being simple and concise enough for novice learners (Gánem Gutiérrez, 2016; Niemeier, 2008). Boundedness was materialized as an animated video series so as to avoid complex graphics and terminology. Students were included throughout the process of materials development, and the resulting didactic model (the animated video series) was comprehensible and engaging for them. Furthermore, and most importantly here, the C-BLI was also associated with leaners' developing ability to use PRET with statives and activities as well as the ability to use IMP with achievements and accomplishments. That is, in terms that AH researchers would find relevant, C-BLI "worked" in that it developed these novice learners' abilities to make nonprototypical associations of past morphology and lexical aspectual categories, which is not expected to occur until more advanced stages of acquisition. In their review of the past 20 years of L2 past morphology acquisition research, Bardovi-Harlig and Comajoan-Colomé (2020) highlighted the investigation of such nonprototypical association as the most intriguing area for future research on the AH.

Theoretically, if students develop a complete concept about boundedness, they will thereby be able to distinguish viewpoint aspect from lexical aspect, since the concept would not be complete without entailing awareness of both, but this assumption should be directly tested empirically. The current study tested the assumption by employing a controlled task eliciting nonprototypical pairings, a task developed within the AH framework but novel to C-BLI research. This is not to suggest that the kinds of data typically reported in C-BLI studies (see García, 2017) is not perfectly adequate to track the kind of development of interest to C-BLI scholars. Indeed, the same learners recruited in this study were evaluated along the same lines (see Authors, 2022) to demonstrate the effectiveness of the C-BLI for spurring conceptual development. However, those data (e.g. definition, verbalization) are not always compelling to researchers working in other frameworks. The current study embraced a new methodology in an attempt to transcend the theoretically-grounded but siloed way of tracking leaner development in C-BLI research, thereby opening dialogue with AH researchers.

C-BLI, like SCT research generally, tends to eschew controlled tasks that do not engage learners in meaningful communication. However, the tasks used to tap aspect that do represent real, meaningful communication—personal narratives being the gold standard—do not elicit a wide enough variety of token types to allow for hypothesis testing about the role of lexical aspect (Bardovi-Harlig & Comajoan Colomé, 2020). Learners tend to produce (a limited number of) statives in the IMP and atelic predicates in PRET, i.e. prototypical associations. But that does not mean that they are incapable of producing nonprototypical associations, just that a different, more controlled task is required to elicit them. Indeed, Domínguez et al. (2012) found major across-task differences when comparing the data elicited by three oral tasks differing in levels of control, the most controlled of which was the task employed here.

Conclusion

The main premise of the current study is that cross-theory dialogue is mutually beneficial. Namely, research on Concept-Based Language Instruction (C-BLI) and other approaches rooted in sociocultural theories of learning (SCT) could be enriched by engaging with new ways of interrogating learner development, and thereby perhaps engage scholars working outside of SCT. On the other hand, research on the Aspect Hypothesis (AH) and other approaches to L2 aspect could be enriched by considering data that elucidates effects of specific instructional approaches. The current study attempted to bridge the divide between the two camps by employing a controlled experimental task. However, this is not to say that controlled tasks do not present their own set of limitations. For instance, the Sisters task employed here presented a very limited amount of text to create the desired discourse contexts while being accessible to beginning learners. The unbounded viewpoint of habitual past actions was evoked with the phrases *de niña* "as a child," *cada fin de semana* "every weekend," and *durante la semana* "during the week," whereas the bounded viewpoint of a foregrounded series of actions was evoked with the phrase *de repente* "suddenly." The learners recruited here had not been explicitly instructed about any of these phrases, but conventional instruction does often

include explicit reference to such phrases as key words that cue the PRET or IMP. Thus, conventionally instructed learners might perform well on this task without having developed a complete concept of aspect or without awareness of lexical aspect but rather merely because they recognize particular adverbial phrases they have been taught to look for. Negueruela characterizes such an ability to use grammatical features in controlled contexts as "empty formalism" (2003, p. 448). The L1 Spanish speakers did respond as expected to the task prompts in terms of marking all the past habitual actions with IMP, but the task was less successful at coercing L1 speakers to use PRET for foregrounded and bounded statives. The contexts constructed for those verbs in the task must have not seemed natural enough to L1 speakers to prompt the PRET. Future work should focus on creating and refining tasks that can be used to investigate nonprototypical associations between lexical aspectual categories and past morphology (see Bardovi-Harlig & Comajoan-Colomé, 2020).

To be sure, this study did not and could not set out to test the Aspect Hypothesis. Nor did it directly test the effect of C-BLI as compared with conventional instruction or uninstructed learning. It lacked the necessary control groups to do either, partly because comparison groups of true beginners at the university level are so rare. However, the data reported here do offer some hint that conventional instruction may contribute to the tendency of beginning learners to rely on lexical aspect for their use of PRET and IMP, an effect that prior investigations of the AH in the instructed context have not always acknowledged (Palacio Alegre, 2013). The comparison groups here were instructed learners from a variety of educational contexts, and it is safe to assume that they received relatively conventional instruction, but the corpus provides no details about their instruction on aspect. Similarly, little detail is reported about the instruction on aspect that has been received by learners recruited in many other AH studies, though it is probably safe to assume that it was rather conventional. As an illustrative example, Camps (2005) reported that the learners recruited had six lessons on PRET, two on IMP, and three on the contrast, but provided no details about what learners were taught during those lessons. Future work on the AH should strive to be more transparent about exactly how learners are taught to think about PRET and IMP.

Conventional, rule-based instruction is known to be inaccurate (Frantzen, 1995) and confusing (Author, 2021; Liskin-Gasparro, 2000; Yáñez Prieto, 2008). Conventional rules about aspect tend to emphasize prototypical associations, e.g. IMP is used for states and conditions, and these inaccurate rules have been blamed for some of the pervasive performance errors that even advanced learners produce (Rothman, 2008). Corpus studies suggest that L1 Spanish exhibits a distributional bias for prototypicality (PRET with telics and IMP with atelics) (Tracy-Ventura & Cuesta Medina, 2018), observational classroom studies suggest that teacher discourse is even more biased towards prototypicality (Diadone, 2019), and conventional instruction may explicitly reinforce the implicit biases that learners are likely to develop suggesting that PRET and IMP are really about a contrast in lexical aspect. Future advances in PRET and IMP instruction should strive to disentangle lexical from viewpoint aspect, both implicitly (less biased input) and explicitly

(metalinguistic information given). The current study suggests that a C-BLI approach based on boundedness was successful in terms of developing novice learners' ability to use PRET and IMP in nonprototypical contexts, but it is surely not the only pedagogical approach that can do so. It may be that C-BLI is ideally suited for the novice level, before the concept taught must compete psychologically with learners' rule-based explicit knowledge or their implicit knowledge of distributional biases of forms in the input, but future work must investigate the effect of exposure and input variables on C-BLI learning, as they were all conflated here.

The current study had several other limitations as well. First, there may have been task timing or administration differences that influenced the results. The timing of testing for the corpus learners is not reported, but the C-BLI learners were tested directly after instruction, which may have influenced their reticence to use the present tense, as opposed to beginning learners in the corpus. This possibility seems less likely given that they used little present tense in the delayed posttest as well, but it is a possibility that should be explored in the future. Furthermore, delayed test data were only available from a subset of 10 learners, so future work should explore the long-term effects of C-BLI with a larger group. Future work should also look beyond group means and delve into individual learners' developmental trajectories. C-BLI researchers, and SCT researchers more generally, are to be commended for the tremendous effort they often make to collect and analyze rich data so as to deeply understand the development of individual learners. Space constraints make it challenging to do so here, but future research should investigate individual learners' abilities to use PRET and IMP in nonprototypical ways after various instructional experiences.

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Author's Biography

Elizabeth Kissling received her B. A. in Spanish and International Relations and M. A. in Romance Languages from the University of North Carolina at Chapel Hill (USA). She received her Ph. D. in Linguistics from Georgetown University. She is an Associate Professor in the Department of Latin American, Latino & Iberian Studies at the University of Richmond in Richmond, Virginia. She is a Second Language Acquisition researcher with expertise in the areas of Cognitive Linguistics, Concept-Based Language Instruction, Phonetics, and Pronunciation Instruction.

Integration and Compatibility of Sociocultural Theory and Cognitive Linguistics for Second Language Lexicogrammar Instruction

Benjamin White[1,*] and Kyoko Masuda[2]

*[1] Corresponding Author, Associate Professor of Applied Linguistics, Education Department, Saint Michael's College, Colchester, Vermont, USA
Email: bwhite3@smcvt.edu*

*[2] Associate Professor of Japanese and Linguistics, School of Modern Languages, Georgia Institute of Technology, Atlanta, Georgia, USA
Email: km210@gatech.edu*

Abstract

In recent years, there has been a growing interest in bringing together Vygotskian sociocultural theory and cognitive linguistics for research on second language (L2) instruction. This paper explores the compatibility of the two theoretical orientations and finds that certain key assumptions within cognitive linguistics align well with sociocultural theory. Importantly, both theories hold similar positions on the relationship between language and cognition and on the influence of culture and the external physical world on language. Possible tension between the theories lies namely in their application to L2 pedagogy and research methodology for the classroom. In order to examine how sociocultural theory and cognitive linguistics are being integrated in L2 pedagogy, we review six recent empirical studies that are informed by both theories and that target the instruction of lexicogrammar in four different languages. We identify common themes and note challenges for future research. Finally, we make recommendations for the continued integration of sociocultural theory and cognitive linguistics for L2 instruction.

Keywords: Concept-Based Language Instruction (C-BLI), Cognitive Linguistics, lexcicogrammar instruction, Sociocultural Theory

Introduction

Over the last two decades, a growing number of second language (L2) researchers have argued for the integration of Vygotskian sociocultural theory (SCT) and cognitive linguistics (CL) in approaches to language instruction and research (e.g., Achard, 2008, 2018; Holme, 2007; Lantolf, 2006; Lantolf & Poehner, 2014; Masuda et al., 2015; Masuda, 2018; Tyler, 2012; White, 2012). In a clarion call, Lantolf and Poehner (2014) made a convincing argument to integrate SCT and CL within *systemic theoretical instruction* (Gal'perin, 1969, 1992), commonly referred to as concept-based language instruction (C-BLI).[1] While CL provides the linguistic theory, SCT offers a theory for development and learning. There has been particular interest in such an integrative methodology for the instruction of lexicogrammar, where traditional rules of thumb prove inadequate for developing learners' control of lexicogrammatical items (Negueruela, 2003) including tense markers, modal verbs, and polysemous items. Here cognitive linguists' commitment to grammar as conceptualization (Langacker, 2000, 2008) and to the idea that knowledge of language emerges from language use (Croft & Cruse, 2004; Bybee, 2008; Langacker, 2000) promises to contribute to a more meaningful instructional approach. This makes a sharp contrast with traditional approaches that present decontextualized lexicogrammatical items in a piecemeal fashion without explaining how the forms and meanings are systematically related.

In the present paper, we take a praxis approach by attending to the dialectic relationship between theory and practice (Vygotsky, 1997; Lantolf & Poehner, 2014). We first discuss the ontological assumptions of CL and whether these are commensurable with those of SCT. Where is there overlap and where are there potentially challenging tensions? We then turn to the practice of L2 research by examining six recent studies integrating SCT and CL. We are particularly interested in how theory is realized and reflected in the studies' research methodologies. How are language and cognition understood? How is language development operationalized? By asking these guiding questions, we expect to reveal consistencies and differences across the studies and to raise new inquiries on the theoretical compatibility between SCT and CL. Such consideration allows us to probe how practice informs theory.

Finally, we address the promise of continued integration of SCT and CL for L2 teaching and learning. Beyond detailing specific contributions that the reviewed studies make to teaching practice, we offer suggestions for future research. Through this paper, we aim to promote a robust dialogue between researchers in SCT and CL and to encourage more L2 instructors to adopt an integrative approach.

How well does Cognitive Linguistics fit with Sociocultural Theory?

This section first briefly introduces CL and then discusses its commensurability with SCT. Compatibilities and possible tensions between the two theories are addressed.

Cognitive Linguistics

CL is a broad theoretical approach that seeks to better understand the nature of human language by examining the cognitive operations humans employ while using language. In CL, language is fundamentally grounded in human cognition and as such is a reflection of processes of conceptualization (Langacker 2000, 2008).[2] This differs significantly from a Chomskian view that an innate universal grammar is unique to human beings and is separate from other forms of cognition. Wen and Taylor (2021) lay out nine "major guiding principles or fundamental hypotheses" (p. 2) for CL:

- Language is part of human cognition and not a separate cognitive faculty;

- Language is full of constructions that pair forms with meanings;

- Meaning is central to language;

- Meaning is constructed through conceptualization;

- Conceptualization is key to the structure of semantics;

- Conceptualization is embodied;

- Meaning is structured through encyclopedic knowledge of the world;

- Meaning is found in grammatical constructions; and

- Linguistic knowledge arises through language use.

There is no doubt that CL privileges the role of meaning in language. Geeraerts (2021) specifies three crucial aspects of linguistic meaning: 1) it does not objectively reflect the world, but rather reflects human perspective on the world, 2) it is dynamic and subject to change, and 3) it is based on human experience in the world (p. 24). From a CL perspective, all aspects of language are imbued with meaning.

Not surprisingly, because the central focus is on meaning, meaning-making activities, and how meaning is related to form in context, CL has appealed to applied linguists interested in improving L2 pedagogy. In particular, CL has been helpful in providing systematic meaningful explanations for traditional L2 lexicogrammar challenges through concepts such as metaphor, metonymy, schemata, prototypes, and semantic networks (Tyler, 2012). CL-inspired charts or diagrams are known to help L2 learners make sense of seemingly abstract linguistic points (Tyler, 2008; White, 2012; Masuda & Labarca, 2015; Dolgova Jacobsen, 2018, Arnett & Deifel, 2015; Lysinger, 2015). Taylor (1993) points out how several CL insights can inform pedagogical grammar so that instructors are not just teaching forms but also the conceptual structures associated with those forms[3].

Verbal aspectual contrasts, for example, are challenging for even advanced L2 learners. From a CL perspective, human beings conceptualize events metaphorically as physical objects. That is, tense is situated on a metaphorical timeline like 'time is space' with present being conceived of as immediate, while

past as distal. Aspect entails how these event-objects are construed or viewed. They may be construed as bounded when viewed from an outside holistic perspective or as unbounded when viewed from an internal perspective (Janda, 2015). Applied CL L2 instruction is able to approach traditionally difficult grammar areas like verbal aspect through conceptualization and meaning. This provides welcome relief to L2 learners who find traditional rules of thumb for grammar somewhat arbitrary and who struggle to apply these rules when using the L2.

Compatibility of Cognitive Linguistics and Sociocultural Theory

Certain shared ontological assumptions suggest the compatibility of CL and SCT. Among these are the fundamental view that language is deeply intertwined with general cognition. For Vygotsky (1986), thought and speech merge in the development of the child, thus enabling adults to engage in what he calls verbal thought. On the CL side, Verspoor and Tyler (2009) state that language is employed to think, express meanings, focus attention, categorize, and make generalizations, as well as to communicate in socio-cultural contexts.

Another shared assumption is that culture influences language. CL and SCT both recognize the importance of social interaction and human activity on language structure. As such, for each of the two theoretical approaches, culture plays a part in the ontogenetic development of language within an individual as well as in the sociocultural development of a language over time.

Both CL and SCT share the basic tenet that concepts exist in the mind and that concepts function as psychological tools in cognition and communication. Language performance requires manipulation of concepts, categories, and constructions. An implication for L2 learning contexts is that changes in conceptualization (e.g., through new perspective taking and the adoption of new concepts) will yield better control of language. In SCT, scientific concepts are central in schooling where individual experience becomes re-analyzed and transformed via interaction with scientific knowledge, while spontaneous concepts are based in everyday practical experience (Vygotsky, 1986).

It is worth noting how the two theoretical approaches view the relationship between the physical world and conceptualization. In CL, our hands-on physical experience and social interaction in the world shape our construal of events and our linguistic concepts. In SCT, physical experience and social interaction drive the development of everyday concepts. By intentionally manipulating that experience and interaction (as in C-BLI), educators guide learners to internalize scientific concepts.

C-BLI offers an excellent example of SCT's compatibility with CL. Through this particular pedagogical approach (for an example, see Negueruela & Lantolf, 2006), an instructor first establishes the learners' awareness of a target concept before reorienting the learners' orientation toward the concept through a SCOBA, an acronym that stands for *Schema of a Complete Orienting Basis of an Action* (Gal'perin, 1969, 1992). The SCOBA is meant to transform the concept from an abstract thought to material form and to guide learners' use of the concept. The

SCOBA may take the shape of a diagram, an image, a physical model, a flowchart, a video, an animation, a gesture, or some other materialization allowing learners to interact physically with it. Learners complete activities or tasks in which the SCOBA aids their performance. Through a verbalization stage, learners discuss their use of the concept / SCOBA with others before moving on to individual reflection. Over time learners come to rely less and less on the physical SCOBA in performance of the activities. The aim is that through these steps learners appropriate or internalize the target concept as a psychological tool. Mirroring CL's assertion that language develops from our physical and social interaction in the world, C-BLI follows a progression from material and social to psychological. Furthermore, CL concepts, such as the schema for a particular grammar construction, serve well as instructional targets for C-BLI and are easily materialized.

Both CL and SCT place considerable importance on conceptual symbols and on the flexibility with which individuals use those symbols. For example, Langacker (1987; 2002) analyzes grammar as made up of a great many meaningful constructions varying in degree of abstractness and arrived at over sustained exposure through language use. These constructions are symbols allowing the individual to choose among various construals during language use. As Achard (2018) puts it,

> By treating the target grammar as a set of symbolic resources that speakers select to fit their interactive needs, the cognitive linguistics model frees speakers from a rigid system of rules to highlight the amount of control they enjoy over their own linguistic production. (p. 59)

Similarly, from a SCT perspective, Voloshinov (1973) emphasizes that linguistic forms are not fixed in the sense of *x* always equals *y*; rather, linguistic forms are adaptable based on the individual's communicative situation and needs. As Lantolf and Thorne (2006) explain, "It is in the tension between meaning potential (collaboratively constructed by a culture and made available to its members) and concrete communicative practice of individuals that meaning, or what Vygotsky called 'sense', is actualized" (p. 9).

Tensions between Cognitive Linguistics and Sociocultural Theory

Tension between CL and SCT tends to appear in their applications to language pedagogy. Foremost is the observation made by Lantolf and Poehner (2014) that "applied CL . . . does not have a sound theory of developmental education" (p. 72). While CL explanations for linguistic phenomena may be systematic, the way CL researchers employ those explanations in L2 instruction is not consistent. It is not enough simply to present CL-inspired concepts in the classroom with the expectation that they will be understood and memorized by students.

Vygotsky (1986) notes "a concept is more than the sum of certain associative bonds formed by memory, more than a mere mental habit; it is a complex and genuine act of thought that cannot be taught by drilling" (p. 149). More

than simple learning, the aim of C-BLI is development through internalization of concepts. Negueruela (2008, p. 193) argues that internalization can be fostered by learners "thinking through the concept" as they engage in pedagogical tasks. Activity within the tasks expands connections between an internalized concept and its functional use, strengthening the connection of conceptual content and conceptual functionality. In effect, there is a dialectical relationship between concept and use.

Applied CL is less committed to a specific pedagogy or, perhaps, even to the goals of instruction. Achard (2018) writes that CL posits two seemingly contradictory views: "grammar as concept" and "the grammar as usage" (p. 37). The former view, like C-BLI, endorses deductive and explicit presentation of lexicogrammatical constructions, while the latter advocates an emergent, inductive, and implicit type of instruction. CL concept-based approaches to L2 instruction present metalinguistic knowledge often through schematic diagrams, for instance, in order to teach novel linguistic categorization or meaning motivation. Meanwhile, usage-based approaches expect L2 learners to become aware of the patterns of form-meaning pairing through exposure to a large number of instances. According to Achard (2008), CL itself does not favor explicit over implicit instruction or vice versa. He posits that both are available as strategies for teachers (Achard, 2018). In short, although CL provides useful analysis for language instruction, it does not endorse a specific type of language instruction or praxis.

It is important to note that in examining first language use, CL reveals cognitive operations like profiling, grounding, metaphor, and metonymy. These operations could be considered as spontaneous concepts since language users develop and utilize them through everyday participation in speech communities and not through formal education. From a SCT perspective, by introducing explicit attention to these operations in L2 instruction, they are reframed from spontaneous to scientific concepts. The challenge is not for students in C-BLI to learn something completely new—after all the students are already using these concepts in their first language. Rather, the challenge is to reshape the use of the cognitive operations to allow for greater control of the L2.

Further tension may be found in research methodologies. Because the foundation of SCT lies in developmental psychology, this approach tends to favor microgenesis and / or qualitative studies, where researches carefully document the learner's development of concepts over time via verbalization, known as *languaging* (Swain, 2006). Thus, in this line of research focus is put on changes in the awareness and understanding of the target concepts. In contrast, following cognitive psychology or a linguistic sciences tradition, CL-oriented research tends to measure effectiveness of language instruction by statistically comparing two groups' scores, either comprehension and / or production (in experimental and control groups) as well as by gauging participants' perceptions in follow-up interviews. We will revisit this point in the following section, but individual development seems to be a secondary concern in CL.

Studies integrating Cognitive Linguistics and Sociocultural Theory

For present purposes, we consider six recent publications that report on efforts to combine elements of CL and SCT in L2 educational contexts. These studies, published between 2018 and 2022, target the instruction and learning of various lexicogrammatical constructions across a range of contexts.

Table 1

Overview of Recent Studies Integrating Sociocultural Theory and Cognitive Linguistics

Study	Language & Linguistic Targets	Participants & Context
Buescher and Strauss (2018)	French polysemous prepositions *à*, *dans*, and *en*	11 American university students and 11 teachers, Workshops outside regular instruction
Masuda and Labarca (2018b)	Japanese polysemous locative particles *ni* and *de*	28 American university students in 3rd semester of Japanese
Lantolf and Tsai (2018)	English Verb + noun collocations for light verbs (e.g., *make*, *do*)	7 Taiwanese university students, a project outside regular instruction
Hill (2019)	English polysemous lexis (general vs. genre-specific meanings)	22 Japanese university students in advanced academic reading and writing courses
Poehner and Infante (2019)	English verb tense and aspect	1 L1 Arabic speaker seeking graduate study in USA, outside regular instruction
Kissling and Muthusamy (2022)	Spanish verb aspect	16 novice learners of Spanish regular course in USA

Buescher and Strauss (2018) report on two workshops held with university L2 learners of French and one workshop with French teachers. The purpose was to expose participants to graphic representations for the prepositions *à*, *dans*, and *en*. These conceptual representations are based on CL notions of *trajector* and *landmark*

(Langacker, 2002) and are meant to reflect core spatial meanings of the targeted prepositions. Participants were shown how the graphics could represent various uses of the prepositions and were then asked to choose appropriate prepositions for different contexts while verbalizing connections to the graphics. By administering pre- and post-tests, Buescher and Strauss were able to identify changes in students' conceptualization of preposition meanings as well as more appropriate use of the prepositions. The researchers also found that the teacher participants felt more confident in their own understanding of the prepositions and most teachers thought the approach would be effective with students.

Masuda and Labarca (2018b), part of a large study (see Masuda and Labarca 2015, 2018a), employ a quasi-experimental design to compare traditional and usage-based approaches for the instruction of polysemous particles *ni* and *de* in two third-semester Japanese courses at an American university. Participants in the usage-based approach experienced elements of C-BLI including materialization of concepts through SCOBAs as well as verbalization through pair work. The SCOBAs utilized CL concepts of *ground* and *figure* (Talmy, 2000) in color-coded schematic diagrams meant to represent four separate but related meanings or uses for each of the two locative particles. Further, the classroom presentation and diagrams highlighted the semantic connection and meaning motivations within the polysemy network for each of the two particles. During instruction, participants identified functions of the two particles within a short story, matched particle functions to the schematic diagrams in a second short story, and discussed particle use in their own previously written texts. The researchers found that participants in both the usage-based and the traditional groups improved their accuracy of particle use after instruction, but only the usage-based group was able to maintain their gain after 3 weeks. Questionnaires and interviews revealed that while many students in the usage-based group appreciated the *de* and *ni* schematic diagrams, some students struggled to understand them. Both groups valued paired interaction during instruction.

Lantolf and Tsai (2018) report findings on learner development from a larger study (Tsai, 2014) that employed a C-BLI approach to teach English verb-noun collocations to Taiwanese university students. The study targeted the verbs *make*, *do*, *take*, *get*, and *have* and demonstrated to students the metaphorical extensions from the verbs' literal prototypical meanings. Students applied SCOBAs (schematic illustrations representing the basic lexical semantics of each verb across space and time) to various uses of the verbs found in excerpts from the Corpus of Contemporary American English and explained connections between literal and metaphorical meanings, first in groups and then individually as homework. As part of the homework, participants also drew their own schematic illustrations to match individual uses of the verbs. After instruction, students showed dramatic improvement from a gap-fill pre-test to both an immediate and a one-week delayed post-test. Focusing on two of the participants, Lantolf and Tsai document changes in these participants' conceptual understanding of *do* and *make* through homework illustrations and interview data.

Hill (2019) examines the effectiveness of utilizing CL's concept of *motivated meaning extensions* to teach polysemous words in the context of advanced academic English courses at a Japanese university. Students in an experimental group compared everyday meanings to genre-specific meanings of given words by completing paired gap-fill activities. Handouts were included that represented the genre-specific meaning extension with arrows leading from general to more specific meaning. Each class period targeted words from a different genre (economics, politics, information technology, and science). Students in a control group, on the other hand, individually studied first everyday meanings for the same words in one class, followed by specific meanings within each of the four genres in subsequent classes. Through a pre-test and post-test format, it was found that participants in the control group did not improve on a definition-matching task while those in the experimental group did. Those same students, who performed the paired motivated extension activities during instruction, also performed better on a subsequent gap-fill task that required them to supply missing words in paragraphs from each of the four target genres. A further finding was that pairings of lower- and higher-level learners especially helped the lower-level learners make gains in their comprehension of polysemous words.

Poehner and Infante (2019) draw from a larger project (Infante, 2016) to report on the mediational interactions between one L2 English learner and the teacher-researcher. The project combined elements of C-BLI with the educational approach known as Mediated Learning Experience (Feuerstein, Feuerstein, & Falik, 2010) to provide instruction on the English verbal system. Drawing on CL research, Infante (2016) created a schematic graphic that visually represents separate event frames for the English tense-aspect system. In one-to-one meetings with the teacher-researcher (i.e., the mediator), the learner applied the schematic as a symbolic tool to analyze and interpret given sentences and then to review her own writing. The interactional data provided revealed steps the mediator took to guide the learner through various psychological actions in order to more fully understand and make use of the symbolic tool of the schematic graphic.

Kissling and Muthusamy (2022) explore the utility of teaching the CL concept of *boundedness* (Janda, 2015) to help beginner-level university L2 Spanish learners understand the preterite and imperfect aspects. Participants were instructed through a C-BLI approach that included videos and teacher gestures in the materialization phase. The videos provided different versions of the same story and used special animated imagery in order to exemplify the preterite as a bounded viewpoint and the imperfect as an unbounded viewpoint. Students verbalized their understanding of the concepts and applied the concepts to both gap-fill and communicative tasks. Through pre-tests, post-tests, and delayed post-tests, participants were asked to define relevant metalinguistic terms and to create oral and written narratives. The learners demonstrated more systematic knowledge and improved control of the preterite and imperfect after instruction.

Common Themes

In all of the six studies, we see researchers a) targeting the instruction of linguistic topics known to be frustrating for L2 learners, b) explaining these topics through CL concepts and ideas, c) attempting to materialize those concepts into pedagogical materials, d) engaging learners directly with the concepts through hands-on activities, and e) asking learners to verbalize their understanding of the concepts through social interactions and self-reflection. While not all of the studies explicitly state the use of C-BLI, they all employ materialization of concepts and verbalization among learners, key elements in SCT pedagogy. Learners, with the exception of those in Kissling and Muthusamy (2022), were at an intermediate to advanced level of L2 proficiency.

Each of the studies reports changes in learners' conceptual understanding, improvement in learners' control of the linguistic topic, or both. Changes in understanding were identified by various means. These included comments made in interviews, written questionnaires, oral and written explanations for linguistic choices on assigned tasks, and even student sketches. Control of the linguistic topics were also gauged through a variety of activities. These included gap-fill tasks (Buescher & Strauss, 2018; Masuda & Labarca; 2018b; Lantolf & Tsai, 2018; Hill, 2018), translation (Buescher & Strauss, 2018), written and oral personal narratives (Poehner & Infante, 2019; Kissling & Muthusamy; 2022), picture-prompted written stories (Masuda & Labarca; 2018b), and definition matching tasks (Hill, 2018).

As can be seen, the studies attempt to document participants' language development through both their verbalization and their performance on language tasks. Verbalization requires some type of reflection during or after conscious conceptual manipulation (García, 2018). While such reflection is able to shed light on changes in participants' understanding of the concepts, it does not reveal much about participants' functional application of those concepts. To do that, the researchers employ the tasks mentioned above, tasks that vary greatly. Some are more about language production while others comprehension. Some generate written responses while others oral responses. Some provide context through narratives while others only sentence-level context. Some ask participants to create their own narratives. There is obviously a significant difference between filling in the missing word in a sentence and telling a story to someone. No matter the task, we encourage researchers to place their focus less on assessing participants' responses as right or wrong and more on evaluating how participants are using instructed concepts in order to better guide their development. The technique of stimulated recall (Gass & Mackey, 2016) might prove useful here. For example, after completing a recorded narrative task or role-play activity, individual learners watch the recording of their performance and respond to queries from the researcher on specific uses (or non-uses) of instructionally targeted constructions.

Conspicuous across all of the studies are the short timeframes—from one day to six weeks. While C-BLI studies often focus on the introduction of new concepts to learners, Vygotsky (1986) reminds us "to introduce a new concept means just to start the process of its appropriation. Deliberate introduction of new

concepts does not preclude spontaneous development, but rather charts the new paths for it" (p. 152). Although the studies reviewed here document the beginnings of learners' conceptual understanding[4], these studies are unable to examine functional use of the concepts in more natural L2 activity as well as to chart more complete developmental paths of the learners.

Future Directions

As evidenced by the recent studies discussed here, we believe there is promise in the continued integration of SCT and CL. In particular, C-BLI offers an effective way to situate CL's meaning-based analysis of language within a pedagogy centered on promoting conceptual development. To further investigate this SCT-CL integration and its effectiveness for L2 learning and teaching, we make the following suggestions for future research.

First, we urge L2 researchers to continue to explore the instruction and learning of traditionally challenging lexicogrammar topics through C-BLI. It is around these topics (e.g., polysemous prepositions / postpositions or verbal aspect) where the need for better instruction is most felt and where both teachers and students will appreciate a more meaningful concept-based approach to instruction. Further, it is to these very topics that CL is well suited to offer concepts and systematic explanations for difficult to explain or seemingly arbitrary linguistic patterns. The relevant research focus should be *obuchenie*, or learning and teaching (see Cole, 2009). To that end, we think it beneficial for more studies to include L2 instructors among their participants, as in Buescher and Strauss (2018).

Second, as researchers continue to pull concepts for instruction from CL, we encourage them to seek creative ways to materialize those concepts. SCOBAs need not be limited to two-dimensional diagrams on a paper handout or a projected slide. Concepts can be presented in a variety of ways reflecting the CL notion of language and cognition as embodied and shaped by the physical world. For example, in Kissling and Muthusamy (2022), gestures are used as a means of representing the concept of boundedness. The performative aspect of gestures, like that of drawing in Lantolf and Tsai (2018) or even of clay modeling in Serrano-Lopez and Poehner (2008), exploit the mimetic nature of human learning. Similarly, we encourage researchers to consider how technologies such as animation in slides (Masuda & Labarca, 2018b) and video recording (Arnett & Suñer, 2019; Suñer & Roche, 2019; Kissling & Muthusamy, 2022) can enhance the salience of SCOBAs.

We also recommend L2 researchers investigate the instruction of concepts that are relevant across linguistic constructions. For example, Masuda and Ohta (2021) and Masuda et al., (under contract) discuss how *subjective construal* is a foundational concept for a range of grammatical constructions in Japanese. They suggest that teaching this concept through C-BLI may help L2 learners better understand and use difficult constructions. Likewise, the concept of *boundedness* as applied in the instruction of verbal tense and aspect (Kissling & Muthusamy, 2022) could also be used when teaching other areas of grammar, including adjectives

(Paradis, 2001), nouns (Neiemier, 2008), and articles (White, 2018). Similarly, the concepts of *transitivity* and *protoype* can be useful in the instruction of the German case system (Arnett & Jernigan, 2004). The thought here is that if learners internalize unifying concepts early on, these concepts may enable learners to see connections across various aspects of the language, thus providing coherence and facilitating development. Here we see an opportunity for praxis, whereby the practice of instructing such concepts may inform both our theoretical understanding of language and learning.

If an important goal of C-BLI is for learners to internalize instructed concepts, we should strive for documentation of the entire developmental process. Many studies track only the beginnings of internalization, the initial change in L2 learners' conceptual understanding (e.g., Buescher & Strauss, 2018; Masuda & Labarca, 2018b; Lantolf & Tsai, 2018; Poehner & Infante, 2019; Kissling & Muthusamy, 2022). It would behoove researchers to incorporate more sustained C-BLI verbalization activities over a longer period of time[5]. Can we go beyond languaging and verbalization data on the front end of development and look more closely at the use of concepts over time? This should include more examination of learners' ability to generalize instructed concepts to new contexts, topics, and situations, which necessarily includes, as suggested by an anonymous reviewer, documenting overgeneralization and inappropriate use of concepts. More complete mapping of individuals' L2 development will inform our theorizing on the psychology of learning.

As Lantolf and Thorne (2006) suggest, "it is not enough to document internalization, we must also try to trace the reemergence of the language features focused on in private speech in social interaction" (p. 202). It is worth asking whether and how L2 speakers make use of internalized concepts during natural and spontaneous communication. Have the concepts, in fact, come to be psychological tools for L2 communication? Do proficient L2 speakers engage in automatic, effortless use of concepts that were initially taught through C-BLI?[6] To pursue such questions, we especially need more longitudinal studies (Lysinger, 2015), time to track development carefully.[7] More attention should be paid not just to the latter stages of L2 proficiency but also to the very beginning stages L2 learning, such as was done in Arnett and Suñer (2019), Arnett and Deifel (2015), and Kissling and Muthusamy (2022). By exposing beginner learners to C-BLI and following their development across proficiency levels, we will be better able to determine if early realignment of the learner's conceptual system leads to more efficient and successful L2 development. A more longitudinal approach should have important consequences for our teaching practice and theories of learning.[8]

With the above suggestions in mind, we revisit the six studies and offer specific recommendations for pedagogical extensions. We hope that doing so provides a clearer picture of what the continued integration of CL and SCT might mean for L2 pedagogy and research.

Table 2

Recommendations for Extensions of Recent Studies Integrating Sociocultural Theory and Cognitive Linguistics

Studies	Our Recommendations
Buescher and Strauss (2018)	The pedagogical treatment of *à*, *dans*, and *en* in this study could easily be extended from isolated workshops to regular classroom instruction within French courses. Pedagogy would be enhanced by adding internalization activities so that learners can engage in "thinking through the concept" (Negueruela, 2008, p. 193) of landmark and trajector. For instance, teachers / researchers can use a narrative pair-work activity where students collaboratively write stories based on a sequence of pictures provided or *dictogloss* (Swain & Lapkin, 1995), in which a short text is read by the teacher and students reconstruct the text from their notes. During the writing, students refer to schematic aid cards and discuss their choices of target prepositions. This may be followed by teacher feedback on and whole-class discussion of preposition choices within the stories. Such an activity prompts learners to engage meaningfully with the proposed conceptualization-based framework, to engage in languaging (Swain, 2006).
Masuda and Labarca (2018b)	This study could be improved by employing SCOBA-based instruction over a longer period of time and introducing it earlier to learners in their study of Japanese, when they are first introduced to particles *ni* and *de.* By doing so, the concepts of *ground* and *figure* will be available to learners as psychological tools with which to mediate their understanding of the diverse array of polysemous particles in Japanese. Further, it would be well worth executing studies that gauge L2 Japanese teachers' understanding of both the proposed schematic aids and conceptual explanations as well as teachers' opinions on the utility and effectiveness of the SCOBA-based approach for the challenging topic of spatial particles.
Lantolf and Tsai (2018)	The instructional approach targeting verb + noun collocations for light verbs could be extended to other semantically challenging verbs in English. For example, learners can be asked to apply the SCOBA to the traditionally problematic verb pairs *lie / lay*, *sit / set*, *rise / raise*, *teach / learn*, *lend / borrow*, *bring / take*, and *come / go*. By drawing their own sketches of the verb action over time and space, learners reinforce their understanding of key semantic distinctions involving transitivity, argument structure, and perspective. To emphasize the utility of the SCOBA for learners' efforts to understand and control light verbs, students can be directed, as

Studies	Our Recommendations
	in White (2012), to collect verb collocations in their outside-of-class reading and in class to work collaboratively through the SCOBA to produce sketches for the collected verbs. The mining of authentic texts by students themselves promotes learner agency, awareness, and autonomy (van Lier, 1996).
Hill (2019)	The study can be strengthened by adopting a pedagogy more closely aligned with C-BLI. For instance, learners would benefit from a richer SCOBA, one that utilizes greater imagery to capture the concept of motivated meaning extension (from everyday to genre-specific use) of polysemous lexis. Subsequent verbalization activities could require learners to apply the concept in vocabulary analysis tasks and vocabulary production tasks and to in turn reflect on that application. Important in both tasks is that there be sufficient context so that learners attend to relevant discourse elements of the various academic genres and process the vocabulary more deeply. To promote learner agency as well as the relevance of the concept of motivated meaning extension, students can be asked to read through genre-specific texts outside of class in order to identify more examples of polysemous lexis and to reflect on meaning extensions.
Infante and Poehner (2019)	This study could be extended to an L2-English classroom setting. Given the difficulty some of the original participants had in their understanding of tense and aspect, researchers / teachers might try to make the SCOBA more accessible. One way to do this it to incorporate embodied learning through gestures within the mediation stages. For instance, to convey the anterior or prior sense of the perfect aspect, learners can be asked to turn their heads back over their shoulders, to look behind themselves. Note how a backward glance from the present time represents present perfect, from a point in the past represents past perfect, and from a point in the future represents future perfect. To convey the dynamic activity and internal perspective of the progressive aspect, learners can be instructed to wave their arms about their sides and to imagine they are inside an event without any knowledge of when it might end. In addition to labeling images as in the original study, learners can sketch their own images on timelines, sketches that reflect learners' understanding of the semantic contributions of perfect and progressive aspects.
Kissling and Muthusamy (2022)	Follow-up studies could be undertaken to document learners' ongoing internalization of the concept of boundedness and to examine the concept's role in spontaneous communication at more advanced levels of L2 Spanish proficiency. After

Studies	Our Recommendations
	beginner students have been exposed to the authors' systematic instruction of the concept, they can later be assessed from an emic perspective on their understanding and use of boundedness. As the same students progress through intermediate and advanced levels, teachers / researchers can collect student-written narratives and recordings of students in free conversations. Students can then be asked to reflect on their use of preterite and imperfect aspects through stimulated recall techniques. Such an approach would allow researchers to examine whether learners are aware of and utilizing the concept of boundedness in fluent speech and writing.

By discussing compatibilities as well as possible tensions of SCT and CL, we hope to promote continuing dialogue between these two theoretical approaches. Further, we hope that our examination of six recent SCT-CL studies encourages more L2 researchers and instructors to adopt a praxis approach, thereby advancing both our theoretical understanding of language and development and our instructional practices in the L2 classroom. We believe C-BLI provides an effective means of integrating SCT and CL and look forward to seeing more studies across more L2s and with learners at a wider range of proficiencies.

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Notes

1. Concept-Based Language Instruction (C-BLI) has also been called *Concept*-Based Instruction (CBI), but it is not the same as *Content*-Based Instruction (Sato et. al., 2017), which also uses the acronym CBI.

2. Please see Taylor (2002) and Croft and Cruse (2004) for overviews of Cognitive Linguistics.

3. Taylor (1993) points out that pedagogical grammar explanations should be a) succinct, b) readily comprehensible, and c) intuitively plausible.

4. An anonymous reviewer asks how learners at intermediate to advanced levels of proficiency can be at the beginning of their conceptual understanding, when these learners have presumably been taught the targeted structures before. This is an important question. We agree that the learners most likely had met target constructions in their previous language study. However, because traditional language instruction (with its rules-of-thumb and decontextualized grammar focus) tends to prioritize accuracy of form over meaning and use, we suggest that learners were prompted toward *new* conceptual understanding of the constructions through C-BLI.

5. Although not explicitly a C-BLI approach, Lysinger (2015) provides an excellent example of a longer-term approach to L2 instruction. She uses CL schematic diagrams to teach the case system in Russian and asks leaners to verbalize their understanding of the concepts over a one-year period.

6. We imagine one way to track use of internalized concepts outside the classroom is to ask learners to record themselves in communicative interactions in the "real world."

7. An anonymous reviewer raises concerns about measuring long-term development and tracing such development back to initial C-BLI. While we acknowledge this as a legitimate concern, especially given existing expectations by academic journals, we strongly believe researchers would be wise to move beyond reductionist approaches that attempt to measure the impact of one variable upon another (most often within an abbreviated span of time). Instead, and especially when investigating such complex systems as language and psychological development, researchers might embrace more dynamic methodological approaches such as those found in activity theory (Engeström, 1987; Engeström, Miettinen, and Punamäki, 1999) and complex dynamic systems theory (Larsen-Freeman and Cameron, 2008; Al-Hoorie, Hiver, Larsen-Freeman and Lowie, 2012).

8. As observed by an anonymous reviewer, significant challenges exist for those wishing to carry out longitudinal studies and publish in academic journals.

Authors' Biographies

Benjamin White is an Associate Professor at Saint Michael's College, where he serves as the MATESOL Program Director. With a Ph. D. in Second Language Studies from Michigan State University, he has taught English, trained teachers, and served as an administrator in a range of contexts. His research interests include Pedagogical Grammar, Second Language Acquisition, and Teacher Development. He is particularly interested in the application of cognitive linguistics and sociocultural theory to language instruction.

Kyoko Masuda (Ph.D. University of Arizona) is an Associate Professor in the School of Modern Languages at the Georgia Institute of Technology, where she serves as Director of Japanese Program. Her research focuses on L2 Japanese and the intersection of SLA, Cognitive Linguistics, Sociocultural Theory, and Discourse Studies. She is co-editor of Cognitive Linguistics and Sociocultural Theory (Mouton de Gruyter, 2015) and editor of Cognitive Linguistics and Japanese Pedagogy (Mouton de Gruyter, 2018).

A Diffractive Reading of Multiliteracies, Participatory Teacher Action Research and Cultural Historical Activity Theory: Entanglements and Insights in Indigenous Language Teaching

Sabine Siekmann[1,*] and Joan Parker Webster[2]

[1]Corresponding Author: Professor of Applied Linguistics, Linguistics Program, University of Alaska Fairbanks, Fairbanks, AK, USA,
ORCID: 0000-0001-7302-0000
Email: ssiekmann@alaska.edu

[2] Associate Professor of Education (retired); Affiliate Assistant Professor, Center for Cross Cultural Studies, University of Alaska Fairbanks, Fairbanks, Alaska, Fairbanks, AK, USA
Email: jpwebster@alaska.edu

Abstract

This article examines the onto-epistemological-methodological grounding of a conceptualization of praxis in the context of Indigenous language teaching for maintenance and revitalization. We conduct a diffractive reading (Barad, 2007) of cultural historical activity theory (Vygotsky, 1978; Engeström, 2001) and PTAR (Kemmis & McTaggert 2005; Siekmann et al., 2019) and pedagogy of multiliteracies (Cazden et al., 1996; Cope & Kalantzis, 2009) to gain new insights into the commensurability of their ontological assumptions and epistemological underpinnings. First we contextualize of our work with-in Indigenous educational communities. Next, we explain Barad's diffractive methodology and discuss our three insights: 1) the entanglement of being-knowing-doing grounds theory-practice or praxis; 2) cyclic and iterative design cycles in PTAR foster teacher agency; 3) recognizing tensions and contradictions are necessary to facilitate the transformative action of praxis. Our conclusion explains the entanglement of theory-practice in terms of praxis that is based in intra-action. In our conclusion, we propose using a diffractive methodology to read theories through rather than against one another makes visible the intra-theorical conceptualizations as an alternative to discussing these as inter-actions among theoretical concepts.

Keywords: praxis, participatory teacher action research, multi-literacy, indigenous languages

Introduction

In the literature on language loss and revitalization, schools are often cited as a key factor in language and cultural loss through language and culture suppression and pressure to assimilate to using the English language and "western" ways of knowing and doing (Marlow & Siekmann, 2013). Schools are also viewed by some Indigenous communities and scholars as having the potential to support language maintenance and revitalization efforts by teaching Indigenous languages through a variety of program types. In Alaska, some communities have established immersion or dual language programs, which deliver instruction through the medium of the local Alaska Native language at the elementary school level. However, these Indigenous language programs face many challenges, such as a lack of certified teachers who are highly proficient in the target language and who are trained in language pedagogy as well as a lack of language teaching materials (Siekmann et al., 2019; Fortune et al., 2008; Hermes, 2007; Iokepa-Guerrero, 2016; Met, 2008; Siekmann, et al., 2017; Wilson & Kamanā, 2011).

Despite these efforts, schools continue to perpetuate a monolingual "standard academic" English ideology, lacking teaching practices that are linguistically and culturally sustaining (Barnhardt & Kawagley, 1999; Kawagley, 1995; Siekmann et al., 2017). In addition, many Alaska Native students are classified by the state of Alaska as Limited English Proficient (LEP), because they come from a family / community where an Alaska Native language is still used and / or because they speak one of the regional varieties of English (Umanski, Itoh & Carjuzaa, 2022).

In our ongoing collaborations with Indigenous teachers, a primary goal is to bring together multiple cultural, theoretical and methodological perspectives in order to gain greater understanding of the commonalities and differences across diverse knowledge systems. In our view, including this diversity of perspectives offers the potential to alleviate the tension often expressed by Indigenous communities that western onto-epistemologies-methodologies are privileged over Indigenous ways of being-knowing-doing in Indigenous language pedagogy.

This "bringing together" is also critical, because in much of educational curricula there seems to be a distinction (be it explicit or tacit) between the cultural curriculum and its goals on the one hand, and the more general academic curriculum on the other hand. As Hermes (2007) points out, this distinction is problematic, in that students interpret the split in curriculum (i.e., culture-based curriculum versus academically or discipline-based curriculum) as an identity choice or dichotomy (Hermes, 2007).

Similarly, in our teacher education context, this dualism of western/ Indigenous academic tradition is often framed in terms of hierarchical positioning. This presents an ethical dilemma engendered in a dualistic view in which the western academy, representing certain onto-epistemologies-methodologies, is privileged over Indigenous ways of being-knowing-doing (Parker Webster & John, 2010). Therefore, it is imperative to bring into conversation both Indigenous and

western academic perspectives in order to conceptualize theory-practice for Indigenous language pedagogy.

A "Diffractive" Methodological Approach

In *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, Barad (2007) explains the need to "understand in an integral way the roles of human and nonhuman, material and discursive, and natural and cultural factors in scientific and other practices" (p. 25). Drawing from scientific and social theories, she presents a "diffractive" methodology, whereby insights from different areas of study are read through one another, "building new insights, and attentively and carefully reading for differences that matter in their fine details" (Barad interviewed in Dolphijn & van der Tuin, 2012, p. 50). This notion of "reading through" rather than reading against is integral to her diffractive methodology. The former is based in the notion of entanglements of matter and meaning; the latter presumes a set of dualisms that, in Barad's view, places nature on one side and culture on the other, resulting in a separation of matters of fact and matters of concern and care. This is manifested in the separation of academic disciplines "whereby the division of labor is such that the natural sciences are assigned matters of fact and the humanities matters of concern" (p. 50). As such, this cordoning off of academic domains makes it difficult to see patterns of diffractions, or patterns of differences that make a difference that make entanglements visible. For Barad, the Humanities and Sciences have not "grown up separately from one another", rather they are always already entangled. This notion of entanglement is at the center of Barad's diffractive methodology and provides her rationale:

> My aim in developing such a diffractive methodology is to provide an approach that remains rigorously attentive to important details of specialized arguments within a given field, in an effort to foster constructive engagements across (and a reworking of) disciplinary boundaries. (Barad, 2007, p. 25)

The importance of looking for diffractive patterns of differences that make a difference in reading through western disciplinary concepts (literacy, applied linguistics) and theoretical perspectives (CHAT, participatory action research, multiliteracies) became apparent to us when we started working together 15 years ago in a series of interdisciplinary projects supporting Alaska Native (language) education through teacher professional development. Initially we saw our disciplinary background as complementary: [Author 2] a multiliteracies and cultural studies scholar; [Author 1] an applied linguist and language teacher. We discovered that even though we came from what the western academy defines as different disciplines, we had both read Vygotsky and were using his concepts in our work with-in Alaska Native educational communities. We felt further connected through teaching and researching at the intersection of language and literacy development and pedagogy. Over time, we started to rearticulate the relationships within our disciplines, and also recognize the onto-episteme-methodological frameworks as entangled with each other. Through our work with-in Indigenous communities and Indigenous scholars we also became aware that this perceived incommensurability

also occurs between related concepts in Indigenous ways of being-knowing-doing and western onto-epistemologies-methodologies.

Our recognition of their entangled historicities has made visible to us that they share an orientation towards transformative action and illustrate the interconnectedness of these conceptual frameworks. This initial insight provided the entry point for our diffractive reading.

In order to read multiliteracies and participatory action research through CHAT, we first present the basic tenets and development of CHAT. Specifically, we will utilize Engström's third generation activity theory in our diffractive reading, and will contextualize it through first and second generation cultural historical activity theory (CHAT).

Brief Historicity of CHAT

"CHAT views human activity as goal-directed, collaborative and transformative practices, mediated through culturally shaped tools" (Siekmann & Parker Webster, 2019, p. 3). According to CHAT, humans do not act directly on the world, but use culturally shaped mediating artifacts to enact change.

In his original formulation of his sociocultural theory of mind, Vygotsky used a triangle to illustrate the mediated relationship between a subject and its object, the goal of the action. In this model, the subject is the socially situated actor engaging in goal-directed actions. The object represents the subject's motives, or reasons for her actions. The actions are mediated by tools, which can be either physical (such as a hammer) or psychological (such as language) and are viewed as shaped and reshaped over generations through joint goal-directed practices. In this way, tools carry with them traces of those who used the tools before them (both in the ways they are used and in the purposes for which tools are used). Tools transform the way humans act on the world, but tools can also be transformed through each new person using the tool. In this view, language is also a tool, used to mediate not only the outside world, but one's own cognition as well (Parker Webster & Siekmann, 2015).

Vygotsky's primary interest was the development of higher mental functions such as attention and memory in learning and cognition, which, contrary to some of his contemporaries (for example Piaget), he viewed as progressing from the social to the individual. Countering the conduit metaphor, which posits that meaning is transmitted directly and remains static and unchanged, Vygotsky viewed the process as transformative appropriation. Unlike the transmission model, which is similar to what Freire (1970) calls the banking metaphor, in which meaning is deposited or given to the passive learner, when engaging in appropriation, the learner is the active creator of her own meaning. This transformative action is mediated by physical and psychological tools.

While Vygotsky did not himself formulate a cohesive activity theory framework, many scholars have built on his ideas so that multiple schools or generations of activity theory have been developed. Vygotsky clearly articulated the relationship between the social nature of mediated artifacts and the socially situated

subject's developmental processes; however, as Engeström (2001) points out, in Vygotsky's first generation CHAT, the unit of analysis was individually focused. In order to emphasize the collective nature of human activities, Engeström situated Vygotsy's original triangle at the top of the expanded model and added the lower level of "rules", "community", and "division of labor" (Figure 1).

Figure 1

2nd Generation Activity Theory Model (Based on Engeström, 1987, p. 78).
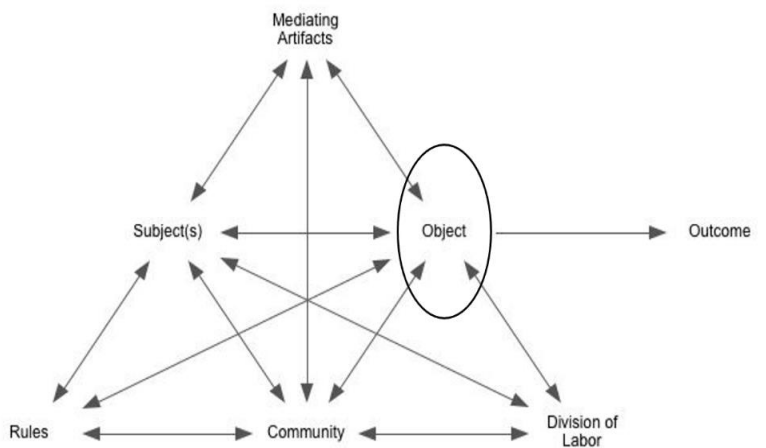
The community node, which highlights the relationship with others participating in the activity system, results in additional connections to all other elements of the activity system. As Engeström (1987) explains:

> The relations between subject and community are mediated, on the one hand by the group's full collection of "mediating artifacts" and, on the other hand, by "rules" (the norms and sanctions that specify and regulate the expected correct procedures and acceptable interactions among the participants). Communities, in turn, imply as "division of labor" the continuously negotiated distribution of tasks, powers, and responsibilities among the participants of the activity system. (p. 7)

In Engeström's (1987, 1993) expanded model, an activity system, therefore, is usually represented through a network of interrelated elements (see Figure 2), which are held together by a shared orientation of the activity, represented by the object node. Engeström (1993) explains that the "object refers to the "raw material" or "problem space" at which the activity is directed and which is molded or transformed into outcomes with the help of physical and symbolic, external and internal tools" (p. 67). In other words, objects are what drive the actors acting within an activity system and are shaped by the subjects' goals and motives. Engeström also expanded the notion of the object by representing it as an oval, which illustrates

the potential for movement within the confluence of all the nodes rather than a fixed point in the network. In this way, "object-oriented actions are always, explicitly or implicitly, characterized by ambiguity, surprise, interpretation, sense making, and potential for change" (Engeström, 2001, p. 134).

Another important contribution of 2nd generation CHAT is the recognition that activity systems are also inherently characterized by internal contradictions and tensions. As Yamagata-Lynch (2010) puts it: "The contextual systemic contradictions and the nature of each individual component in an activity system can create tensions within a system. . . . Tensions arise from the influences that systemic contradictions have on an activity" (p. 2).

Despite the expanded notion of activity theory developed in second generation CHAT, it nonetheless had important limitations, primarily identified as a "deep-seated insensitivity toward cultural diversity" (Engeström, 2001 p. 135), which became the impetus for developing the third generation CHAT. Engeström also introduced the addition of multiple or networks of Activity Systems that are connected and interact with one another. Within these networks, tensions and contradictions can exist between the nodes of activity systems and also between the systems themselves (Engeström, 2001).

While other scholars have contributed to the development of third generation CHAT (Bakhtin, 1981, 1986; Engeström & Escalante, 1996; Gutierrez et al., 1995, 1999; Latour 1993, Wertsch 1991), we use Engeström's five principles of CHAT (2001) in our diffractive methodology of reading multiliteracies and PTAR through CHAT. This diffractive methodology allows us to develop "conceptual tools to understand dialogue, multiple perspectives, and networks of interacting activity systems" (Engeström, 2001, p. 135), which Engeström identifies as the goal of 3rd generation CHAT.

Reading Through Engeström's Five Principles

Engeström's first principle states that the primary unit of analysis is a "collective, artifact-mediated and object-oriented activity system, seen in its network relations to other activity systems" (Engeström, 2001, p. 136). This principle emphasizes the joint actions and motives present in the activity systems and their interconnectedness with cultural tools. This conceptualizes human activity as mediated by tools, which shape and are shaped by the collective; the culturally object-oriented activity is a constant in all formulations of CHAT.

Vygotsky is often quoted as viewing language as a tool of tools, the multiliteracies framework expands the conceptualization of language and tools in two important ways: multilingualism and multimodality. The dimension of multilingualism explicitly values all languages, including varieties in the meaning-making process, rather than favoring one named language (English) over another named language (Yugtun), nor favoring one variety of a language (Standard Academic American English) over another variety (South West Regional English).

Similarity to Vygotsky contextualizing human activity as situated within genetic domains, and views mediational tools as being shaped by actors and

communities over time, the pedagogy of multiliteracies is predicated on the notion that literacy and literacy practices are always socially situated and ideologically formed (Gee, 2014; Luke, 2000; Cazden et al., 1996). As such, being citizens in today's social, cultural, political, and economic worlds requires negotiation of a variety of multimodal texts that utilize a multiplicity of socially situated Discourses / discourses (see Gee, 2014). From this perspective then, the concept of multiliteracies is a socio-semiotic approach through which meaning is constructed using multiple sign systems (e.g. images, gestures, music, mathematical symbols, etc.); not relying solely on the linguistic sign system to construct meaning (see Cope & Kalantzis, 2000; Street, 1995). This concept of multiliteracies reflects an ever-expanding notion of what a text is and what form it takes.

Multimodality assumes that all modes have, like language, been shaped through their cultural, historical and social uses to realize social and cognitive functions (Jewitt, 2011). According to Jewitt:

> The concept of a semiotic resource offers a different starting point for thinking about semiotic systems and the role of the sign-maker in the process of making meaning. . . . A person (sign-maker) "chooses" a semiotic resource from an available system of resources. They bring together a semiotic resource (a signifier) with the meaning (the signified) that they want to express. (p. 23)

She further explains that "where a mode 'comes from', its history of cultural work, its provenance, becomes a part of its affordance or meaning potential" (Jewitt, 2011, p. 24).

Within the multiliteracies framework, the Design Cycles is viewed as the process through which actors make meaning by drawing on an array of Available Designs, "found representational forms" to agentively engage in Designing "the work you do when you make meaning, how you appropriate, revoice, and transform available designs" the Redesigned "how, through the act of designing, the world and the person are transformed" (Cope & Kalantzis, 2009, p. 10).

Within the design cycle as conceptualized by the multiliteracies framework, modes are available designs, which can also be viewed as physical and psychological tools that also carry with them affordances. Actors bring with them a wide array of available designs, but do not necessarily use them all at the same time. When assembling available designs actors need to consider the affordances of the tools and modes in relation to the goal-directed activity. In our context of Indigenous language teaching-learning and teacher education, available designs could include Indigenous and western pedagogical tools and modes, which are assembled and utilized in instructional designs. When designing and implementing instructional designs, available designs can be reshaped or replaced with a different available design.

In teaching-researching, research methodologies are conceptual tools that shape and are shaped over time by researchers depending on the wonderings, purposes and rationales of their inquiries. Similar to the notion that different

physical tools have different affordances, different research methodological tools also have different affordances.

Recognizing what conducting research in Indigenous contexts is presents ethical, epistemological, and methodological concerns in the literature from the perspective of both university-based researchers and the peoples and communities being researched (Battiste, 2008; Brayboy, 2000; Deyhle & Swisher, 1997; Lipka, 1998; Parker Webster & John, 2010; Swisher, 1996. Thorne et al., 2015; Tuhuwai-Smith, 1999), we understood that the approach to research had to allow for the involvement of all participants in an ongoing process of collaborative learning through inquiry. To counter the historical dualism of a western / Indigenous relationship of academic theories and research often shaped by hierarchical positioning, the approach would need to re-conceptualize the use of established theories and methodologies sanctioned by western onto-epistemologies and methodologies of the university academic tradition alongside those of Indigenous ways of being-knowing-doing that privilege a "methodology" of storytelling and the "doing" of cultural activities (Brayboy, 2000).

These factors led us to participatory teacher action research (PTAR), as the most ethical and appropriate choice of approach for our inquiries. PTAR stems from action research (Lewin, 1946) participatory action research (Kemmis & McTaggart, 2000) and teacher action research (Cochran-Smith & Lytle, 1993). PTAR is not as an a priori set of methodological steps or techniques; but, rather it as an interplay of tools and modes, which are ontologically and epistemologically driven. If the unit of analysis is at least two interrelated activity systems, then it could be argued that in the case of teacher-research, teaching and researching are two interrelated activity systems.

The second principle of mulitvoicedness states "an activity system is always a community of multiple points of view, traditions and interests," (p. 136) which situates the actor within a community of other actors engaged in the same goal-oriented activity. Each actor carries with them their own points of view, traditions and interests. With this principle, Engeström places activity systems into larger personal, social, and political networks by recognizing that actors can participate in interrelated activity systems, each of which has its own goal-related orientation. This means that actors carry their personal, social, and political voices with them as they participate within an activity system and across multiple activity systems.

Within the multiliteracies pedagogy, multilinguality and multimodality are conceptualized as social semiotic resources that learners access to create meaning and communicate with others. Importantly, a pedagogy of multiliteracies argues for using learners' full linguistic repertoires that include multiple named languages as well language dialects in the meaning making process. In this view, multiple languages and dialects are available designs that carry with them their own affordances, which are enacted through socially situated D / discourses (Gee, 2014). Gee's (2014) theoretical framework explains a holistic notion of language that includes not only language-in use, or discourse (lowercase d), but also non language

aspects, or Discourse (capital D), which include "gestures, clothes, actions, interactions, symbols, tools, technologies, values, attitudes, beliefs and emotions" (p. 7). These aspects of Discourse associated with language-in-use allow us to enact our multivoicedness through multimodalities that expand meaning-making beyond the multilinguality of the linguistic mode.

The principle of multivoicedness can also be used to describe and explain the array of available designs actors assemble and utilize throughout the design cycle. Our multiple points of view, traditions, and interests, which shape and are shaped by each actor's theoretical assumptions, experiences, stories, physical and psychological tools, etc. are all part of the array of available designs accessible to actors as they engage in the design cycle. As with available designs, "the participants carry their own diverse histories, and the activity system itself carries multiple layers and strands of history engraved in its artifacts, rules and conventions. The multi-voicedness is multiplied in networks of interacting activity systems" (Engeström, 2001, p. 136).

PTAR shares the principle of multivoicedness through its stance that views all participants (e.g. teachers, students, parents, administrators, etc.) as stakeholders and collaborators in inquiry. With-in this stance, each actor enacts her multiple and culturally situated positionalities using different voices, which are shaped by "multiple points of view, traditions and interests", and can also be shaped and reshaped by the rules and division of labor within the community.

Historicity, the third principle, states that "Activity systems take shape and get transformed over lengthy periods of time" (Engeström, 2001, p. 136). Vygotsky grounded his theory of mind by conceptualizing four genetic domains of development: phylogenesis (human development as a species); sociocultural genesis (cultural development over generations); ontogenesis (personal development over the lifespan); microgenesis (moment-to-moment development of concepts) (Vygotsky, 1978). Engeström highlights the significance of the historical development of all nodes in his expanded model of CHAT. Specifically, the ontogenetic development of the actors can be viewed within the subject node as they act as individual subjects and as they interact with other subjects within the community node. Actors also contribute to the sociocultural development within and across all nodes (mediational artifacts, rules, and division of labor) over time and from generation-to-generation. Importantly, the historicity of all nodes is multivoiced (see principle 2) and relates not just to actors and objects, but also to theoretical ideas and mediational artifacts (see principle 1).

Similarly, design cycles, such as those used in multiliteracies pedagogy and PTAR are shaped by the historicity of their ontogenetic and sociocultural development. When designing inquiries, teacher-researchers utilize socially and historically situated available designs.

This means that activity systems, such as teaching-learning and teaching researching, can only be understood through the historicity of each element involved within the activity system. For teacher-researchers, this means reflexively analyzing the processes and products of teaching-learning-researching in a systematic and

recursive manner throughout the inquiry. As Engeström explains, the problems and potentials of activity systems "can only be understood against their own history. History itself needs to be studied as local history of the activity and its objects, and as history of the theoretical ideas and tools that have shaped the activity" (Engeström, 2001, pp. 136-137).

The fourth principle addresses the central role contradictions play in activity systems. Contradictions are "historically accumulating structural tensions within and between activity systems" (Engeström, 2001, p. 136), and can lead to change and development within the system. As such, contradictions are embedded in the historicity and multivoicedness of each node within an activity system and also in the activity system as a whole. Engeström also explains that activity systems are open systems, rather than closed or static. This means that the addition of a new element can result in contradictions "where some old element (for example, the rules or the division of labor) collides with the new one" (p. 136).

In a pedagogy of multiliteracies, the element of new technologies is what Cope and Kalantzis (2009) refer to as contributing to "new literacies". As they explain,

> With these new communication practices, new literacies have emerged. They are embodied in new social practices—ways of working in new or transformed forms of employment, new ways of participating as a citizen in public spaces, and even perhaps new forms of identity and personality. (p. 167)

When this new conceptualization of new literacies collided with that of old literacies, the multiliteracies pedagogy extended literacy beyond the linguistics mode to include multimodalities and ruptured the notion monolingualism as the norm, embracing the learners' full linguistic repertoire, including multiple languages and dialects (see principle 2). Similarly, PTAR ruptures the hegemonic principle and practice of research being "done to" rather than "done with" participants. PTAR allows for the multivoicedness of all stakeholders as collaborators in the creation of theory-practice. According to Engeström (2001), it is precisely these kinds of contradictions that can "generate disturbances and conflicts, but also innovative attempts to change the activity" (p. 137).

The fifth principle states that activity systems are shaped through previous goals, motives, outcomes and contradictions, activity systems and are also capable of undergoing "expansive transformations" (Engeström, 2001, p. 136). As Activity systems move through cycles of transformation, they shape and transform future goals, motives, and outcomes. Accumulating contradictions can prompt "individual participants to question and deviate from [the system's] established norms" and reconceptualize and "embrace a radically wider horizon of possibilities than in the previous mode of the activity" (p. 137).

In a pedagogy of multiliteracies, transformative action is situated in the being-knowing-doing of all aspects of a pedagogy, which is not just a "methodology" of teaching-learning activities. Multiliteracies is focused on "new

learning" which implies transformative action rather than transmission and the reproduction of knowledge. This is exemplified by the processes enacted within all aspects of the design cycle resulting in the redesign which can become new available designs for future design cycles.

In PTAR, transformative action is also situated in being-know-doing, and within a holistic conceptualization of teaching-researching. In addition, within PTAR, research is not just about analysis and description or a set of methodological steps. Rather, in this stance, the cycle of action research should lead to a transformative change related to teaching-researching-learning. As Herr and Anderson (2005) explain:

> Action research is oriented to some action or cycle of actions that organizational or community members have taken, are taking, or wish to take to address a particular problematic situation. The idea is that changes occur either within the setting and/or within the researchers themselves. (pp. 3-4)

The notion of change and transformation within Activity Systems, such as those within the related frameworks of multiliteracies and PTAR may be viewed as "a collective journey through the *zone of proximal development* of the activity (Engeström, 2001, p. 137), which "is the distance between the present everyday actions of the individuals and the historically new form of the societal activity that can be collectively generated as a solution" (Engeström, 1987, p. 174).

Insights

Our work with teachers of primarily Alaska Native students has led us to realize that despite its important contributions, third generation CHAT still does not fully address the locus of agency and the role it plays in teaching-learning-researching and the development of theory-practice. We also agree with Stetsenko (2020) that CHAT still has to "reckon with the long-lasting legacy of passivity, and . . . capture the dynamism of transformation," and focus more on "theorizing agency within complex relationships between the social constitution of human subjectivity and the possibility of social justice" (p. 6). As we have argued previously "this more expansive conceptualization of Vygotsky's (1978) cultural-historical activity theory (CHAT) provides a critical stance centered on social justice, which can lead to practices that question the hierarchy of the dominant culture and rupture the norm" (Siekmann & Parker Webster 2019, p. 3). Questioning the hierarchy of the dominant culture from a critical stance, necessitates detailed explorations of the locus of agency within activity systems and how hegemonic theories-practices influence teaching-learning research. Our diffractive reading of multiliteracies and PTAR through CHAT made visible three principle insights, which we understand as entangled and intra-acting with one another: 1) The entanglement of being-knowing-doing grounds theory-practice or praxis, 2) Agency, and 3) Recognizing tensions and contradictions are necessary to facilitate the transformative action of praxis.

We first present the principle insight, which is followed by a discussion of the "differences that matter in their fine details" (Barad interviewed in Dolphijn & van der Tuin 2012, p. 50).

Insight 1: The entanglement of being-knowing-doing grounds theory-practice or praxis

The first principle insight is that being-knowing-doing or onto-epistemological-methodological are always already entangled and cannot be separated. Further, theory-practice is always grounded in onto-epistemology-methodology, and disrupting these entanglements can result in incongruencies, which can have adverse consequences. Theorizing without practical implications, calls into question the applicability to practitioners, thereby inhibiting the potential for transformative action or praxis. Praxis is a dynamic and entangled relationship within theory-practice, which, therefore, cannot be separated or exist apart from one another. However, this conceptualization has not been widely taken up by (language) teachers. For example, while the academic discipline of second language acquisition has an over 40 years' history, there is a well-documented gap between second language acquisition theory and language pedagogy as enacted in language classrooms (Ellis & Shintani, 2014; Johnson, 2004; Kumaravadivelu, 2008; Lantolf & Poehner, 2014). This is also the case when sociocultural theory first entered the conversations within the second language acquisition field. The scholarship at that time focused on relating the key theoretical tenets of CHAT to second language acquisition processes and changing the overall framework for understanding language development. However, at the outset there were few attempts at conceptualizing a language pedagogy based on these principles and "Vygotsky-based is a long way from becoming part of the mainstream of educational practice in the Western world" (Lantolf & Poehner, 2008, p. 1). As a result, language teachers either felt excluded from the conversation or simply conflated the new CHAT terminology (such as the zone of proximal development) with the old and familiar cognitive concepts, such as the i+1 (for a discussion see Dunn & Lantolf 1998). In essence, because this incongruence equated the two without recognizing their onto-epistemological-methodological differences, the pedagogical impacts were ineffectual. While some efforts have been made to offer a pedagogical framework based on CHAT through concept based instruction (see for example Negueruela, 2008, Williams et al., 2013) and dynamic assessment, (see for example, Lantolf & Poehner, 2014, Poehner, 2007, 2010), they have not taken root in publisher created materials or language teacher education in a meaningful way. Recent work in the language teacher education community has made attempts to address this both through the developing specific pedagogical models that are aligned with the main tenets of sociocultural theory, (for example, the PACE model Adair-Hauck & Donato) and through teacher education textbooks (Glisan & Donato, 2017). We view these developments as critical in recognizing the connectedness of entanglements of onto-epistemological-methodological and theory-practice.

Similarly, disrupting entanglements can also result in the foregrounding of the methodological, reducing it to a series of steps, and thereby limiting and even obfuscating the connection to its entangled onto-epistemological-methodological roots. This disruption can occur when putting multiliteracies and PTAR into practice, and can result in adverse effects. For example, PTAR is characterized by its cyclic, iterative and recursive processes. However, in practice, novice teacher-researchers often focus on the key phases of observation, reflection, planning, and action, primarily because in textbooks these are presented as the salient and concrete aspects that define teacher-research. This often results in a primarily researcher-centered inquiry that often confines observation, reflection, planning, and action to discrete steps, thus flattening recursivity. Because of this focus on methodology as a stepwise procedure, which is incongruent with the onto-epistemology-methodology underlying the PTAR approach, not all classroom based inquiries lead to transformative action or change.

Insight 2: Cyclic and Iterative Design Cycles in Participatory Teacher Action Research Foster Teacher Agency

Disrupting entanglements by reducing instruction or research to a predetermined set of methodological steps takes away the agency of the actors. Kumaravadivelu (2008) discusses degrees of agency that are reflected in three "roles" in which teachers are positioned and act: passive technician, reflective practitioner and transformative intellectual. He draws from other scholars (for example Dewey, McLaren, Kinchloe, and Giroux) to describe these roles.

Kumaravadivelu (2008) describes "passive technicians", as those whose "primary role in the classroom it to function like a conduit channeling the flow of information from one end of the educational spectrum, i.e. the expert, to the other, i.e the learner without significantly altering the content of information" (p. 8). Dewey (1933) proposed a more action based position that situated teachers as "reflective practitioners". In this stance, he argued that teachers should not be passive transmitters of received knowledge but should be problem solvers who possess "the ability to look back critically and imaginatively, to do cause-effect thinking, to derive explanatory principles, to do task analysis, also to look forward and to do anticipatory planning" (Kumaravadivelu, p. 13).

While the role of "reflective practitioner" envisions a higher degree of agency on the part of teachers, it "has not paid adequate attention to the socio-political factors that shape and reshape a teacher's reflective practice" (Kumaravadivelu, 2008, p. 12). Furthermore, by focusing on the role of the teacher without situating it within the social-political influences, "the reflective movement tends to treat reflection as an introspective process involving a teacher and his or her reflective capacity, and not as an interactive process involving the teacher and a host of others: learners, colleagues, planner, and administrators." (Kumaravadivelu, p.

12). From these limitations emerged the role of teachers as "transformative intellectuals", which according to Giroux and McLaren (1989), views teachers as

> Professionals who are able and willing to reflect upon the ideological principles that inform their practice, who connect pedagogical theory and practice to wider social issues, and to work together to share ideas exercise power over the conditions of their labor, and embody in their teaching the vision of a better and more humane life. (p. xxiii)

As Giroux (1988) further explains:

> . . . the role that teachers and administrators might play as transformative intellectuals who develop counter-hegemonic pedagogies that not only empower students by giving them the knowledge and social skills they will need to be able to function in the larger society as critical agents, but also educate them for transformative action. (p. xxxiii)

Using the design cycle as a conceptual tool to understand the connectedness of teaching-researching-learning, we apply this to the notion agency as described embodied in our work with teachers of Indigenous students. Like "passive technicians", when first stepping into their inquiries many of the teacher-researchers we have worked with over the years have expressed feeling constrained to implement mandated curriculum and instructional practices that are based on a transmission model of education. Even if they recognized incongruencies between the available designs of the mandated pedagogy and their specific learning contexts, they did not feel positioned to seriously question or change expected classroom practices. Through designing their inquiry, which was based in the pedagogy of multiliteracies and PTAR, teachers in our programs began to reflect upon and analyze their theory-practice. Like "reflective practitioners", they began to include alternatives to the pre-determined curriculum and instructional practices. In our work we have noticed that becoming a transformative intellectual begins to emerge as the "redesigned" in both process and product. But we also recognize that these trajectories of agency that occur, as in PTAR and the design cycle, are cyclic, iterative, and recursive as well as dynamic–always in motion and ongoing.

Insight 3: Recognizing Tensions and Contradictions are necessary to facilitate the transformative action of praxis

Engeström's fourth and fifth principles state not only that tensions and contradictions are inherent in activity systems, but also that these tensions and contradictions are necessary for change within the system. Therefore, tensions are not to be avoided or ignored. Rather, they need to be made visible and acted upon. One way to make these visible is through Activity Systems Analysis (ASA), an analytical framework, which provides ways to recognize and address the need for systemic change (Yamagata Lynch, 2010). ASA helps us recognize the complex nature of the real-world human experiences of actors and their actions while

pursuing a shared activity. Considering each of the nodes that "constitute and are constituted by the activity system with an emphasis on their complex interconnectedness", provides opportunities for researchers and practitioners to engage in "concrete analysis and discussion of tensions, opening opportunities not only for identifying tensions and contradictions, but also finding solutions for those involved in the activity system" (Siekmann & Parker Webster 2019, p. 6).

In using ASA as an analytic framework for our work, first each node is identified and described through asking a series of questions (Figure 2).

Figure 2

Guiding Questions for Researchers Applying Activity Aystems Analysis as an Analytic Framework (Siekmann & Parker Webster, 2019, p. 6)
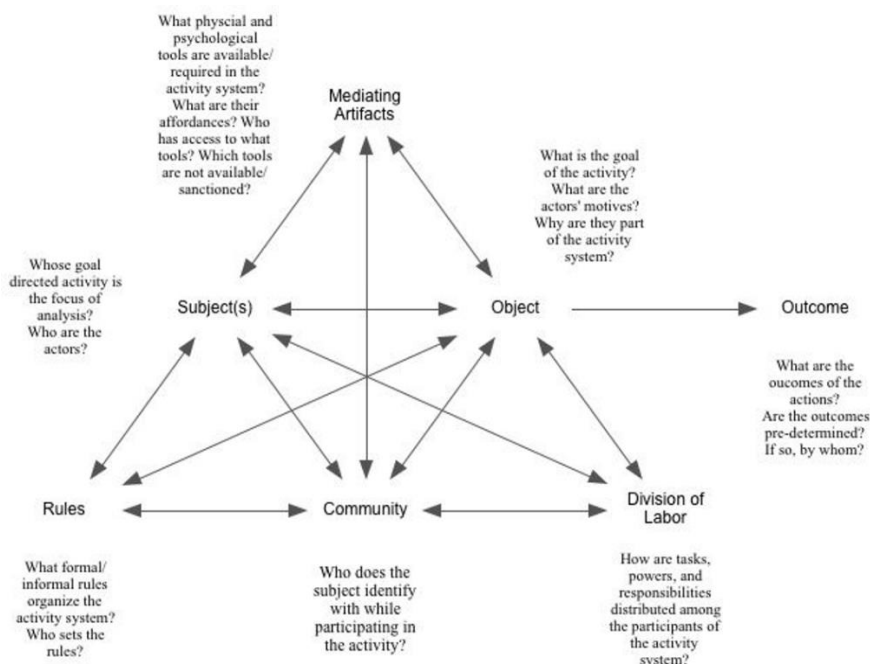
As we have previously explained, during this analytic process systemic tensions and contradictions are uncovered and made visible. For example, the subjects-actors might have different and even conflicting motives (object) for participating in the activity system.

Analysis of the nodes is always situated within their entangled relationship. In other words, foregrounding one node does not mean that the other nodes drop out of the relationship. These temporarily backgrounded nodes are only blurred (Rogoff, 1995) and held in suspension, which makes it possible to examine the complexities, contradictions and tensions that take place within and among nodes in fine detail. In the following discussion we are zooming in on the nodes of "rules", "division of

labor" and "community". We selected these nodes because, as Engeström (2001) points out, within CHAT the unit of analysis should not be limited to an individual subject, but rather recognize the collective nature of human activity. The addition of the lower level provides the important connectedness of the subject(s) to the community. This situates the individual within larger social networks, which are organized by "rules" and "division of labor". While we are zooming in on these nodes, because we view all nodes within an activity system as always already entangled, they also reflect tacit intra-actions with the other nodes.

Our graduate programs were designed to improve and build capacity for local control of (language) education for Alaska Native students. In our work, we discovered that when building any program, being able to identify and locate the tensions and contradictions within and across activity systems is necessary in order to continuously facilitate improvements and institute changes. Without an intentional examination of the tensions and contradictions, an activity system, particularly those with an orientation toward praxis, may become stagnant and result in reproducing rather than transforming educational policies and practices.

Our discussion is framed by the questions related to the three nodes– "community", "rules", "division of labor"–as suggested in Figure 2: *Who does the subject identify with while participating in the activity? What formal and information rules organize the activity system? Who sets the rules? How are tasks, powers, and responsibilities distributed among the participants of the activity system?*

While the question related to community reflects Engeström's view of the subject as acting with and in a community of other subjects, here we expand this concept by arguing, as does Gee (2014), that actors participate in activity systems from multiple situated positionalities. Positionalities are shaped by the actor's ontogenetic (personal life history) and socio-cultural (development of cultural groups over generations) domains (Vygotsky, 1978). Positionalities can shift from moment-to-moment (microgenesis) as actors participate with-in and among multiple networks of activity systems. In our work, recognizing the socially situatedness of positionalities in this way, has made visible tensions and contradictions that program participants experience as subjects acting within the community of our praxis-oriented activity system.

In our programs all members of the graduate student communities were also university or school district employees. This often implied relationships with multiple educational institutions, each embedded with tensions and contradictions associated with hierarchies of power. School districts, as part of the public education system, are governed by the rules of federal, state and local policies. These "rules" are carried out through a "division of labor" that require teachers to deliver the adopted curriculum that is often defined by a prescribed pedagogy as part of their contracted terms of employment. The graduate programs, while committed to grant related goals and objectives, were also governed by the university's mission and the "rules" of higher education in general, which are built on a commitment to academic scholarship and freedom of thought. These layers of rules influenced the

responsibilities and expectations (division of labor) of faculty and students in different yet related ways. For example, at the outset of the graduate program, faculty explicitly prompted graduate students to critically engage with language pedagogies and to question existing hierarchical structures and ideologies that overtly and covertly govern teaching, learning and researching within Indigenous educational communities.

Upon entering into our programs, many participants viewed themselves primarily as "teachers" with a goal to improve their practice and advance learning for their students. Stepping into the newly required task of becoming novice researchers complexified the relationship of teaching and researching and the "rules" and "division of labor" associated with the entangled positionalities of student-teacher-researcher. By engaging in classroom-based inquiry (PTAR), which was a core research approach supported by the coursework, they developed the tools to ask questions and plan and implement practices based on onto-epistemological and methodological frameworks that offered alternative approaches to the mandated district curricula.

Because our activity system was oriented towards improving (language) education in schools serving Indigenous student populations in Alaska, the community node included both the Indigenous teachers and non-Indigenous teachers as well as their students. The community also included non-Indigenous university faculty. All members of the community were shaped by their sociocultural historicities of western and Indigenous onto-epistemologies-methodologies. These historicities added additional and layered positionalities to those of student-teacher, teacher-researcher.

The added layers of Indigenous and non-Indigenous to the positionalities of the community influenced how different members enacted their multiple positionalities as Indigenous-teacher-researcher and nonIndigenous-teacher-researcher. In our context, Indigenous is further identified as Alaska Native, specifically Yup'ik, Alutiiq, Ahtna, Dena'ina and Gwich'in; and nonIndigenous is identified as white. Zooming in on the formal and informal "rules" and "division of labor" organizing the activity system of the graduate programs, we noticed that the most salient tensions and contradictions occurred in relation to theory-practice, particularly in the area of pedagogy.

The primary tension for Indigenous-teacher-researchers was how to work within the "rules" and "division of labor" set by the western educational institutions of both the school district and university. Within the school districts, the western curriculum and its prescribed instructional practices are seen as the academic content and pedagogy. The teacher's responsibility and task is to deliver the disciplinary content, which is separated into instructional blocks such as science, math, social studies, language arts, etc., primarily through teacher directed instruction. All other activities, such as *yuraq*, skin sewing, and beading are viewed as non-academic and extracurricular. This is counter to how Alaska Native cultures approach teaching-learning, in which the content, situated in being-knowing-doing, is embedded in cultural activities. Knowledge is passed on through demonstration and storytelling

rather than the western concept of direct instruction. Within this approach to teaching-learning, the learner is expected to watch and listen and when ready, participate in the activity through doing. This is very different from being expected to respond verbally to direct questions posed by the teacher and during classroom discussions or to read a chapter in a textbook and answer multiple choice questions on a worksheet, which is often the practice in western pedagogy.

For both Indigenous- and nonIndigenous-teacher-researchers, the overarching tension stemmed from the gaps in the western curriculum and pedagogy, which were not addressing the needs of their Indigenous students, and they did not know how to improve it. Because they had been apprenticed into the "rules" and "division of labor" associated with western educational system, many were expecting to be "presented" with concrete techniques or strategies by the faculty that would help them make small adjustments to their instruction, while allowing them to stay within the comfortable and familiar "formal rules". This is embedded within their expectation that the "division of labor" in education is based on the transmission model of teaching-learning, in which university faculty "tell" students what they should know and how to teach this to their students, and teachers then "tell" their students what they ought to know and how they need to do it. However, at the beginning of their graduate programs, Indigenous- and nonIndigenous-teacher-researchers alike, were not yet able to articulate that the formal rules (associated with western schooling) and informal rules (associated with cultural knowledge) were in tension. It was only by stepping into the teacher-researcher design cycle that the tacit rules were made visible, which allowed them to recognize these tensions, ultimately creating opportunities for change.

Using ASA as an analytic framework, examining each of the nodes, we have come to understand that tensions and contradictions are necessary for activity systems to undergo what Engeström (2001) calls expansive transformation:

> Activity systems move through relatively long cycles of qualitative transformations. As the contradictions of an activity system are aggravated, some individual participants begin to question and deviate from its established norms. In some cases, this escalates into collaborative envisioning and a deliberate collective change effort. An expansive transformation is accomplished when the object and motive of the activity are reconceptualized to embrace a radically wider horizon of possibilities than in the previous mode of the activity. (p. 137)

We take this to mean that it takes multiple inquiry cycles to locate, examine and understand the tensions and contradictions within and among activity systems. Our goal for our graduate programs was an orientation toward praxis. Multiple cycles of inquiry reveals tensions and contradictions that were constantly negotiated and renegotiated. Recognizing and engaging with these tensions over multiple inquiry cycles allowed us to make changes to our graduate programs in significant ways, which in turn influenced the related and what Engeström would call interconnected activity systems of the school districts.

Conclusion: From Intertheory to Intratheory

Engeström views nodes as interconnected within Activity Systems, and Activity Systems as interacting with each other. In terms of Engeström's principle of multivoicedness,

> The division of labor in an activity creates different positions for the participants, the participants carry their own diverse histories, and the activity system itself carries multiple layers and strands of history engraved in its artifacts, rules and conventions. The multi-voicedness is multiplied in networks of interacting activity systems. (2001, p.136)

However, through our diffractive methodology we have come to recognize the nodes with-in activity systems and multiple among related activity systems as being entangled that intra-act, rather than inter-act with each other. Following Barad, we argue that theoretical conceptualizations are *intra-atively* entangled, rather than *a priori* sets of theories that interact with each other. Therefore, entanglement is not to be thought of as the intertwining of distinct theories, but rather the absence of such distinctions.

Further, we take this to mean that action with-in multivoiced discourse communities is not unidirectional – by which we mean it is not subject (faculty / western academic) acting on object (student / Indigenous teachers). Rather, it is characterized by reciprocity and what Vygotsky calls intersubjectivity (subject acting with subject) (Vygotsky 1978) through joint collaborative activity (Rogoff, 1995; Webster & Siekmann, 2013). In our work, this was brought together through a praxis-oriented research methodology carried out through PTAR.

Dennis (2018) takes up the concept of praxis-oriented research by articulating praxis in terms of the researcher's Self / identity and the concept of position-taking with Others to establish validity through the research process. For Dennis, the Self is "intrinsically intra-active (always already connected with others)" and as such, it is important to think of "praxis as part of an intra-action" (111). Further, she explains that as we listen to the claims of others, our meaning-making processes rely on our ability to intersubjectively position-take with the Other, and at the same time intrasubjectively examine our own positionings and assumptions. This intra-actively constructed Self then is "always dialogically constituted through its openness to difference" (Dennis 2018, 112).

While we agree with Dennis's notion of praxis as part of an intra-action, we would also suggest a praxis that collaboratively builds new insights through intra-action with-in activity systems. We would argue that within these goal-oriented activity systems all actors are already entangled, through the historicity of all nodes. Therefore, in our view, building on Barad's concept of intra-action, participants within an activity system act intra-subjectively with other members of the activity system (community) as well as themselves.

Drawing from Dennis' (2018) notion of "praxis as collaborative insight", which "involves the development of new perspectives through conversations . . . praxis is associated with the emergent insight as co-produced . . . (T)he becoming of

a new idea is simultaneously the becoming of those engaging with the ideas" (p. 115).

While we agree with the editors of this special issue in principle that "it is crucial that we examine the intertheoretic commensurability of the distinct theoretical approaches to second language learning", we would propose that using the term inter-theory is grounded in conceptualizing disciplines and by extension theories as existing *a priori* from one another and as having evolved separately. Taking seriously the idea of entanglement leads us to propose the use of a diffractive methodology to read theories through rather than against one another, thereby making visible the intra-theorical conceptualizations as an alternative to discussing these as inter-actions among theoretical concepts.

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Authors' Biographies

Sabine Siekmann is Professor of Applied Linguistics and Foreign Language Education at University of Alaska Fairbanks (UAF), the USA. She holds a Ph. D. in Second Language Acquisition and Instructional Technology from the University of South Florida, M. A. in English / Anthropology from Idaho State University, and B. A. in English from Idaho State University. She has also served as an Instructor for ESOL at the Department of Secondary Education, University of South Florida. Dr. Siekmann has been an active member of American Association of Applied Linguistics; The American Council on the Teaching of Foreign Languages; Association for Educational Communications and Technology; Computer Assisted Language Instruction Consortium; and Teachers of English to Speakers of Other Languages – TESOL.

Joan Parker Webster, retired Associate Professor of Education at the University of Alaska Fairbanks (UAF), was director for Master of Reading and Literacy program and developed the Reading Endorsement for Alaska state licensure. Specializing in Multiliteracies / Multimodalities, Critical Pedagogy, Feminist New Materialism, and Qualitative Research Methodologies, she taught graduate-level courses and chaired and served on graduate student committees in both the School of Education and Department of Linguistics at UAF. Currently, her primary interest is working with Indigenous educators and practitioners, in both urban and rural contexts, to indigenize and bring forward Alaska Native ways of being-knowing-doing to western disciplinary content areas and pedagogical theory and practice. In addition to being Affiliated Faculty in the Center for Cross Cultural Studies, Indigenous Studies Graduate Programs at UAF, she is an educational research consultant primarily engaged as an evaluator for federally funded grant programs in education and climate change science. Parker Webster continues to conduct critical ethnographic research and publish in the areas of Critical Ethnography and Online Research Methodologies, Multiliteracies / Multimodalities, Inter-Cultural Communication, and Indigenous Education.

Collectivizing an Orientation to Turn-Allocation as a Learnable Through Pre-Task Planning

Nuria Ballesteros Soria[1,*] and Rémi A. van Compernolle[2]

[1]*Corresponding Author: Special Faculty Member, Dietrich College of Humanities and Social Sciences, Carnegie Mellon University, Pittsburgh, United States of America, ORCID: 0000-0003-3048-8193; Email: nballest@andrew.cmu.edu*

[2]*Associate Professor of Second Language Acquisition and Associate Department Head, Department of Modern Languages, Carnegie Mellon University, Pittsburgh, United States of America, ORCID: 0000-0003-2381-6291; Email: vancomp@andrew.cmu.edu*

Abstract

Pre-task planning has been extensively studied in task-based language teaching research, but a limited number of studies to date has explored the phenomenon through a sociocultural theory lens. In this article, we report on pre-task planning from a Vygotskian group-as-collective perspective by examining its mediational role during dynamic strategic interaction scenario tasks (DSISs) implemented in a first semester elementary-level US university Spanish classroom. DSISs involve pre-task planning, small group performances in front of the class, and post-task debriefings in which peer and instructor comments are immediately provided. Drawing on Vygotsky's (1978) genetic method of analysis, we first show how turn-allocation emerged as an object of learning during the first debriefing, which was the result of pre-task planning and students' observations following the first group performance. Second, we provide an account of the microgenesis of the debriefing observations through an analysis of planning tasks and the instructor's framing and modeling of appropriate feedback, which we contend mediated students' orientation to turn-allocation as a relevant learnable. In concluding, we discuss our findings, their research and pedagogical implications, and future directions for instructed research on L2 speaking development.

Keywords: Dynamic strategic interaction scenario tasks (DSISs), pre-task planning, task-based language teaching, sociocultural theory, turn-allocation

Introduction

Pre-task planning activities offer learners an opportunity to prepare for an upcoming task performance. An extensive body of task-based language teaching (TBLT) research has investigated the extent to which pre-task planning may mitigate the high cognitive demands of L2 reading and writing and result in improved complexity, accuracy, and fluency (CAF) during written and oral performance (see Ellis, 2009; Ellis, 2021 for systematic reviews). To date, however, TBLT studies have adopted a primarily individualistic cognitivist approach to pre-task planning by focusing on individual learners' attentional resources and by examining CAF measures during individual language production in one-on-one settings or under controlled conditions.

In the current study, we explore the role of pre-task planning through a Vygotskian group-as-collective lens (Ballesteros Soria & van Compernolle, 2020; Petrovsky, 1985; Poehner, 2009) in an intact Spanish classroom that included in its curriculum a series of dynamic strategic interaction scenario (DSIS) tasks that aimed to develop the learners' interactional competence. We focus our analysis on the way in which pre-task planning mediated learners' orientation to turn-taking and turn allocation practices as objects of teaching and learning, or *learnables* (Eskildsen & Majlesi, 2018; Majlesi & Broth, 2012). In so doing, we conceive of pre-task planning as 1) a social activity where resources may be collectivized by the instructor and the students, and 2) a crucial part and parcel of L2 speaking development that can mediate students' orientation to specific learnables, which may in turn shape their upcoming performances and their ability to control them.

Conceptual and Empirical Background

Pre-Task Planning

L2 performance is cognitively demanding and can pose challenges to learners for a variety of reasons (e.g., tight temporal coordination, different sociocultural norms, linguistic demands). Thus, pre-task planning—that is, opportunities for learners to strategize about an upcoming task performance—has long sparked interest in TBLT research on L2 speaking and writing skills development. Most L2 speaking studies in this domain have been informed by the Limited Attention Capacity Hypothesis (Skehan, 2009), which contends that pre-task planning can help compensate for learners' limited cognitive resources and mitigate trade-offs between different aspects of L2 performance, especially complexity and accuracy. Similarly, TBLT studies on pre-task planning and L2 writing have frequently drawn on Kellogg's (1996) model of L2 writing as a three-system process—formulation (i.e., planning and translation), execution, and monitoring—mediated by learners' limited working memory capacity. Pre-task planning in these studies is thought to ease the cognitive demands of L2 writing and lead to better writing performance.

There is now an extensive body of research investigating the effects of pre-task planning on oral and written task performance (see Ellis, 2009; Ellis, 2021). Ellis' (2009) review includes L2 speaking studies that were mostly conducted in

laboratories or controlled testing settings to examine how different types of pre-task planning (e.g., grammar instruction, task modeling, guided vs. unstructured) may affect complexity, accuracy, and / or fluency (CAF) of oral production. Most studies explored narrative tasks performed monologically and sometimes interactively (e.g., telling a story to another person), with pre-task planning almost always occurring individually. Ellis (2009) concluded that pre-task planning had a positive effect on fluency, but the evidence was not as clear for complexity and accuracy measures.

In L2 writing experimental research, pre-task planning has been completed individually or collaboratively, but the main task has always been performed individually (Ellis, 2021). The studies either compare the effects of pre-task planning on CAF measures against a control group that did not plan or contrasted different types of pre-task planning within one group of learners. Similar to research on oral performace, the findings suggest that pre-task planning has a positive effect on written fluency, but its impact on syntactic and lexical complexity is inconsistent. As for accuracy, the review concluded that pre-task planning did not result in improved performance unless the planning occurred collaboratively. Interestingly, in discussing this last finding, Ellis (2021) refers to research informed by sociocultural theory (e.g., Donato, 1994) that demonstrates how learners can co-create new linguistic knowledge when interacting with others. Ellis (2021) also highlights that students may be more likely to stay in the L2 during collaborative planning since they can be observed by others (e.g., instructor, peers), thus increasing the likelihood of improving their writing accuracy. To our knowledge, however, there has been very little, if any, conversation between SCT and TBLT in this important domain.

Although Ellis's (2009, 2021) reviews differ in terms of skills assessed, task design, and participatory structures of pre-task planning and task performance (e.g., individual vs. collaborative), the studies synthesized share two commonalities that should be noted here. First, the studies measure the effects of pre-task planning by examining students' subsequent performance. The focus on performance as the end goal of TBLT can be attributed to their cognitivist theoretical frameworks, which are mostly concerned with attentional capacity and trade-off effects on CAF measures. Second, in one way or another, all studies explore pre-task planning "in a social vacuum" instead of "integrating attention within a wider, discourse perspective" (Batstone, 2005, p. 278). As such, most studies on L2 speaking controlled for interaction effects by exploring narrative tasks performed monologically or involving little interaction. The studies on L2 writing, by contrast, allowed for collaborative planning, but the main task was always completed individually.

The present article aims to contribute to research on pre-task planning in two ways. First, it explores pre-task planning and L2 speaking through a sociocultural theory (SCT) lens, which has only been done in a few studies to date (van Compernolle, 2014a, 2014b, 2018a, 2018b). The SCT studies in this domain focus on one-on-one tutoring sessions where pre-task planning is meant to develop learners' metacommunicative knowledge (van Compernolle, 2018a) of the sociopragmatic meanings of second person pronouns in French through teaching scientific concepts, which can then inform the execution and control stages of the

speaking task. Thus, pre-task planning in this line of inquiry is not considered a means to improve CAF in performance, but rather as part of L2 speaking development since conscious metacommunicative knowledge mediates spoken performance as part of a real-time dialectic. Second, in contrast with the individualistic stance of prior TBLT studies on pre-task planning, the current article adopts a group-as-collective perspective and conceives of the class as a psychological unit working toward a common objective (Ballesteros & van Compernolle, 2020; Petrovsky, 1985; Poehner, 2009). As such, this article explores the collective's emerging orientation to specific aspects of L2 speaking that may develop through the collectivization of resources by the students and the instructor during the pre-task planning stage.

Dynamic Strategic Interaction Scenario Tasks (DSISs)

Building on DiPietro's (1987) strategic interaction approach to L2 teaching, DSISs are interactive speaking tasks that push learners to negotiate conflicting agendas, while support—or *mediation*—is made available as a means of fostering the continued growth of learners' interactional abilities and metacommunicative knowledge (van Compernolle, 2018a). All students share a context, but the specific details of each other's agendas are unknown to the other group members to simulate real-life interactions. DSISs unfold in three stages, namely (i) a rehearsal, where learners reflect on and plan useful language and interactional resources for (ii) a performance, during which the scenario is executed, which is followed by (iii) a debriefing in which comments are provided regarding the communicative actions executed and the interactional resources employed. Following insights from dynamic assessment (Poehner, 2009), DSISs allow learners to build on the performances and comments provided to previous groups. In other words, the dynamic administration of the tasks intends to not only ascertain what the learners can do alone, but also to provide opportunities to promote learners' growth beyond their current capabilities (i.e., their zone of proximal development).

As highlighted in van Compernolle (2018a), the DSIS stages align with Gal'perin's (1989) theory of the formation of mental actions, which consists of three processes: *orientation*, *execution*, and *control*. *Orientation* refers to how humans plan their actions both in the moment and long-term. This *orientation* function informs the *execution* of an action, which a person monitors and adjusts in relation to the orientation and in response to potentially changing circumstances. As Gal'perin's research showed, the quality of the orientation determines the quality of the execution of one's actions as well as one's ability to control them, hence the emphasis on pre-task planning within DSISs.

DSISs were originally used as a Vygotskian approach to teaching pragmatics through concept-based instruction in one-on-one tutoring settings (van Compernolle, 2014a, 2014b, 2018a, 2018b). These studies involved pre-task planning aimed at developing the learner's awareness of the potential sociopragmatic meanings of certain lexicogrammatical forms (e.g., second-person pronouns *tu* and *vous* in French) through teaching concepts like *social distance* and *power*, which then served as an orienting basis during the execution and control

stages of the speaking task. The tutor probed the learner when they encountered difficulties using pragmatically appropriate language during performances with the goal of supporting connections between their developing metacommunicative knowledge and their execution of and control over relevant pragmatic forms.

More recently, DSISs have been used to support the development of learners' oral interactional abilities in L2 classrooms (van Compernolle & Ballesteros Soria, 2020). DSISs in this study were performed in small groups in front of the class, with other students and the instructor providing mediation (i.e., interaction-related comments and suggestions) after each scenario. In line with the dynamic approach to DSISs described above, group performances and debriefings were part and parcel of the developmental process because mediation was integrated between task iterations. Focusing on a single DSIS session, this study showed how the first group's performance prompted a focus on turn-allocation (i.e., nominating a next speaker through implicit or explicit means) during the debriefing, and how the following groups were able to draw on the collectivized mediation to plan and execute their own performances. By doing so, students were able to deploy a wider variety of turn-allocation resources as the DSIS session progressed.

The current article takes this line of classroom research one step further. In contrast with van Compernolle and Ballesteros Soria's (2020) article, which focuses on collective mediation as orientation during performances and debriefings, the present study places its analytic emphasis on pre-task planning as a mediational tool in promoting a collective orientation to turn-allocation as a learnable. By doing so, this article sheds light on how DSISs may support learners' oral skills at the orientation stage, which may then serve as a basis during subsequent task stages and developmental processes (i.e., performance / execution, debriefing / control).

Interactional Competence as a Pedagogical Goal: A Focus on Turn-Allocation

The concept of *interactional competence* (Hall, Hellermann, & Pekarek Doehler, 2011; Salaberry & Kunitz, 2019; Waring, 2018) has created a spotlight on the co-constructed nature of L2 abilities and the concomitant roles that interactive practices such as turn-taking, conversational repair, and action sequencing play as both drivers and objects of L2 development. In other words, the ability to interact successfully develops out of learners' prior experiences interacting in a range of contexts, which in turn helps to create further opportunities for learners to expand their *interactional repertoires* (Hall, 2018)—the collection concrete semiotic resources (e.g., vocabulary, grammar, gesture, intonation, timing) that are deployed in talk-in-interaction.

Several recent studies have examined instructional activities designed to foster the growth of learners' interactional repertoires. These pedagogical arrangements have traditionally consisted of explicit teaching of conversation analysis (CA) concepts, analyses of sample recordings and transcripts, and / or

discussions of learners' interactional experiences outside of class, and / or practice turn-taking and turn-allocation during in-class speaking tasks (e.g., Barraja-Rohan, 2011; Kunitz & Yeh, 2019; Lilja & Piirainen-Marsh, 2019; van Compernolle & Ballesteros Soria, 2020). To our knowledge, however, only three studies (Barraja-Rohan, 2011; Kunitz & Yeh, 2019; van Compernolle & Ballesteros Soria, 2020) have incorporated in-class speaking tasks where learners can mobilize their developing interactional resources. Further, only van Compernolle and Ballesteros Soria (2020) integrated opportunities for students to receive and give comments on their emerging interactional abilities as part of their pedagogical intervention. In this article, we build on the work of van Compernolle and Ballesteros Soria (2020) by examining how pre-task planning within DSISs may support classroom language learners' developing turn-allocation repertoires.

A Focus on Turn-Allocation

Turn-allocation refers to the methods by which interactants choose whose turn it is to speak next. Next-speaker selection is determined by three hierarchically organized options for navigating turns (Sacks et al., 1974). First, the current speaker may select the next speaker explicitly (e.g., by calling their name) or implicitly (e.g., by gaze, gesture, context or content of speech). Second, if no next speaker is selected by the current speaker, other participants can self-select (e.g., to respond to an open question or to propose a new topic). Third, the current speaker may continue their turn if no other interactant self-selects as next speaker.

These unwritten rules that govern turn-allocation can pose challenges to L2 learners for a variety of reasons (Carroll, 2004; Gardner, 2007). On one hand, turn-allocation is cognitively demanding because it requires interactants to monitor ongoing turns, identify relevant points for transitions, and select context-appropriate turn-allocation practices (i.e., linguistic, prosodic, and nonverbal resources), all in a matter of milliseconds (Pekarek Doehler & Pochon-Berger, 2015). These cognitive demands may be compounded by the fact the L2 learners process real-time speech more slowly than L1 speakers and at the same time often lack opportunities to learn how to signal or recognize when a change of speaker may be forthcoming (e.g., based on prosodics) and which linguistic and nonverbal resources are available to them in the L2 to allocate a turn to a next speaker or to self-select as next speaker. On the other hand, turn-allocation serves important social-relational functions, including rapport-building, face-saving, and perceptions of politeness, personal entitlement, group solidarity, and epistemic status (Bolden, 2018; James & Clarke, 1993; Lerner, 1996; 2019). However, L2 learners often do not understand how these functions are interpreted in another culture.

Methods

Setting and Participants

The data come from a semester-long study on L2 speaking development conducted in a first semester elementary-level Spanish classroom in Spring 2020 at a private university in the northeastern United States. The course was taught by the first author of this article, who was pursuing her doctoral studies in second language acquisition at the time of the study. There were 12 undergraduate students and one graduate student enrolled in the class, all of whom consented to participate in the study. None of the students had previously studied Spanish. The students were taking the course as an elective (i.e., not part of their specialization) for personal reasons (e.g., to learn Spanish for travel and / or studying abroad). Students' first languages included English ($n = 6$), Chinese ($n = 4$), and Korean ($n = 2$).

DSIS Task Design

The current study included eight DSISs completed at 4-7 day intervals. The tasks were designed around the themes, grammar, and vocabulary covered in the course textbook and simulated informal multiparty interactions where students negotiated conflicting agendas (DiPietro, 1987). As an example, Appendix A provides the role descriptions used during the first DSIS session, which this article reports on. The prompt simulated a meeting among friends who were looking for roommates to share an apartment with. Students were assigned roles with conflicting personalities, schedules, and priorities. All scenarios elicited multiparty interactions where there was potential for competition for turns, thus making turn-allocation a likely relevant learnable (Talmy, 2009).

DSIS Task Implementation

In the rehearsal stage, students were assigned to small groups of 3–4. Each group member had a different role (unknown to the other students) in a scenario that simulated a real-life interaction involving some sort of complication to negotiate. Before each DSIS session, students completed a scenario preparation worksheet (Appendix B) and a CA-informed assignment (Appendix C). The worksheets prompted students to read their role cards and to brainstorm useful language, interactional resources, and arguments for their assigned roles. The CA-informed assignments aimed to draw on students' prior knowledge of and experience with spoken interaction and to enhance this knowledge through the learning of academic concepts, which could in turn serve the orientation function during DSISs. The assignments asked students to reflect on the organization of human interactions and provided CA-informed explanations of interaction-related phenomena (e.g., turn-taking) as well as concrete verbal and non-verbal interactional resources that could be used at all DSIS stages. Finally, students were instructed to create a short multiparty dialog in Spanish including some of the interactional resources presented in previous steps.

At the beginning of the subsequent class period, students compared their homework answers and strategized about useful ideas and resources with peers who had been assigned the same role. The instructor also went over the agenda for day (Appendix D), explained the lesson focus of the day (e.g., turn-taking), and modeled specific peer comments. To conclude the rehearsal stage, the instructor facilitated a whole-class review of the CA-informed assignment during which students and the instructor collectivized CA-informed explanations and interactional resources for navigating oral conversations.

The second stage was the performance, with scenarios being 3-4 minutes long. The DSIS sessions involved small group performances in front of the class, with other students and the instructor providing immediate comments on the interactions after each scenario. The rationale for these task implementation procedures was to allow the class to collectivize their resources (van Compernolle & Ballesteros Soria, 2020) while at the same time mediating the development of individual learners' interactional repertoires. Finally, the third stage was the debriefing, which focused on providing constructive feedback to the group who had just performed. Students had 2-3 minutes after each performance to write down strengths and suggestions for improvement on a peer comment card (Appendix E). All students submitted their peer comment cards after class, but only two students per scenario were selected to share their insights with the class due to time constraints.

Identification of Analytic Foci

The focus on turn-allocation in the present article stems from previous research on DSIS tasks (van Compernolle & Ballesteros Soria, 2020) in which turn-allocation was identified as a recurring topic in group debriefings and students' peer comments. By contrast, the focus on pre-task planning was identified by applying the CA practice of unmotivated looking (Psathas, 1995). We did not decide in advance to focus on that aspect of the DSIS process, but instead identified pre-task planning as a recurring mediational tool across multiple DSIS sessions during our initial review of DSIS video recordings and students' written work. As we reviewed the data to identify foci of interest, we noticed that (i) turn-allocation was a common learnable during group debriefings and in students' written peer comments, and that (ii) students' observations of turn-allocation seemed to be mediated by the pre-task planning opportunities provided outside of class and at the beginning of the DSIS sessions. Finally, we narrowed down our analysis to the first debriefing because it involved active participation from a student who had completed the pre-task planning, a student who had not done the homework, and the other students as potential recipients of the collective mediation shared during the rehearsal and debriefing stages, thus illustrating the mediational role of pre-task planning from a group-as-collective perspective in interesting ways.

Approach to Transcription and Interactional Analysis

We adopted a multimodal approach to CA (Mondada, 2014) in order to account for the verbal and nonverbal resources mobilized by students and the instructor in interaction, including the content of talk-in-interaction, aspects of speech delivery (e.g., intonation), timing (e.g., pauses, overlapping speech), and embodied nonverbal behaviors (e.g., gaze, posture). First, we transcribed students' contributions to the debriefing and then conducted a line-by-line sequential analysis of the data following the next-turn-proof procedure (Sacks et al., 1974). In other words, we assumed that (i) actions that happen before occasion subsequent ones (e.g., greeting-greeting, invitation- acceptance / decline), and (ii) that projected subsequent actions give meaning to what occurs before. Finally, we supplemented our multimodal sequential analysis of interaction with some pre-task planning materials and students' written peer comments. In doing so, we were able to document students' orientation to turn-allocation as a learnable through different modes of communication (i.e., oral group debriefings and individual written work) and to find connections between those oral and written artifacts and different aspects of pre-task planning.

Findings and Analysis

In what follows, we report our findings in two sections in reverse chronological order. First, we present the first debriefing, which is the result of pre-task planning and students' observations following the first group's (referred to as "Group 1") performance. The analysis focuses on how turn-allocation was oriented to as a learnable in students' oral contributions and written peer comments. Second, we provide an account of the microgenetic origins of the debriefing observations through an analysis of the pre-task planning tasks and the instructor's task framing and peer comment modeling, which we contend mediated students' orientation to turn-allocation as a relevant learnable. In short, we have organized our analysis in an "outcomes first, origins second" format, which we believe is one expression of Vygotsky's (1978) historical or genetic method of analysis.

Turn-Allocation as a Learnable During the First Debriefing

Excerpt 1 comes from the first debriefing. Before this exchange, the instructor selected two students (Alex and Patricia) to share their insights. Alex takes the floor in line 1 and shares the observations he had written on his peer comment card (Figure 1). He first mentions that he is aware that the DSIS session is focused on turn-taking, but he also wants to comment on other aspects of the interaction, namely vocabulary use and the fact that the performers "didn't talk over each other." After highlighting the strengths, Alex goes on to mention an area for improvement in lines 6-7, which has to do with "small pauses in the conversation" that felt a little "awkward."

Excerpt 1

Alex's Contributions to First Debriefing

```
1    Alex        I'll go first ((looks at his notes)) +
2                I thought they + I know it's mostly
3                ((gazes  at  instructor))  about  turn-
4                taking but I thought they were good
5                with vocabulary (        ) and I also
6                thought that they    (   ) didn't TALK
7                over each other (       ) + however
                 there  were  some  small  pauses  in  the
                 conversation that got a little awkward
                 [((giggles))
8    Students
                 [((laughter))
9    Instructor
10               [((smiles and gazes at Alex))could you
                 give us an example?
11   Alex        Um + where they? + like before the 40
12               second part
                 [((laugther))
13   Class       [((laughter))
14   Instructor  Uh uh
15   Alex        It seemed like someone + it was kinda
16               dominated by like one person the whole
17               time + so maybe + someone else could
18               jump in at that point to ask some like
                 + leading questions or something like
                 [that?
19   Instructor  For example?
20   Alex        Like  +  what  kind  of  questions  they
                 could ask?
21   Instructor  Uh huh
22   Alex        They could've ++ um ((looks  at  his
23               notes))  +  they  didn't  +  ((gazes  at
24               instructor) I guess the + they were on
25               the schedule for a while so maybe they
26               could talk about something they might
                 like in a roommate + or something like
                 to do + at home or something?
27   Instructor  How would we + say that in Spanish?
28               What  could  we  say?  +  to  gear  the
                 conversation in that direction +
29   Alex        You mean + saying something you like
30               and then ask what about you?
31   Instructor  Uh huh((nods))
32   Alex        Like y tú?
33   Instructor  Uh huh ((nods  and  gazes  at  Alex))  +
                 thank you
```

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Figure 1

Alex's Peer Comment Card

In lines 9-10, the instructor prompts Alex to give an example to illustrate his observations. Alex offers a response in line 11, referring to the last few seconds of the scenario performance when the conversation seemed to be ending. The instructor validates Alex's answer in lines 14 (i.e., "uh uh"), prompting Alex to expand his response. He explains in lines 15-16 that the scenario was dominated by one person, and he offers a turn-allocation strategy (i.e., "leading questions") in lines 17-18. Following the instructor's request for an example in line 19, Alex suggests different topics the group could have discussed to continue the conversation (lines 22-26). Alex's turn is followed by a few questions from the instructor (lines 27-28), prompting him to think about interactional resources in Spanish that can be used to change conversational topics and to distribute turns more evenly. The exchange ends with Alex's provision of one resource in Spanish to allocate turns after switching the topic of the conversation (i.e., the question tag "¿y tú?"), which is accepted as a valid response by the instructor in line 33.

Excerpt 2 captures Patricia's contributions to the debriefing. This exchange begins with Patricia being explicitly nominated as next speaker by the instructor in line 1. Patricia shares her observations in lines 2-5. She first mentions one strength (i.e., the use of "explicit and implicit methods" for addressing other interlocutors). In line 5, she goes on to highlight Group 1's uneven distribution of turns as an area for improvement. Although Patricia's suggestion is inaudible, it can be seen in her peer comment card (Figure 2). Patricia's observations are followed by an instructor's question in lines 6-9, prompting Patricia to give specific examples to illustrate the strategies mentioned. In lines 10-11, Patricia comments on Group 1's use of questions, eye contact, and gestures for turn-allocation. This observation is confirmed by the instructor through gaze, verbal behaviors (i.e., "yeah"), and nodding in line 12. After that, the instructor expands on Patricia's answer by referring to specific interactional resources in Spanish that the group used for allocating turns to other speakers (i.e., "¿y tú?" and "follow-up questions").

Excerpt 2
Patricia's Contributions to the First Debriefing

```
1    Instructor  Patricia? ((gazes at her))

2    Patricia    So + ((looks at her notes)) I
                 thought they did a great job ((gazes
3                at instructor)) of using explicit
                 and implicit methods for addressing
4                other people + and + for improvement
                 + um + (      )
5

6    Instructor  You ((gazes at Patricia)) said they
                 used both implicit and explicit + um
7                + strategies to allocate turns +
                 could you give us an + some specific
8                examples of how they did it?

9

10   Patricia    I think it was mostly asking
                 questions + and also like eye
11               contact and gesture?

12   Instructor  ((gazes at Patricia and nods))yeah +
                 I think they did a great job of
13               allocating turns explicitly + like +
                 they used questions like y tú? Um +
14               and then they also used a lot of
                 follow-up questions like por qué? or
15               a qué hora? which helped + which
                 contributed to the interaction
16
```

Figure 2

Patricia's Peer Comment Card
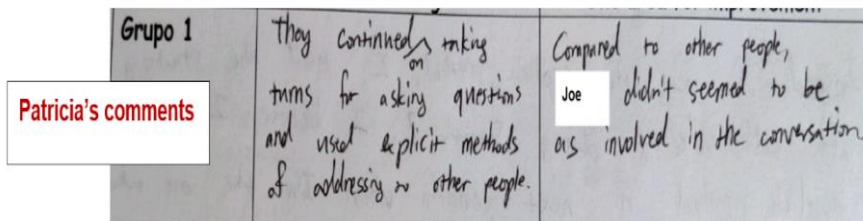
Before turning to the next analysis section, it is worth mentioning that four other students in addition to Alex and Patricia orient to turn-allocation as a learnable in their peer comments on Group 1's performance (Appendix F), which illustrates the mediational potential of pre-task planning from a group-as-collective perspective. In their peer comment cards four students mention gaze, two students refer to questions, and one student suggests pointing as useful resources for allocating turns to other interlocutors. Additionally, three students note Group 1's distribution of turns, and one student highlights that there was no "conflict or overlap."

Pre-Task Planning Collectivizing an Orientation to Turn-Allocation as a Learnable

CA-Informed Pre-Task Planning

In Patricia's CA-informed pre-task planning assignment (Appendix G), she orients to the use of questions and someone's name as relevant resources for nominating a next speaker explicitly. Likewise, Patricia refers to "asking questions" and "explicit methods of addressing other people" in her peer comment card and her contributions to the group debriefing. When prompted by the instructor during the debriefing to illustrate her observations, Patricia mentions "asking questions", "eye contact", and "gestures" as relevant turn-allocation resources, all of which was addressed in the CA-informed pre-task planning and the whole-class review at the beginning of the DSIS session. This can be interpreted as evidence of how CA-informed pre-task planning mediated Patricia's thinking and analysis of Group 1's scenario, prompting an orientation to turn-allocation as a relevant learnable. As an active contributor to the group debriefing, Patricia then shared her orientation to turn-allocation with the class, which in turn could have mediated subsequent DSIS stages.

Alex's case was different as he did not complete the CA-informed pre-task planning before class. Although we do have specific video evidence, we suspect that his orientation to "leading questions" and "¿y tú?" as useful for allocating turns came from the interactional resources shared by the instructor and the other students during the in-class review of the CA-informed assignment. Alex's drawing on the pre-task planning resources collectivized by the instructor and his peers was more clearly observed later in the DSIS session, when he was selected to share his insights with the class following the third scenario performance. Despite having deviated from the group's shared goal by not having completed the CA-informed pre-task planning, he alluded to "eye contact", "body language", and "questions" ("¿y tú?", "¿perdón?", "¿qué significa?"), which he wrote down ad hoc in his homework worksheet (see Figure 3). This shows that Alex's orientation to turn-allocation as a learnable was mediated by the pre-task planning resources collectivized during the in-class review and during prior debriefings.

Figure 3

Alex's Ad Hoc Notes
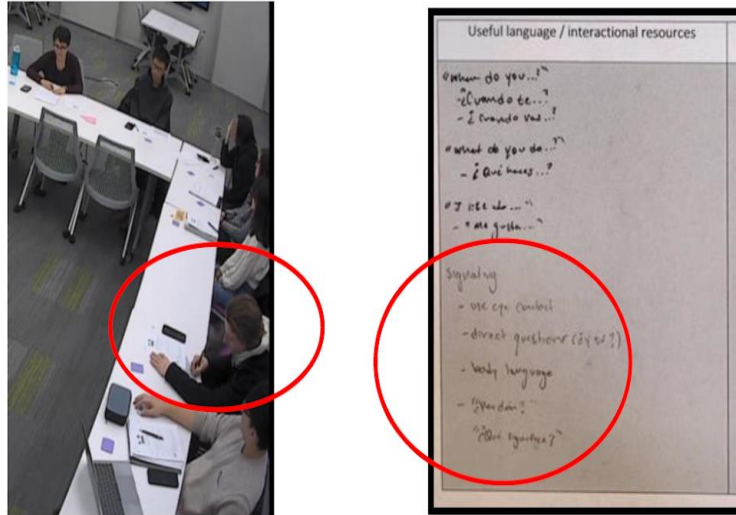
Lastly, the additional peer comments analyzed above focus on nonverbal (e.g., gaze, pointing) and verbal resources (e.g., questions) for allocating turns to other speakers, all of which was addressed in the CA-informed pre-task planning and the whole-class review of the assignment. This can be interpreted as further evidence of how the CA-informed pre-task planning opportunities provided before class and collectivized at the beginning of the DSIS session served as an orienting basis for students' observations of others' performances. Considering the abstract and ephemeral nature of oral interactions, turn-allocation would have been unlikely to become the pedagogical focus without careful pre-task planning and a collectivization of pre-task planning resources.

Instructor's Task Framing and Peer Comment Modeling

At the beginning of the DSIS session, the instructor went over the agenda for the session and clarified that the focus of the lesson was turn-taking and turn-allocation rather than grammatical, lexical, and / or phonological accuracy. The instructor also modeled a sample peer comment about an uneven distribution of turns with one speaking dominating the conversation, and she listed several turn-allocation resources to allocate turns more evenly (e.g., "¿y tú?", "¿y a ti?", "¿qué piensas?"). After that, the instructor invited students to ask questions. One student asked if using English was allowed in case of communication breakdowns, to which the instructor responded that students "could use any strategies that (they) could think of in the moment." The instructor then provided some examples, including body language, pointing, and "whatever (students) would do in a real-life interaction."

The instructor's task framing and comment modeling was observed to mediate students' orientation to turn-allocation as a learning object in multiple ways.

For example, Alex starts off his debriefing contributions by acknowledging that he knows "it's mostly about turn-taking," which shows how task framing helped narrow down the aspects of the oral interactions students oriented to as learnables. Additionally, Alex comments on Group 1's uneven distribution of turns in his peer comment card (i.e., "conversation was sort of dominated by one person") and in his oral contributions (i.e., "it was kinda dominated by like one person the whole time"), all of which had been addressed in the instructor's modeling of peer comments. When prompted by the instructor during the debriefing, Alex also shared some turn-allocation strategies (i.e., "leading questions" and "¿y tú?") which had been collectivized both during the in-class review and the instructor's framing of the task.

The instructor's framing and modelling also served as an orienting basis for Patricia's observations of Group 1's performance (i.e., "compared to other people, Joe didn't seemed* to be as involved in the conversation") and her contributions to the debriefing (i.e., "they used questions like y tú? Um + and then they also used a lot of follow-up questions like por qué?"), which revolved around turn-allocation and unequal distributions of turns. A similar pattern can be seen in the additional peer comments collected in Appendix F, in which turn-allocation and uneven distributions of turns were recurring themes. These examples further illustrate how the instructor's task framing prompted a collective orientation to specific aspects of the scenarios that may have otherwise gone unnoticed due to their abstract nature.

Finally, the instructor's task framing as a simulation of a real-life interaction also contributed to students' prior interactional experiences and expectations of turn-allocation becoming relevant. For example, Alex notes in his peer comment card and during the debriefing that students in Group 1 "didn't talk over each other," but highlights that there were "small pauses in the conversation" that felt a little "awkward." This illustrates how the instructor's task framing might have activated students' prior knowledge of what turn-allocation may look like in human interactions. Another student highlights in their peer comment card (Appendix F) that there was no "conflict or overlap" in Group 1's scenario, which further shows how the instructor's task framing might have made students' interactional experiences from prior socialization in other languages relevant for analyzing others' performances.

Discussion and Conclusion

As noted, our study aligns with and extends previous work examining pre-task planning through a Vygotskian lens (van Compernolle, 2014a, 2014b, 2018a, 2018b) informed in part by Galperin's (1989) theory of the formation of mental actions (i.e., orientation, execution, and control). In contrast to TBLT scholarship, which assumes an individualistic process in which pre-task planning may help to mitigate limited attention capacity (Skehan, 2009), our approach to implementing and analyzing pre-task planning is grounded in an understanding that multiparty collaboration prior to task performance is a potential site for development, a space in which a group may collectively develop an interactional repertoire to be deployed in future task performances. As shown in our analysis, Alex's and Patricia's comments about turn allocation during the first debriefing originated in the at-home pre-task

planning and subsequent whole-class discussion that took place prior to Group 1's scenario performance. This suggests that a collective orientation to turn allocation practices as an important dimension of interaction and learning was developing in two ways.

First, as evidenced in the written pre-task homework assignment and pre-task discussion, Alex (among others) were demonstrating an understanding of the role of, and knowledge of Spanish resources for, allocating next turns. Second, the peer comments from Alex and Patricia during the debriefing are evidence of a form of applied knowledge—that is, their orientation to turn allocation practices mediated their observation and interpretation of Group 1's scenario performance. In this way, we see evidence of a unification of theory and practice—metacommunicative knowledge and performance (van Compernolle, 2018a)—in Alex and Patricia's thinking. This is in our view the goal of L2 instruction in general and of teaching interactional repertoires in particular, a perspective that aligns closely with the Vygotskian notion of praxis as outlined by Lantolf and Poehner (2014).

Our findings hold several implications for SCT, TBLT, and interactional competence pedagogy. For SCT, we believe conceiving of the orientation function as a collective activity may be an important dimension of future work building on Gal'perin's (1989) theory. Indeed, some scholarship over the past decade has explored dialogic verbalized reflections (van Compernolle, 2014) and mediated development (Poehner & Infante, 2015; Infante, 2018) as approaches to fostering the internalization of L2 concepts through teacher-student interaction. Here, we extend this work to whole-class collectivization processes that go beyond the internalization of an L2 concept (e.g., turn allocation) to include the collective construction of concrete semiotic resources to be used in communicative activity—that is, an interactional repertoire. It is in this sense that tasks like DSISs can mediate a focus on meaning and form simultaneously (van Compernolle, 2018a).

Our analysis also has the potential to inform TBLT research that is interested in the roles of pre-task planning. While our work has not set out to examine the Limited Attention Capacity Hypothesis (Skehan, 2009), we can however contribute to an expanded understanding of what pre-task planning can help to accomplish—namely, making visible to learners the semiotic resources available for use and in turn developing in learners a repertoire of relevant and appropriate interactive practices that they can use and interpret in communicative performance. Importantly, the collective approach to planning and debriefing may prove especially beneficial to TBLT research, as recently suggested by Ellis (2021) in referring to Donato's (1994) SCT-driven work on collective scaffolding. Thus, we see two lines of inquiry developing in TBLT research. The first would focus on pre-task planning as a site for developing metacommunicative knowledge to be deployed in a subsequent performance, while the second would investigate further the potential for collectivization to enhance pre-task planning effects on task performance and learning outcomes.

Finally, as noted earlier, interactional competence pedagogy research (e.g., Barraja-Rohan, 2011; Kunitz & Yeh, 2019; Lilja & Piirainen-Marsh, 2019; van

Compernolle & Ballesteros Soria, 2020) has focused on the impact of explicit teaching and awareness-raising tasks on interactional performances. Our findings suggest the importance of more closely linking awareness and performance as a unified whole. Although the pre-task planning activities in our study were certainly designed to enhance interactional task performances, the performances in turn served as an opportunity for the student audience to observe, notice, and reflect on the deployment of relevant turn allocation (and other) resources that could be used and / or modified in subsequent performances, thus creating a reciprocal, interdependent relationship between metacommunicative awareness and performance. In other words, while not the same thing, awareness and performance are inseparable as they dialectically fuel each other during pedagogical activity. Although not the focus of this paper, our data (Ballesteros Soria, in progress) suggest that the collective interactional repertoires developed in pre-task planning and debriefing discussions were picked up, expanded, and modified for contextual appropriateness during group scenario performances over time (see also van Compernolle & Ballesteros Soria, 2020).

Like all studies, ours of course has its limitations. While our data clearly suggest that collectivization of an orientation (e.g., to turn allocation) is possible in a whole class setting, we do not have sufficient data to evaluate the developmental trajectory of every individual learner. In part, this is because much of our analysis is based on audio and video recordings of nonexperimental classroom interaction, meaning we can only draw conclusions based on what individual students happened to say voluntarily. Future work in this important domain would do well to explore the relationship between the individual and the collective in a more systematic way. Additionally, our study is limited to a rather short segment of classroom activity, and our ongoing work (e.g., Ballesteros Soria, in progress) aims to track development over time, more research is needed in order to determine the ways in which collectivized pre-task planning can lead to individual and group development longitudinally. Relatedly, future work would benefit from a focus on the extent to which learners are able to transcend the demands on DSIS and similar classroom tasks and apply their interactional repertoires appropriately across a wider range of L2 communicative contexts.

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Appendix A

Role Descriptions

NB: Each student received only one role description for each DSIS. We have simply compiled them here to illustrate the nature of DSIS prompts.

Come up with a plan and useful language for the scenario based on the role you've been assigned. You will have a chance on Monday to discuss and share ideas with other classmates who are going to play the same role. You will turn in this assignment on Monday at the end of class.

Topics: Daily routine, likes and dislikes, personality traits
Roles: Friends/potential roommates
Functions: Convincing, describing

ROOMMATE A: You're living in a dorm this semester, but you're planning on looking for an apartment with friends for next year. Ideally, you would like to live with friends who have a similar lifestyle/schedule/personality to yours. You are a morning person and like to get up very early to go to the gym before class. You like to go home right after school, eat dinner, and go to bed early. On weekends, you like to stay in, read, and maybe listen to music. Describe your routine to your friends and try to figure out who your best roommates would be.

ROOMMATE B: You're living in a dorm this semester, but you're planning on looking for an apartment with friends for next year. Ideally, you would like to live with friends who have a similar lifestyle/schedule/personality to yours. You are a night owl, and you love to sleep in. All your classes are in the late afternoon, so you rarely get up before 12. You love to do sports, go out, and watch TV until very late. Describe your routine to your friends and try to figure out who your best roommates would be

ROOMMATE C: You're living in a dorm this semester, but you're planning on looking for an apartment with friends for next year. Ideally, you would like to live with friends who have a similar lifestyle/schedule/personality to yours. You work hard, play hard. On weekdays, you get up around 6am to go to the gym before class. After class, you usually eat out and then go home, do your HW, and go to bed around 8pm. On weekends, you love to go to parties and sleep in. Describe your routine to your friends and try to figure out who your best roommates would be.

Appendix B

Scenario Preparation Worksheet

Preparation for Scenario 1 (February 17, 2020) Your name: _____

Come up with a plan and useful language for the scenario based on the role you've been assigned. You will have a chance on Monday to discuss and share ideas with other classmates who are going to play the same role. You will turn in this assignment on Monday at the end of class.

Topics: Daily routine, likes and dislikes, personality traits
Roles: Friends/potential roommates
Functions: Convincing, describing

ROOMMATE A: You're living in a dorm this semester, but you're planning on looking for an apartment with friends for next year. Ideally, you would like to live with friends who have a similar lifestyle/schedule/personality to yours. You are a morning person and like to get up very early to go to the gym before class. You like to go home right after school, eat dinner, and go to bed early. On weekends, you like to stay in, read, and maybe listen to music. Describe your routine to your friends and try to figure out who your best roommates would be.

Useful language / interactional resources	Main arguments

Appendix C

CA-Informed Assignment

1 Read the following transcription. Then, describe in your own words how Sara, Ben, Bill decide who speaks when.

1 Sara: Ben you want anything to drink?

2 Ben: Well all right I'll have a coffee.

3 Sara: Bill you want anything?

4 Bill: No, thanks.

_____

_____

_____

_____

2 Read the following explanation and take note of the resources listed.

There are three hierarchically organized options for allocating next turns:

1. The current speaker may select the next speaker explicitly (e.g., by name) or implicitly (e.g., by gaze, gesture, or content of speech), who in turn has both the right and obligation to continue.
2. If no next speaker is selected by the current speaker, other participants can self-select (e.g., to respond to an open question or to proffer a new topic).
3. Third, the current speaker may elect to continue his or her turn if no other participant self-selects as next speaker.

Reference

Sacks, H., Schegloff, E. A., & Jefferson, G. (1974). A simplest systematics for the organization of turn-taking for conversation. *Language, 50,* 696-735.

Here are some resources you can use in Spanish for allocating turns, self-selecting, and/or continuing one's turn.

Allocating next turn		Self-selecting / continuing one's turn	
Explicitly	**Implicitly**	**Responding to an open question**	**Proffering a new topic**
Name: *¡Tim!;* *¿Emily?*	**Gaze**: *gazing/staring at someone; blinking* **Gesture**: *pointing/frowning at someone* **Content of speech:** **a) Question tags:** Me gusta la pizza, *¿y a ti?* Como mucho chocolate, *¿y tú?* Es bonito, *¿no?* **b) "Stand-alone" questions:** ¿te gusta? ¿Qué? ¿Cuándo? ¿Cómo? ¿Por qué? ¿Dónde?	A ver… – *let's see…* Digo… – *I mean…* En plan… – *like… (Spain)* Pues … – *well* Es que … – *it's just that…* Entonces… – *so/then* Osea – *like…*	¿Y si..+ conjugated verb? – *what if…?* Recomiendo + infinitive… – *I recommend…* ¿Por qué no..+ conjugated verb? – *what don't we…?* Tengo una pregunta – *I have a question* Recomiendo + infinitive… – *I recommend…*

3 Create a short dialog (5-6 lines) in Spanish involving at least 3 interlocutors. Include at least 4 resources from the list provided. As you work on your dialog, try to refer to the explanation of turn allocation provided in step 2.

_____
_____
_____
_____
_____
_____
_____

Appendix D

Agenda with Sample Peer Comments

DYNAMIC STRATEGIC SCENARIOS | February 17, 2020

Goals of today's class

Students will:

- compare their homework and strategize about useful language/interactional resources with peers who have been assigned the same role
- perform a scenario in small groups in front of the class
- receive feedback on their interactional abilities from their peers and their instructor
- give feedback on the scenarios performed by their peers

Process for each scenario

The same process will be followed for each scenario:

Small group performs scenario in front of class; class observes	Observers use comment card to record written feedback	Randomly selected observers share and discuss prioritized written feedback with performers	All observers give written feedback forms to instructor at the end of class
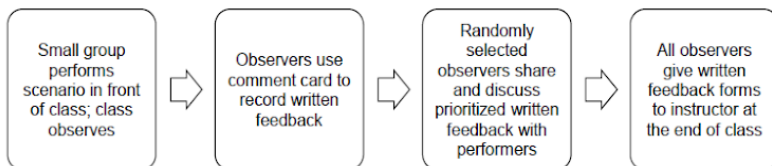
Characteristics of effective feedback

Feedback should be *specific, constructive, and prioritized.* It should identify particular strategies or behaviors and explaining why something is or isn't effective. Feedback should also concentrate on the strengths and weaknesses that students should focus on most.

❌ NO	✅ YES
Turn-taking was good. Overall I thought the interaction went fine.	Your group used a variety of turn-allocation strategies. However, performance tended to be dominated by Mary and David, while Ana seemed to be left out. Some resources you can use for distributing turns in a more equal way include: *¿y tú? ¿y a ti? ¿qué piensas? a ver (let's see…), ¿y si…?*

¡AVISO IMPORTANTE! Our main focus today is turn-taking and turn-allocation, but feel free to comment on any other aspects of the interactions that seem relevant.

Note: The focus of these scenario-based activities IS NOT grammar, pronunciation, and/or vocabulary.

Appendix E

Peer Comment Card

Nombre:

Fecha:

Strategic Interaction Scenarios – Comment Card

	One strength	One area for improvement
Grupo 1		
Grupo 2		
Grupo 3		
Grupo 4		

Please…

1) be mindful of your tone;

2) provide specific, constructive, and prioritized feedback;

3) turn in this comment card at the end of class.

Appendix F

Additional Peer Comments on Group 1's Performance

	One strength	One area for improvement
Grupo 1	They change gaze when ask questions Jennifer organized the conversation effecly at the beginning.	They could use more questions and point to a specific person when talking.
Grupo 1	Everyone is in conversation. There is one host who leads the conversation using gazing. There is no conflict or overlap in speaking.	The talk could be more organised. Student A can share more information.
Grupo 1 (Jennifer, Joe, David)	They did well asking follow up questions	They could make the conversation flow a bit more - it was a lot to everyone staring @ the same person trying to get them to talk
Grupo 1	I think everybody was engaged in what each other says and maintained eye contact. The conversation was very relevant too.	I think Jennifer was trying harder then others to establish the context & initiate conversation. others can step up more to ask questions.

Appendix G

Patricia's CA-Informed Assignment

Read the following transcription. Then, describe in your own words how Sara, Ben, Bill decides who speaks when.

1 Sara: Ben you want anything to drink?

2 Ben: Well all right I'll have a coffee.

3 Sara: Bill you want anything?

4 Bill: No, thanks.

Your Answer:

Sarah explicitly selects next speaker by calling their names before she asks a question. Ben and Bill responds to the questions that Sarah asked them.

Authors' Biographies

Nuria Ballesteros Soria received her Ph.D. in Second Language Acquisition from Carnegie Mellon University (CMU), and her M. A. degrees in TESOL / Linguistics and Teaching Spanish from West Virginia University and *Universidad Internacional Menéndez Pelayo* (Spain) respectively. Her B. A. is in Translation and Interpreting from *Universidad de Valladolid* (Spain). In 2022, Nuria joined the Dietrich College of Humanities and Social Sciences' Dean's Office at CMU as a Special Faculty member, where she teaches interdisciplinary first-year seminars, coordinates faculty development, and contributes to program assessment and curriculum development efforts. As a researcher, Nuria investigates classroom discourse and L2 interaction.

Rémi A. van Compernolle is an aging runner who moonlights as an Associate Professor of Second Language Acquisition at Carnegie Mellon University where he also serves as the Associate Head of the Department of Modern Languages. His research and teaching center on extensions of Vygotskian psychology to language teaching and learning, with specific focus on Sociolinguistics, Pragmatics, and Discourse and Interaction.

ELF and Sociocultural Theory: An Integrated Approach

Enrico Grazzi

Associate Professor in English Language and Translation, Department of Foreign Languages, Literatures and Cultures, University of Roma Tre, Rome, Italy
ORCID ID: 0000-0003-3680-0299
Email:enrico.grazzi@uniroma3.it

Abstract

The main focus of this article is on the controversial issue of integrating English as a Lingua Franca (ELF) into English Language Teaching (ELT). Particularly, the plurilithic nature of English as an international language in the age of Globalization challenges the long sedimented native-speakerism in the English classroom. Nevertheless, in spite of the extensive academic literature in the area of ELF research, it seems that a balanced pedagogical approach has not yet been developed by applied ELF scholars. The purpose of this study, therefore, is to show how Vygotsky's sociocultural theory (SCT) and Gal'perin's *Systemic Theoretical Instruction* (STI) (which informed the L2 teaching approach called *Concept-based Language Instruction,* C-BLI) may provide the appropriate scientific framework to bridge the gap between the mainstream English as a Foreign Language (EFL) syllabus, that is based on the native-speaker Standard English model, and the emergent use of non-native-speaker ELF, which results from the contact of learners' L1 and English. In conclusion, this research intends to propose an integrated approach to teaching English that combines ELF, SCT, and C-BLI. This is expected to give language teachers a conceptual framework and theoretical orientation to carry out the paradigm shift in ELT that most ELF scholars advocate.

Keywords: English as a Lingua Franca, Sociocultural Theory, systemic theoretical instruction, Concept-Based Language Instruction, dynamic assessment

Introduction

The scope of this paper is to reflect on the phenomenon of language change and variability that has characterised the use of English as an international language in the age of Globalization, in the attempt to propose a theoretical and practical framework for English language teaching (ELT) based on Vygotsky's (1986) sociocultural theory (SCT). This, I believe, may indeed help applied linguists and L2 practitioners to cope with the pedagogical challenge posed by the pluricentric emergence of English as a *Multilingua* Franca (ELF) [1] (Jenkins, 2015a; my italics) in authentic cross-cultural communicative contexts (e.g., on the Internet).

In light of the controversy surrounding the supposed monolithic model of native speaker / prestige varieties in ELT (see for example Seidlhofer, 2003, pp. 7-33, where the author reports on Quirk's and Kachru's opposite stances toward teaching Standard English), I will suggest tentative answers to some of the most pressing questions that teachers of English, as well as pedagogists, teacher educators, and even students normally ask when they become aware of the impact that ELF might have on the English of the subject. Accordingly, I will adopt Lantolf & Poehner's (2014) pedagogical perspective which is informed not only by SCT which includes the criterion of Dynamic Assessment (DA) (Poehner & Lantolf, 2005; Lantolf & Poehner, 2014), but also by Gal'perin's (Gal'perin, 1967, 1970, 1979; Engeness, 2021; Lantolf & Poehner, 2014) theory of Systemic Theoretical Instruction (STI), which "has been particularly influential in establishing the procedures used in [*Concept-based Language Instruction*] C-BLI" (Lantolf, Xi & Minakova, 2020: 1)[2]. What distinguishes their approach to L2 development is that it is based on a psycholinguistic process whereby theory and practice are not conceived of as dichotomous, but rather as "two sides of the same coin" (Lantolf & Poehner, 2014, p. 5).

Finally, I will show how the traditional dualistic distinction between English as a Foreign Language (EFL, i.e., the idealized form of standard English, which belongs to its native speakers and that normally constitutes the English of the subject) and English as a Lingua Franca (i.e., the multilingual variable way of using English in languaculturally diverse contexts) may indeed converge by way of the learner's communicative performance (Grazzi, 2013). This is intended as the authentic use of ELF as a mediational artifact that learners naturally develop to carry out joint communicative activities within intercultural and multilingual educational settings (e.g., Internet-mediated telecollaboration projects (Grazzi, 2015).

Hence, the guiding research question addressed in this paper may be formulated as follows: how can SCT and C-BLI be implemented in ELT to fill the gap between EFL and ELF and provide a theoretical / practical framework to carry out the paradigm shift that most ELF scholars advocate? (see, Newbold, 2017).

The EFL-ELF Gap

Research (see Jenkins, 2007; Grazzi, 2018b), as a matter of fact, has shown that although ELT practitioners generally approach ELF with an open mind, their attitude tends to become more conservative when the teaching of the English of the subject is at stake. In other words, there seems to be a general understanding and agreement about the causes behind today's variability of English internationally, which is essentially a "consequence and a prerequisite" (Mauranen, 2012, p. 17) of the tremendous growth of multicultural contacts brought about by Globalization and web-mediated communication. Nevertheless, the fact that ELF is not an encoded variety of English, but rather a process that typically emerges and can be observed in variable multilingual contexts, makes it appear to be unfit for the English classroom.

In a nutshell, we could argue that the debate around the integration of ELF into the English syllabus has foregrounded two opposite attitudes:

a) on the one hand, ELF researchers believe that because English has become a global contact language (Mauranen, 2012)[3] and the world's primary lingua franca, the task of school education is to catch up with the variable ways of using it, in order to make learners ready to cope with the contemporary plurilithic dimension of this language. ELF scholars make this claim by virtue of the fact that today the great majority of English users are non-native speakers and that cross-cultural communication takes place in settings where mostly international speakers are involved. Hence, even though ELF cannot be taught as such, because it is a context-bound process rather than an encoded variety of English (Jenkins, 2015a), it cannot be left out of the English curriculum. The most immediate consequence of this position is that learners' deviations from standard norms should no more be automatically considered errors, but rather legitimate alternative forms that are authenticated by interlocutors the minute they can communicate successfully (Widdowson, 2013). Therefore, non-compliance with native-speaker norms is acceptable whenever deviations from Standard English models do not hinder communication and allow learners / L2-users to carry out communicative tasks in real multilingual and multicultural contexts (e.g., online telecollaboration projects like eTwinning, sponsored by the European Commission)[4]. In turn, this pragmatic approach to learners' performance and their timely use of communication strategies (e.g., accommodation, codeswitching, cross-linguistic transfer, etc.) entails that new criteria are needed to reconceptualize language testing, as well as the assessment of students' competencies. Last but not least, language input and teaching materials should go beyond the typical, and often stereotypical, representation of native speakers' languacultures, and provide a wider outlook at the thriving reality of English as an international language.

b) On the other hand, those who resist an ELF-informed reform of the English curriculum are not necessarily critical of what ELF research has so far discovered about the connection between the historical, economic, social, and cultural consequences of globalization and the process of language variability that English is undergoing on a world scale. In fact, they have usually expressed concerns about the acceptability of deviations from codified language norms, as this

principle would inevitably be conflicting with dominant reference models of learners' proficiency at different levels (e.g., the Council of Europe's Common European Framework of Reference for Languages <https://www.coe.int/en/web/common-european-framework-reference-languages>). Indeed, ELF scholars like Jenkins (2000) and Widdowson (2003) recognize the importance of Standard English models in L2 education and do not suggest that they should be neglected in ELT. However, they claim that the use of ELF should become a viable option for students. In spite of that, if we look at the other side of the coin, the student's freedom of choice, although desirable and although we could agree to it in principle, may prove to be rather disorienting, both for learners and teachers. First of all, it is not true that all deviations from the norms follow from the learner's freewill. In fact, they may also be part of the natural psycholinguistic process of L2 learning and acquisition. Therefore, it would be quite problematic for language teachers to distinguish between deviations that should be accepted as the expression of the learner's cultural identity, autonomy, and creativity, and deviations that are instead developmental errors (Corder, 1981), i.e., systematic goofs that reveal the learner's attempt to infer the L2 norms through practice (e.g. cases of overgeneralization of grammar norms, like the regularization of the past form of irregular verbs). What is more, a distinction between ELF deviations and developmental errors may not be sharp, for learners normally tend to cope with what they identify as shortcomings in their L2 competence (either at phonological, lexicogrammar, or discoursal level) by implementing all communication strategies available to them, in order to complete the assigned tasks. This strategic behaviour usually includes the use of the mother tongue or other languages that are part of the student's repertoire, as part of a natural process that is referred to as *translanguaging* (Garcìa & Wei, 2015).

Secondly, the unintended result of accepting learners' deviations from codified norms is that the teacher may not know what to do: should they provide corrective feedback or simply let go of the infelicities in the student's output? And as for the learner: how could they progress to higher proficiency levels if the teacher or their peers do not provide them with appropriate scaffolding to support their continued language development?

As it seems, positions a) and b) are hard to reconcile, essentially because they presuppose two opposite conceptions of the English of the subject. The former implies that ELF is a multilingual code that emerges naturally in international verbal communication. Therefore, its incorporation into the English curriculum entails a complete reform of the educational system as regards ELT, whereby the English of the subject is intended as a multilingual code that is developed by learners instead of being taught by teachers (Widdowson, 2013). In this case, the Standard English model would be used to provide learners with an "orientation" (Kohn, 2011) rather than with a prescriptive system.

The latter instead, represents a more traditional pedagogical approach, whereby languages are considered independent systems. Hence, the English of the subject corresponds to Standard English, that is to one of the British or American native-speaker language models that have gained official status worldwide, usually

Received Pronunciation or General American. The logical entailments of this approach are that a) English is seen as a foreign language (EFL) that belongs to its native speakers; b) Standard English is the only legitimate reference model in ELT; and c) the learner's L1 and the other languages that are available to them may interfere negatively with the process of learning and acquisition of the L2, therefore they should be progressively excluded from the teaching / learning process. In line with the interlanguage hypothesis (Selinker, 1972), monolingualism tends to prevail, even though this does not automatically lead to monoculturalism. In fact, the English syllabus might also include a social, historical, political, and artistic outlook on non-native speakers' cultures, provided Standard English is the main mediational tool to speak about these topics. This intercultural approach is, once again, based on the assumption that languacultural systems are clearly separated and self-consistent, rather than in a state of transcultural flow (Pennycook, 2007; Baker, 2015). Consequently, from this point of view English as a global language is rather intended as the primacy of the Standard English model internationally, rather than the wide gamut of existing Global Englishes (Jenkins, 2015b).

These polar attitudes regarding ELF, EFL, and ELT are well illustrated in two academic papers, by Swan (2012) and Widdowson (2013) respectively, where the authors discuss their different views on the English of the subject. In a nutshell, Swan recognizes the performative effectiveness of ELF; nevertheless, he considers its unsystematic deviations from Standard English norms of little consequence regarding English language teaching. Widdowson (2013, p. 192), on the other hand, shifts the focus from learners' conformity to standard English norms to students' "strategic ability to make communicative use of linguistic resources, including those of the learners' own language." Therefore, the international and multilingual dimension of ELF challenges the more conventional and conservative notion of EFL.

All considered, however, we might say that neither of these two articles seem to offer language teachers exhaustive answers to some of the basic questions they usually ask when they are introduced to ELF studies (e.g., in conferences and teacher education courses): a) What are language teachers supposed to do when learners deviate from the norms?; b) How can we distinguish between learners' creative forms of ELF and errors?; and c) How should we assess ELF abilities in the English classroom?

While Swan's paper endorses an uncompromising approach to EFL, whereby ELF is considered an incorrect form of English, Widdowson's insightful rejoinder proposes a radical change in ELT, which seems to be too far-fetched and unfeasible for the time being. We ought to consider that notwithstanding ELF research has by now become a well-established area of applied linguistics studies, it is still very distant from the world of ELT, where a native-speaker orientation is dominant. Presumably, one of the principal reasons of this disconnection between ELF academic research and school education is that the role of the USA as the major world's superpower in the age of Globalization has turned English (particularly General American) into the primary reference model in ELT. Consequently, while the spread of English as the world's primary lingua franca entails a high degree of language variability that is plain to see whenever we observe communication in

international settings, the official English curricula at institutional levels (i.e., the University and school systems) tend to conform to the native-speaker model. Therefore, we should also take into consideration the fact that teachers' and learners' orientations and choices are not entirely free, for they are usually partly or even completely pre-determined by prescriptive national curricula.

A Paradigm Shift in ELT: A Controversial Issue

Given the situation described above, it seems quite obvious that a thorough ELF-informed shift in the language teaching paradigm is not really perceived as a priority by educational authorities, first and foremost because of the prevailing sociopolitical views concerning each country's linguistic policy in the area of English. Thus, we may conclude that it would be quite an unrealistic expectation that teachers of English should commit themselves to a change of direction in schooling and take responsibility for a sort of pedagogic *revolution* in ELT. Today, although the international spread of English is characterized by phenomena of second-order language contact (see note n. 2), the socio-political and financial motivations that have led to the choice of Standard English as the model for schooling seem to be connected to the idea that developing native-speaker proficiency may lead to professional success and better working opportunities. In brief, there seems to be inconsistencies between what is normally taking place in terms of language variability and the global spread of English, and the conservative, albeit pragmatic, choice of educational institutions regarding the English language policy.

We can still make a further consideration to account for changes in second-language teaching methodology and schooling. Pedagogical innovations have usually followed from academic linguistic research. Therefore, new theories about language have informed new methods and approaches in ELT. A case in point is given for example by the turning point represented by the advent of Chomsky's (1957; 1959) transformational-generative grammar theory, which marked the quick decline of behaviourism (Skinner, 1957) and of Fries's (1985) audio-lingual method in L2 teaching. The new methodological approach that followed, the communicative approach (Widdowson, 1978), is also known as the *communicative revolution*, and was bound to become the dominant approach in second-language education to date. Nevertheless, what is important to note is that this revolution was not ignited from the bottom, by language teachers. Instead, it was the result of a tremendous joint effort in teacher education, made by universities, ministerial institutions, American and British Cultural Offices, textbook publishers, and second-language teacher associations (e.g., TESOL International Association <https://www.tesol.org/>), which invested considerable financial resources in it, for decades. Nowadays, even if we agreed that ELF may represent the final frontier in ELT, the situation is completely different, for the truth is that a) there are no unanimous academic opinions on ELF as regards schooling; and b) investments in ELF-based teacher education are comparably much smaller, at least in the Western world, than in the '70s, '80s, and '90s.

Indeed, teachers of English are not against the principle that the development of learners' communicative competence and fluency has priority over linguistic competence and accuracy. They have been used to be selective as regards a) which errors need corrective feedback; b) when corrective feedback is appropriate; and c) how should learners' performance be assessed and evaluated. Moreover, especially non-native teachers of English normally understand the importance of students' languacultural identity that is signalled by deviations from the norms at all language levels, which they are ready to accept as legitimate. Therefore, it is not surprising that on the one hand language teachers usually show appreciation and interest in the topic of ELF, but on the other hand may feel lost and confused if little practical indications are provided by ELF applied linguists, especially as regards the assessment and evaluation of learners' proficiency. Indeed, it seems that although Applied Linguistics has always been a typical area of investigation for several ELF scholars[5], all too often teachers of English have only been provided either with a) an academic descriptive framework to account for ELF lexicogrammar features[6]; b) examples of individual projects, whereby innovative albeit experimental ELF-based classroom activities were incorporated into the language syllabus (see for example Bowles & Cogo, 2015; Grazzi, 2018a; Llurda & Cots, 2020; Vettorel, 2015); and c) teacher education courses, the aim of which was primarily to raise teachers' and learners' ELF awareness (see Cavalheiro, 2018; Grazzi 2018b; Sifakis & Bayyurt, 2018). Indeed, it should be observed that, so far, a comprehensive ELF-informed paradigm shift in ELT has not yet been fully developed by applied linguists, even though it has been strongly recommended (see Pennycook, 2001; Seidlhofer & Widdowson, 2018) to cope with the reality of English as a plurilithic global language (Pennycook, 2009). Jenkins's attitude is quite emblematic of ELF scholars' non-prescriptive attitude, which however may leave language teachers quite disoriented. Let us consider for example the following extract from an interview she gave Grazzi (2018b) a few years ago. When asked about what should the language teacher do when variations from standard English norms occur (e.g. correct the students? Select between acceptable and unacceptable variations according to the principle of mutual comprehensibility? Do nothing?) Jenkins answered:

> Not being a language teacher, I don't feel I have the authority to answer this question. It depends very much on the local situation. My only comment is that if the aim is for students to pass a particular exam, they can't really do anything other than point out what is 'correct' in standard native English, however much they may object (as I do too) to the exam's premise that native English is the version of English that has to be tested. (p. 17)

It seems quite reasonable to think that without any practical indications based on a sound theoretical framework, most language teachers may not take responsibility for what they would consider quite risky and unprepared pedagogical choices. Therefore, they would easily opt for a more conventional and routine behaviour. After all, we should also consider that school teachers' institutional role requires compliance with the national curriculum, so their individual freedom of

choice is somewhat conditioned by the circumstances under which they have to carry out their duties. In this situation, thinking that a radical shift in ELT may be carried out by teachers looks like an absolute pipedream, even because, normally, educational systems and civil servants act as the transmission belt of dominant ideologies.

In the remainder of this article, my intent is to provide tentative answers to language teachers' most urgent queries regarding the impact of ELF on the English curriculum, and what changes are necessary to bridge the gap between the English of the subject and the reality of ELF. As will be shown in the following section, as an ELF scholar I would like to make a methodological proposal to cope with the growing demand for appropriate teacher-education courses. Essentially, I would like to promote the convergence of studies in the areas of ELF and SCT, to develop a sound theoretical framework in the changing scenario of ELT. In particular, I would like to propose an educational approach to ELF and L2 development that combines Vygotsky's SCT, the approach to L2 teaching / learning called C-BLI, DA, and ELF applied research. This, I believe, could indeed become a promising area of investigation for ELT studies, which indicates a possible path for enhancing English teachers' professional development.

In concluding this section, I wish to touch briefly upon the underpinnings of my proposal, which will be explored in more detail in section n. 4. What still appears to be a daunting challenge in the area of ELF-informed applied linguistics is to develop a coherent approach to ELT that may combine today's plurilithic and multilingual dimension of the English language with the requirements of mainstream educational syllabuses. Hence, at the heart of my argument is the belief that SCT, C-BLI, and DA may really provide L2 practitioners and teachers with a reliable and promising methodological framework that is grounded on the following components: a) an insightful theory of mind and an evolutionary understanding of verbal languages as human artefacts that mediate social practice; b) a conceptualisation of L2 development that recognizes the fundamental role of the student's L1 and languacultural background in the process of learning / acquisition of an L2; c) a cognitive teaching / learning model based on praxis and on the learner's conceptual understanding of the L2 lexicogrammar system that goes beyond the study of the so-called rules of thumb; d) the social dimension of L2 teaching / learning dialectic process, *obuchenie*, which is located within a Vygotskyan Zone of Proximal Development (ZPD) (Lantolf & Thorne, 2006; Lantolf & Poehner, 2014); e) the dynamic assessment of learners' L2 performance, the purpose of which is "to promote learner development, not merely to describe what occurs during a single interaction" (Lantolf & Poehner, 2014, p. 203).

The Convergence of EFL and ELF via SCT and C-BLI

The phenomena of diachronic and synchronic language change (that is, the development of a language in the course of time, versus the variability of a language at a particular time) are intertwined with the social and historical events that characterize the development of human civilization. The variability of natural languages is therefore situated within the broader context of concrete reciprocal

interactions, whereby societal relationships, either peaceful or conflictual, among diverse languacultural communities and social classes are mediated via language itself. Hence, from the viewpoint of dialectical materialism natural verbal languages are not conceived of as abstract systems that are independent of the context of use (Heine & Kuteva, 2005; Lantolf, 2000; Lantolf & Thorne, 2006; Moura da Costa & Calvo Tuleski, 2017; Tomasello, 2003; Vygotsky, 1986;), nor are they believed to share, as Chomsky (1975) does, an innate universal grammar. Rather, they are considered performative human affordances that users co-construct, appropriate, and reshape in different settings, in order to cope with their communicative needs. Lantolf (2000) explains that:

> The most fundamental concept of Sociocultural Theory is that human mind is *mediated*. (…) Vygotsky argued that just as humans do not act directly on the physical world but relied, instead, on tools and labor activity, which allows us to change the world, and with it, the circumstances under which we live in the world, we also use symbolic tools, or signs, to mediate and regulate our relationships with others and with ourselves and thus to change the nature of these relationships. (p. 2)

Therefore, we may argue that because human relationships and cultures normally tend to evolve at micro- and macro-structural levels, so language systems tend to vary substantially across individuals and groups, as well as across time and space, as part of a wider dialectic process. Together with Pennycook (2007), we may then assume that language variability is ingrained in transcultural flows, as shown by the emergence of variable uses of ELF, in the era of Globalization.

Considering verbal languages from a Vygotskyan sociocultural point of view, Lantolf (2000, p. 2) links language variability to its historical dimension: "Whether physical or symbolic, artifacts are generally modified as they are passed on from one generation to the next. Each generation reworks its cultural inheritance to meet the needs of its communities and individuals." This idea challenges the myth of monolithic language standards, which are supposedly independent entities, immune to change. On the contrary, Vygotsky's conceptualization, which is rooted in Marx's historical materialism (Ratner & Silva, 2017), reinforces a more realistic view of language that is dynamic and evolutionary. Consequently, we might argue that while a more traditional concept of standard language entails a sort of fetishization of language itself, as if it were an autonomous, self-contained object, SCT allows a deeper understanding of verbal languages and their reciprocal interactions, of their interconnections with other semiotic systems, and last but not least of the dynamic patterns of brain activity associated with cognition (Skehan, 1998).

Interestingly, the history of the English language, if considered diachronically, provides a good example of how historical events determined the overlapping of diverse languacultural strata. Today, this evolutionary process continues on a world scale through ELF, and we could say that, if considered synchronically, English is going through a complex dynamic phase, whereby several encoded varieties of native-speaker Englishes and postcolonial Englishes coexist and intertwine with emerging multilingual, *glocal* (Robertson, 1995; my italics) uses

of English as a contact language (e.g., Chinese English, Russian English, Italian English, etc.). We may argue, however, that until Standard English will be considered the primary high-prestige linguistic variety, the reality of ELF similects, i.e., the emerging variable forms of English spoken by L2-users who have a different first language (Mauranen, 2012), will be confined to the area of *informal*, *non-canonical*, *dialectal* uses of English. Therefore, the change of status of one or more ELF variable forms will depend both on their being encoded into novel varieties of English, and on the official recognition of these varieties as legitimate, in all communicative contexts. In any case, this authentication, which in many ways is similar to the process of creolization, does not exclusively depend on linguistic elements, but mainly on socio-political decisions regarding the strict relationship between language and power. Of course, at present it is impossible to predict the future of English in this transitional age. Nevertheless, it seems that the dominance of the myth of Standard English is bound to last. The proof of this lies in the fact that for instance English (meaning Standard English) has been adopted as the official contact language by China and the ASEAN countries (the Association of Southeast Asian Nations that includes Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam). This is a huge geographical area with a population of 1,412 billion Chinese (2021), plus over 600 million people from ASEAN countries (2021). It is It is a powerful commercial area that combines China's gross domestic product (GDP), US$17.73 trillion with ASEA, with ASEAN countries' GDP, (2021) US$10.2 trillion (2022)[7]. In view of the above considerations, it seems reasonable to conclude that the current debate on the pedagogical implications of ELF does not only concern methodological choices, but has to do with sociolinguistic considerations and conflicting ideologies regarding the nature of English as a global language and the English of the subject.

In this fluid situation, however, I suggest that we had better focus on the learner's performance, which is the real convergence point between the language input, the student's languacultural identity as an L2-user, and the teaching / learning process. This is particularly evident in network-based language activities like intercultural telecollaboration (Grazzi, 2018a), where learners from different languacultural backgrounds cooperate as members of a community of practice (Wenger, 1998) to carry out a given task, using ELF as a mediational tool. For instance, in the case of fanfiction (Grazzi, 2013), which is based on cooperative creative writing, the analysis of the texts written by a community of practice made of Italian ad Finnish students showed that through ELF discourse participants were able to signal their different languacultural identities and at the same time negotiate meaning and carry out their assignment successfully. Syntactic calque is a case in point. In my study (Grazzi, 2013, p. 64) I observed that some of the Italian participants used the non-canonical expression "*I am agree*" to express agreement, which is a structural calque of the Italian lexical phrase "*Sono d'accordo.*"This locution is the pragmatic equivalent of the English canonical chunk "*I agree*", although their syntactic patterns are different: in the Italian-English construction the copular verb BE is followed by an adverb (*agree*), while in Standard English AGREE is a performative verb. This grammatical class shift can therefore be considered the result of cross-linguistic transfer that followed from a process of

syntactization (Tomasello, 1999, p. 42). The fact that on an empirical level the Italian-English expression did not affect the communication flow within the community of practice, but rather favoured it, shows how the convergence of ELF and EFL is an integral part of L2 development within the English classroom. It is advisable, therefore, that innovative web-mediated activities like fanfiction and intercultural telecollaboration, which allow learners to interact within an authentic international setting, are integrated into a wider pedagogical design that provides occasions for the pragmatic use of English to emerge.

As Lantolf (2006) contends apropos of the concept of languaculture and L2 development,

> Conceptual understanding becomes paramount not only with regard to metaphors, schema, lexical networks and the like, but also with regard to the conceptual meaning imparted by the grammatical feature of a language. (…) Rich points between different languacultures become the focus of our pedagogical attention as we seek to help students recognize, cope with and use them as the means for developing new ways of understanding reality. (p. 88)

Hence, my assumption regarding the convergence of EFL and ELF via SCT and C-BLI is that, in a SCT-L2 perspective, priority should be accorded to the study of learners' output within the social environment of the English classroom in order to a) promote the development of each learner's personal use of the L2 (i.e., what Kohn (2018, p. 1) has defined the "MY English" concept); b) raise the teacher's and learner's awareness of the teaching / learning process through the reflection on and the appropriation of the conceptual content that orientates L2 use (e.g., see Esteve et al., 2021, where the authors showcase how to implement *Schemas of a Complete Orienting Basis of an Action,* SCOBAs (Gal'perin, 1989, 1992) in SCT-L2 teacher education programs; and see Fernández et al., 2021, where translinguistic SCOBAs are implemented as part of C-BLI, to foster L2 conceptual development); and c) support the learner's development through appropriate feedback within a Vygotskyan ZPD (Lantolf & Thorne, 2006; Lantolf & Poehner, 2014). As Lantolf and Poehner (2014) explain,

> Sociocultural theory is a cognitive theory of mind inspired by Marx's historical materialist philosophy. As such, it holds that consciousness arises from the dialectical interaction of the brain, endowed with biological specified mental capacities, and socially organized activity determined by micro cultural institutions, artifacts, and concepts. The interaction between two material substances (i.e., brain and culture) humanizes the brain's functions. (p. 36)

With a focus on L2 learning, Swain (2000) discusses the role of Vygotsky's SCT in education and points out that:

> [Collaborative dialogue] constructs linguistic knowledge. It is what allows performance to outstrip competence. It is where language use and language

learning can co-occur. It is language use mediating language learning. It is cognitive activity and it is social activity. (p. 97)

Moreover, Swain shows the fundamental role of verbal language as a mediational tool that enhances learners' reflection on the L2 and how this reflecting attitude may improve L2 acquisition. Swain (2006, p. 3223) calls this complex process *languaging*, which she defines "the process of making meaning and shaping knowledge and experience through language." To sum up, Swain and Watanabe (2013, p. 6) claim that "languaging as collaborative dialogue is source of L2 learning." Thus, in a Vygotskyan perspective, "education is not merely a matter of acquiring new knowledge (i.e., learning); it is rather a new process of development that results in new ways of conceptualizing the world" (Lantolf & Poehner, 2014, p. 11). Later in their book, the authors expand on the relationship between theory and praxis, and offer a definition of Vygotsky's crucial concept of *obuchenie* in developmental education, which for them represents a pedagogical imperative:

> Education is the primary micro cultural environment where systematic development ought to occur through an intentional and well-organized instruction (i.e., *obuchenie* [teaching-learning]). The test of the theory therefore resides not in its capacity to generate a priori predictions but in its ability to fulfill the responsibility required of praxis-based theory of developmental education. (p. 55)

In this vein, teaching and learning are not separate, but are complementary and part of the same dynamic process. In addition, contextual variables play a fundamental role in education and make each learning environment a different ecosystem, where development cannot be standardized. Therefore, *obuchenie* is not an individual process but rather a situated social one. Gal'perin, who considered Vygotsky one of the founders of non-classical psychology, developed a spiral model of mental actions in situated learning, consisting in learners' "increasing internalization of an action while passing through the sequence of levels in mastering a given task" (Engeness, 2021, p. xxvi). Because of space constraints, it is impossible to provide an exhaustive synthesis of Gal'perin's complex theory on the development of human mental activity. Nevertheless, I will mention the fundamental concepts underpinning C-BLI that are relevant to L2 development. First of all, it should not go unnoticed that there is a strong connection between three elements: a) my focus on the learner's performance in the English classroom; b) Swain's concept of languaging; and c) Gal'perin's theory of the learner's action. What links them is the red thread of learner praxis. Quoting Engeness (2021), according to Gal'perin:

> Any human action has a binary structure comprised of *orienting* and *executive* parts. (…) The *orienting part* comprises two subsystems, *motivational* and *operating* the latter of which consists of four components: (i) constructing an image of the present situation; (ii) revealing the potential of the individual components of the present situation to the learners; (iii) planning the future action; (iv) facilitating the action in the course of its execution. (p. vi)

For Gal'perin, the execution of an action is guided by the orienting phase, whereby the learner reflects on "*images of the surrounding reality*" (Engeness, 2021, p. vi), and on "*images of ideal actions*" (Engeness, 2021, p. vi). The implementation of C-BLI is therefore expected to a) raise students' awareness of the process that leads to the "*desired learning outcome*" (Engeness, 2021, p. vii); b) show that "the qualities of the action can be used as criteria for the assessment of the action" (Engeness, 2021, p. vii); and c) make learners master actions, so that they may learn "how to complete other tasks" (Engeness, 2021, p. vii).

Essentially, Gal'perin suggests that, in order to fulfill communicative tasks, learners should identify the objective of their action and realize what the conditions are in order to carry them out successfully. This implies that learners are aware of the process guiding their actions. To this purpose, teachers should provide students with effective SCOBAs to help them materialize concepts (e.g., verbal tense, aspect, voice, mood, gender, genre, etc.). Usually, as Lantolf and Poehner (2014, p. 65) suggest, a SCOBA should be provided: "in the form of chart, diagram, or model, and if possible material objects that can be directly manipulated by students (e.g., a compass to generate circles)." As regards second-language development, the aim of a SCOBA is to make learners conceptualize linguistic notions scientifically, rather than intuitively. It is a mediational affordance that lets students have a deeper insight into language and develop a competence that goes beyond the superficial knowledge of rules of thumb. From this point of view, language awareness entails that students may also compare how linguistic concepts are verbalized in similar or different ways through the lexicogrammar structures of the L1 and of the L2. This contrastive approach, which includes a cross-cultural perspective, should reinforce the teaching / learning process, and at the same time should allow students to appropriate and adapt the L2 to their own languacultural identity (e.g., see Masuda & Otha, 2021, where the authors provide examples of SCOBAs and give indications on how to develop and implement them in the L2 classroom).

Finally, C-BLI prioritizes praxis, because, as Lantolf and Poehner (2014) observe,

> real understanding consists not merely in comprehending concepts as such, but in finding ways of using the concepts in practical activity. For this reason, STI integrates appropriate communicative activities into its framework. However, there is no sanctioned set of activities; rather, they are determined by the instructor and depend on the communicative needs and expectations of learners. (p. 80)

C-BLI and DA

A fundamental element that integrates C-BLI is the criterion of DA, which represents the guiding paradigm to evaluate and at the same time stimulate learners' L2 development as it unfolds in the ZPD. As part of the *obuchenie*, the teacher's formative assessment is aimed at orientating the students to make them progressively improve their communicative performance. Lantolf and Poehner (2014) explain that

> For Vygotsky development is provoked by the tension between what an individual is capable of and what that person is not yet capable of. If and how this tension is resolved is the key to understanding the activity that unfolds in the ZPD. The activity clearly is not unidirectional from more capable to less capable individuals but involves mutual cooperation, or what Fogel (1991) called *co-regulation*. It is through co-regulation that individuals appropriate and ultimately internalize the forms of mediation available in a social environment and in this way eventually attain self-regulation (i.e., agency). (p. 158)

Thanks to an integrated approach that combines SCT, C-BLI and DA, i.e., the pillars of the theoretical framework that in my perspective give scientific support to the way in which ELF could be included in ELT, we may finally put forward a tentative answer to the research question I formulated in the introductory section of this article. A first step to carry out the paradigm shift in L2 education that most ELF scholars advocate would be to provide L2 teachers with an appropriate criterion to better discern between a) learners' legitimate deviations from encoded norms (e.g., learners' language creativity that results in idiom variation and remetaphorization (Pitzl, 2012)); and b) errors that are part of the L2 learning process, which require corrective feedback (e.g. the overgeneralization of lexicogrammatical structures). My contention is that through C-BLT and DA both teachers and learners have the possibility to reflect on non-standard uses of English and realize how lexicogrammatical categories such as case, number, gender, tense, mood, and aspect are verbalized in the L1 and in the L2, respectively. However, from a C-BLI point of view, the learner's reflection should be carried out via symbolic mediation (i.e., through concepts as they were represented in SCOBAs) and should be guided by dialogic mediation that is intended to make students realize the value of concepts and how they may be employed to regulate their language use (Poehner & Infante, 2017). This entails that a comparative approach should be endorsed, which may elicit the nature of learners' deviations from L2 codified norms at a higher conceptual level, rather than merely describe deviations from the norms superficially. In so doing, teachers should develop the necessary linguistic competence to carry out a comparative analysis of learners' use of English, so that they could a) make informed decisions to select deviations that need corrective feedback; b) guide students in their process of languaging; and c) implement DA to make learners reflect on "how language forms create possibilities for expressing meaning" (Lantolf & Poehner, 2014, p. 223). This last point should also include a reflection on the use of ELF forms that naturally emerge in the English classroom, whenever students carry out communicative tasks within authentic international environments (e.g., web-mediated telecollaboration projects). This, I believe, would contribute significantly to the development of learners' ELF-awareness (Sifakis, N., & Bayyurt, Y., 2018; Grazzi, 2018b), which is the primary objective of designing a new approach to ELT that is capable of capturing the essence of today's plurilithic dimension of English.

Conclusions

SCT, C-BLI and DA indicate that conceptual knowledge and communicative praxis are inherently connected in the process of *obuchenie*. Therefore, it is reasonable to suggest that the acceptability of deviations from the norms should be based on a pragmatic criterion, whereby teachers should be able to analyse learners' collaborative dialogue and understand if, and to what extent, disfluencies derive from conceptual flaws. In this way, a cyclical process could be activated in a ZPD, where teachers' and peers' feedback would provide learners with scaffolding to develop their competencies. In this perspective, the simplistic and conservative principle that any deviations from Standard English norms are to be considered errors does not apply to the pragmatic assessment of learners' performance. Instead, by recognizing the fundamental role played by the student's mother tongue and cultural identity it would be possible to a) promote a comparative reflection on how the L1 and the L2 verbalize language concepts; and b) find out how learners appropriate and reshape English as a contact language to fulfill their communicative needs. Indeed, this should be the aim of DA that allows teachers and learners to assess the teaching / learning process while it unfolds and at the same time stimulates further L2 development.

As a concluding remark, I would like to point out that the integrated approach I have described so far may also represent a promising opportunity to enhance the effectiveness of second language teacher education (SLTE), for it is based on scientific concepts regarding human cognition and the role of language as a mediational tool that should make teachers "move beyond their everyday experiences toward more theoretically and pedagogically sound instructional practices" (Johnson & Golombek, 2011, p. 2). Based on a sociocultural perspective, SLTE should promote

> *theoretical learning*, (…) but it should not be confused with decontextualized lecturing about and rote memorization of abstract concepts. The responsibility of SLTE then is to present relevant scientific concepts to teachers but to do so in ways that bring these concepts to bear on concrete practical activity, connecting them to their everyday knowledge and the goal directed activities of teaching. (Johnson & Golombek, 2011, p. 2)

This conception of SLTE, we may assume, could hopefully lead to a major effort in promoting an ELF-aware approach in L2 instruction that has a high transformative potential. And I would like to finish by saying that this change in ELT should no longer be procrastinated.

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Notes

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1 As regards this article, I share Jenkins's notion of ELF. The author (2015a) explains that:

> English as a Multilingua Franca refers to multilingual communicative settings in which English is known to everyone present, and is therefore always potentially 'in the mix', regardless of whether or not, and how much, it is actually used. […] I am not suggesting a name change for ELF. The paradigm is now well established, and it would simply confuse the issue to change 'Lingua' to 'Multilingua'. (p. 74)

2 Piotr Gal'perin's (1902-1988) endeavour was to extend Vygotsky's SCT to school curricula. His pedagogical framework, known as *Systemic Theoretical Instruction* (STI), informed the emergence of the L2 pedagogical approach called *Concept-Based Language Instruction* (C-BLI). Today, this is the term most widely used in the L2 field, and the one that will be used in this article too.

3 Mauranen (2012) claims that:

> ELF might be termed 'second order language contact': a contact between hybrids. [...] Second-order contact means that instead of a typical contact situation where speakers of two different languages use one of them in communication (first-order contact), a large number of languages are each in contact with English, and it is these contact varieties (similects) that are, in turn, in contact with each other. Their special features, resulting from cross-linguistic transfer, come together much like dialects in contact. To add complexity to the mix, ENL [English as a native language] speakers of different origins participate in ELF communities. The distinct feature of ELF is nevertheless its character as a hybrid of similects. (p. 29)

4 European School Education Platform, <https://school-education.ec.europa.eu/en/etwinning> (date of last access, Jul. 15, 2023).

5 Suffice to mention the case of Jenkins's (2000) proposal of a Lingua Franca Core (LFC), that is a selection of the phonological features of English that are essential in ELT to allow L2-users' mutual comprehensibility; or the case of Seidlhofer (2015), who endorses the need for ELF-informed pedagogy; and, more recently, the case of Dewey, & Pineda (2020) who call for ELF-informed teaching and learning practice.

6 See for example the three main corpora of ELF to date: 1) The Asian Corpus of English (ACE), 2014 Director: Andy Kirkpatrick; Researchers: Wang Lixun, John Patkin, Sophiann Subhan, <https://corpus.eduhk.hk/ace/index.html> (date of last access, Jul. 14, 2023); 2) ELFA 2008. The Corpus of English as a Lingua Franca in Academic Settings. Director: Anna Mauranen. <http://www.helsinki.fi/elfa> (date of last access, Jul. 14, 2023); 3) VOICE: Vienna-Oxford International Corpus of English, 2009. Director: Barbara Seidlhofer, <https://voice.acdh.oeaw.ac.at/> (date of last access, Jul. 14, 2023).

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7 International Monetary Fund, <https://www.imf.org/en/Publications/WEO/weo-database/2023/April/weo-report?c=516,522,536,544,548,518,566,576,578,582,&s=NGDPD,PPPGDP,NGDPDPC,PPPPC,LP,&sy=2021&ey=2028&ssm=0&scsm=1&scc=0&ssd=1&ssc=0&sic=0&sort=country&ds=.&br=1> (date of last access, Jul. 18, 2023).

Author's Biography

Enrico Grazzi is an Associate Professor of English in the Department of Foreign Languages, Literatures and Cultures at the University of Roma Tre. His main interests are: English as a Lingua Franca (ELF), and Sociocultural Theory (SCT). His research projects are based on a Vygotskian approach to second language development. He is mainly concerned with English language teaching (ELT) and the implementation of fanfiction and intercultural telecollaboration. Enrico Grazzi is a qualified teacher educator and a textbook writer. He is a past President of TESOL-Italy (2002-2004), and a member of the following research networks: English as a Lingua Franca Research Network (ELF-ReN) and CultNet.

Vygotskian Sociocultural Theory for Second Language Learners: Addressing In/commensurabilities with Popular School-Based Curricula

Alessandro A. Rosborough[1,*], and Jennifer J. Wimmer[2]

[1]Corresponding Author: Associate Professor, Department of Teacher Education, McKay School of Education, Brigham Young University, United States of America, ORCID: 0000-0001-8687-3619
Email: alex_rosborough@byu.edu

[2]Associate Professor, Department of Teacher Education, McKay School of Education, Brigham Young University, United States of America
Email: jennifer_wimmer@byu.edu

Abstract

This paper addresses the in/commensurability of Vygotskian sociocultural theory (SCT) with popular K-12 educational curricula positioned and claiming to use his theory in practice (McLeod, 2019). We discuss well-known educational curricula, models, and social theories in relation to second language learning. Representational examples for in/commensurable comparisons are taken from well-published Pre-K, Elementary, Secondary curricula, and educational psychology texts, all primarily used as instructional preparation for pre-service teachers. In operationalizing these comparisons for in/commensurability, we argue that Vygotsky's explanations concerning the unity of thought and language, the zone of proximal development, mediational means for learning and development, and his overarching framework concerning perezhivanie and consciousness are not well considered by these popular texts and curricula, particularly for marginalized second language learners in the field of education. Conclusions and implications include arguments to more fully implement Vygotsky's SCT theory in place of simplistic social turn strategies, and a call for supporting language minority students.

Keywords: Sociocultural Theory, K-12 educational curricula, second language learning, unity of thought and language

Introduction

Teacher education in the United States has abundant and widely used popular elementary and secondary teacher educational methods, texts, and programs (NAEYC, 2021; Reutzel & Cooter, 2023; Slavin, 2018; Tompkins, 2017; Vacca et al. 2019, Woolfolk, 2018). Touted as research-based and exemplifying "best practices," these popular curricula[1] abound with principles concerning the importance of learning through socialization, including how communicative exchanges can help establish an appropriate learning environment. Concerning socialization, these popular texts, with a variety of degrees, acknowledge the importance of Lev Vygotsky's work and lay claim that their methods and instruction are aligned to his sociocultural theory (SCT). In these K-12 teacher education curricula, many types of activities and strategies, fostered by social engagement, are viewed as part of best practice "to do" lists and accepted as an important way to move children towards achieving correct answers. Also included are generalized accommodation and modification suggestions for English Learners (ELs) / second language (L2) learners. These curricula present a variety of educational perspectives and teaching tasks through social grouping strategies, all claiming to be in line with Vygotskian theory.

Problematically, these popular curricula diverge from Vygotsky's work, wholly omitting many central concepts such as the importance of the awakening[2] role of *mediation*[3]and the *thinking and speaking* (i.e., thought and language) dialectic (1997, p. 46; 1978, p. 73). Also neglected from Vygotsky's theory are the concepts of *learning leading development* (Newman & Holzman, 1993, p. 86), his focus on *agency,* and its role in supporting higher psychological functions such as thinking, planning, voluntary memory, creativity, and control of semiotic systems (Dunn & Lantolf, 1998, p. 420). Perhaps the most misplaced and unused portion of SCT is Vygotsky's (1994) overarching concept of *perezhivanie* a unit he positioned as housing these central tenets (e.g., mediation, learning leading to development, thinking-speaking, agency). Perezhivanie may be defined as the intersection where sense, cognition, lived experience, identities, and emotion are viewed as inseparable in understanding development, personhood, and consciousness[4] (Fleer, Gonzalez Rey, & Versov, 2017). However, while mediation, development, and consciousness in perezhivanie are focal points for Vygotskian SCT, these well-known tenets are not used in deeply meaningful ways in education (Gredler, 2011).

When dealing with Vygotsky's work, these popular curricula inadvisably select a few of Vygotsky's concepts (see Appendix A) without understanding the positioning of these concepts within his entire theory. Gredler (2011) addresses this, explaining the mispositioned, poorly translated, and ill-advised interpretations of *Mind in Society* (1978) as well as *Thought and Language* (1965) being the primary references for initiating Vygotsky's work into the field of education for western culture. Gredler specifically points out misunderstandings dealing with Vygotsky's focus on mediation being mistakenly used under labels such as peer-collaboration or the use of a more knowledgeable other (MKO). Using such a "social" and MKO-based perspective of learning as quintessentially defining the Zone of Proximal Development (ZPD), makes the ZPD conveniently synonymous with scaffolding

(Wood et al., 1976), as well as an undemanding metaphoric "target board" to find the right teaching zone or stage (Reutzel & Cooter, 2023; Slavin, 2018). Additional evidence of such simplistic appropriation includes the positioning of Vygotsky's work in conjunction with or referenced under labels such as social interactionist, social constructivism, sociolinguistic, constructivist, scaffolding, and assisted learning (See Appendix A). Also, Valsiner (1988) points out the erroneous predicament that occurs when only a few concepts or principles are selected as representational of Vygotskian psychology. He describes such uses as having "no relevance" when the larger developmental theoretical framework is disregarded (pp. 13-15) and questions the depth of appropriate application in western culture (p. 156).

In addressing in/commensurabilities, we argue that the underdeveloped definitions of social interaction in these popular curricula exclude Vygotsky's larger orienting framework, especially when concerned with the interconnected role of language (both L1 & L2) and the position of mediation leading to development, which includes the concept of ZPD and its relation to consciousness. Important to L2 learning, consciousness as understood as an ontogenesis-sociogenesis unity, has to do with how a person experiences, interprets, mediates, and changes during internalization processes as they inhabit the ecosocial world around them (McCafferty, 2020). With regards to L2 learning, these popular texts and curricula offer best-practices and strategies generalized as "Social Turn" theories[5] and used in support for English Learners (ELs). We argue that such associations and premises are superficial and not substantial when considering Vygotsky's focus on mediation of the mind as related to consciousness and personhood in relation to the role of formal L2 education (1987, 1997).

To demonstrate the importance of Vygotsky's (1987, 1997) psychology in educational curriculum, this article focuses on two widespread educational-based practices and their in/commensurable frameworks and discourses in relation to Sociocultural Theory and second language learning. Specifically, the concepts selected for comparison and review are: 1. Vygotsky's Zone of Proximal Development (ZPD) and the concept of scaffolding as exemplified in Gradual Release of Responsibility (GRR) theory (Pearson & Gallegher, 1983), and 2. The overarching role of development in a sociocultural environment as compared to Lave & Wenger's (1991) Community of Practice (CoP). We first consider the multiple definitions and background positions taken by key researchers concerning SCT, ZPD, scaffolding, GRR, and Community of Practice. A comparison of these constructs and practices along with their background theories are then provided as evidence to support the in/commensurability arguments.

Background

Sociocultural Theory

SCT has to do with the concept that "human activities take place in cultural contexts, are mediated by language and other symbol systems, and can be best understood when investigated in their historical development" (John-Steiner & Mahn, 1996, p. 191). Concerning human activities and the development of semantic consciousness, a Vygotskian SCT perspective[6] positions these topics as dialectically

intertwined and as central to mental development (Mahn, 2012; Vygotsky, 1987, 1997; Wertsch, 1985). This includes how we learn and inhabit a new second language (Lantolf & Thorne, 2006; McCafferty, 2018). Indeed, Lantolf (2000) provides a socio-collaborative definition of SCT focusing on the key concept being *mediation of the mind* in his discourse on L2 learning. Such a sociogenesis-experiential definition is grounded in Vygotsky's (1967, 1994, 1997) perspective that humans (i.e., children to adults), come to understand the world they inhabit through the development of conceptual thinking, or in other words, where concept-based experience is situated and developed, mediationally, through interaction with social-historically (e.g., human-centered and shared) means.[7] Also embedded in this perspective is the understanding that mediation plays a primary role in meaning-making and the seed of thinking and development of self and social consciousness (McCafferty, 2020).

Sociocultural Theory and L2

Concerning L2 learning and teaching, the omission of the concept of mediation in social interaction disconnects L2 learners from the goal to fully access, inhabit, and participate in their new languacultural and ecosocial space (McCafferty, 2020; van Lier, 1996; 2004). For L2 learners, sense-making and meaning-making of new vocabulary and content is not merely an input / output interpersonal procedure in the classroom. Instead, sense and meaning are also an internalization and intrapersonal issue, where the relation with the new external semiotic signs on the outer plane (e.g., learning new vocabulary interpersonally with a teacher's help) is an activity and interpretance process that becomes intrapersonal.

In traditional U.S. studies, English is studied as any other subject (i.e., science, math, history) and typically follows a competence focused pedagogical form demonstrating a generative linguistic perspective (Chomsky, 1975, p. 183). This follows a traditional western Cartesian viewpoint, with language positioned as a natural process, outside of human thinking and not necessarily as mediated through the use of signs (Miller, 2011), all of which is not commensurable with Vygotskian theory (Robbins, 2001; van der Veer, 2002). Evidence of this stance includes the exclusion in popular curricula concerning the following: individual sense-making, inner-speech, inner-sense, introspection, refraction, and subjectivity. By default, K-12 education turns into a domain that focuses on form and physical tools (i.e., manipulatives), with language awareness being mainly about "objectively" valid norms (Chafe, 2002; Goodman & Goodman, 1990) and not the social subjectivity of pedagogical actions as described by Vygotsky (Bezerra et al., 2023). At this point, a language dichotomy occurs, where social norms, as publicly observable, take precedence as a systemic method for obtaining *knowledge*, contrasting and minimizing the importance of how a student makes *understanding -* including their internalization processes (Mahn, 2012, pp. 116-118).

Conflated Socialization Perspectives

In K-12 popular curricula, "social turn" theories include functionalist, sociolinguist, and socioculturalist perspectives, which are often grouped together (Mitchell et al., 2018). This grouping often creates conflation of diverse social

interactional-based terms and labels such as: ZPD, scaffolding, MKO, collaboration, and pairing-sharing in the field of education. Viewed somewhat as synonyms, the shared denominator is that the learner needs "social" (e.g., adult) assistance (McLeod, 2019). Another well-known social turn conflation ideology is found in Gallimore and Tharpe (1990), where authors attempted to create a unified theory of education. They describe taking a stance where the social, cognitive, and behavioral sciences "must be brought into conjunction with the neo-Vygotskian understanding now being created" (p. 175). They predicted that from this infused stance, teaching and schooling would radically increase and improve. However, whether educational research, program curricula, and teacher instructional manuals use constructivist or sociolinguistic based practices, or even Tharpe and Gallimore's neo-Vygotskian infused behavioral / cognitivist practices, the imperative concerning the role of mediation as a meaning-making process and a means of bringing more focus concerning consciousness into the learning and development paths have not been well addressed or come to fruition in popular curricula (e.g., Slavin, 2018; Vacca et al., 2019). Instead, these popular curricula remove Vygotsky's focus on mediation and consciousness, including his position that *learning leads development*. Also missing is the notion that development of consciousness and understanding of content, "can be accomplished only indirectly, through a mediated path" (Vygotsky, 1997, p. 282).

Another important conflation to address in current popular curricula is the notion of the multiple sections which define Vygotsky's Zone of Proximal Development (ZPD) based on Michael Cole et. al.'s *Mind in Society* (1978) and scaffolding (Wood et al., 1976). ZPD is often simplistically reduced and defined as "the level between their [students] actual development and their potential development" (e.g., Tompkins, 2017, p. 12).[8] Fundamentally, these teacher education instructional guides have interpreted ZPD as synonymous with the construct of scaffolding, disregarding that there are diverse scaffolding types. In popular curricula, scaffolding gives teachers the responsibility to not only identify the struggling student, but to decide what scaffolding intervention is needed. Essentially, scaffolding in these curricula, emphasize recall and model practices that are based on short term declarative-memory and simplistic working-memory learning, to obtain the right answer[9] (van de Pol et al., 2009).

Concerning scaffolding for L2 learning, all the popular curricula promote scaffolding and mention L2 learners as needing some type of accommodation or assistance. However, not found in the "how to" scaffolding information are topics addressing how L2 students mediate, inhabit, and develop concept-based scientific understandings within their new languacultural environment (McCafferty, 2020) and the psycholinguistic issue of whether L2 learners' internalization paths needs are fundamentally different than scaffolding given in the L1 dominant (i.e., native) language for L1 learners in the classroom (Kachru, 2002).

In summary, popular curricula intermix and cite a variety of diverse theoretical sources (Atkinson, 2002; Gallimor & Tharpe, 1990; Long, 1996; Tarone, 2007) to reinforce the perspective that socialization processes are essentially the same, belong to Vygotskian theory, and are "best practices" for supporting L2

learners. Problematically, this conflation not only blends or removes theory, but also includes the indiscriminate muddling of L2 methodologies. This negates any adherence to the scientific nature and field of applied linguistics (Seidlhofer, 2003) by disregarding such vastly diverse areas as to whether a L2 is acquired or learned (Krashen, 1983; Long, 1995), best taught from the bottom-up or top-down perspectives (Takimoto, 2008), what neural mechanisms in the brain advance explicit and implicit learning (Yang & Li, 2012), or in SCT, whether L2s are not well learned through the abstract system of language but through mediated concrete activity within social interaction (Lantolf & Thorne, 2006; Volosinov, 1973). To understand the conflation and misappropriations of Vygotsky's work, we provide the following in/commensurable sections based on two major topics in L2 education: 1. Scaffolding represented through the GRR, and 2. Communities of Practice.

Understanding Scaffolding in Gradual Release of Responsibility in Comparison to the Zone of Proximal Development

Commensurability

Many K-12 teacher educators, popular curricula, and educational research have interpreted ZPD as synonymous with the strategy of scaffolding (Dunn & Lantolf, 1998; Wood, et al., 1976). This includes a related popular model known as the Gradual Release of Responsibility (GRR) theory based more on a constructivist-cognitivist framework (Piaget, 1957) but positioned in K-12 pedagogy as being based or congruent with Vygotsky's ZPD (Fisher & Frey, 2008; Pearson & Gallegher, 1983). In this framework, Pearson and Gallegher claim to follow Vygotsky's ZPD ideology, by implementing a four-step process: 1. I do it (teacher instruction and modeling), 2. We do it (with teacher guided instruction), 3. You do it (with teacher guided collaboration), and 4. You do it alone (student independent work) (see Figure 1).

Figure 1.

Gradual Release of Responsibility (GRR) Model
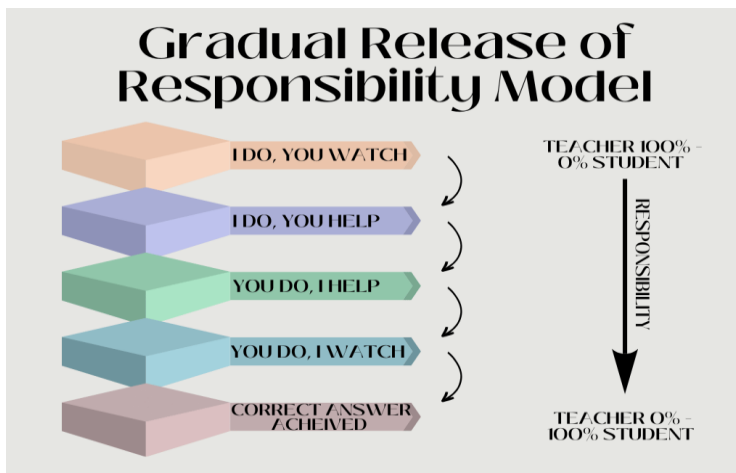
GRR model based on Pearson & Gallagher (1983). Rosborough©

Such steps position teachers as being responsive and adaptive to student needs. These steps might also be viewed as mediated scaffolding, where supports are provided earlier and then gradually removed so that students gain independence in obtaining the desired answers – an attempted process that might be interpreted as similar to gaining self-regulation in SCT terminology.

At a cursory level, scaffolding and ZPD may be viewed as similar with both based on social interaction and having something akin to working with an MKO. Many popular curriculum researchers promote a scaffolding strategy within the GRR model and simply conflate this framework as synonymous with ZPD (e.g., Tompkins, 2017; Vacca et al. 2019, Woolfolk, 2018). In essence, the operational concept in most scaffolding models (e.g., GRRs), is the focus on graduated, adjusted, and accommodating assistance that leads to a correct answer. Building from this perspective, the GRR claims that the key to learning is the removal of the scaffolds so that eventually the learner can perform the task alone, which misguidedly might seem analogous to Vygotsky's self-regulation concept in sociocultural theory (Vygotsky, 1967).

Incommensurability

While not necessarily a GRR, an example of the scaffolding and ZPD conflation is found in the evaluation of Gallimore and Tharpe (1990) describing the ZPD through the progression of four stages. Their research addresses the topics of development and context, including the importance of socialization. However, it would seem that their attempts were to schematize dynamic and unique processes to fit into behavior-based institutionalized trainings found in contemporary education systems. Their neo-Vygotskian infusion never attempted to address the relationship of language and consciousness, or that meaning-making paths are fundamentally different for cross-linguistic or L2 learners (Agar, 1994; Lantolf & Thorne, 2006). There is very little in the scaffolding & GRR processes that promotes Vygotsky's (1967, 1987, 1997) concept of mediational use of cultural-psychological tools as planning and enacting behaviors of the mind. In SCT, the ability to reflect and refract (e.g., play, imagine, and create) the conscious journey of learning is of a fundamental importance to transformation, development, and internalization. Accordingly, second language researchers such as Lantolf and Thorne, Kinginger (2002), McCafferty (2002), and van Lier (2004) are all in agreement that the concept of scaffolding (including GRRs) facilitating a learner towards a correct answer, does not necessarily empower learners to use agency or implement historic / social experiences and identities, and cannot be attributed as a developmental method (see also Stetsenko, 2017). Such instructional scaffolding by a teacher towards an answer does not account for the purposeful use of mediational means by students according to their purposeful agency and historic backgrounds (Valsiner, 1988). In accordance with L2 learning, how the student appropriates the mediational means in relation to their L1 languacultural background should include active-voiced dialogical interactions with others; a demonstration of potential development; and application

in forward-oriented fashion. Such applications and acts belong solely to the ZPD conceptual realm.

Contingencies and Play belong to SCT and ZPD

Concerning SCT and L2 learning, simple scaffolding-type mirroring, the GRR's four step process, and the Gallimore-Tharpe neo-Vygotskian definitions do little to involve the L2 learner in how they make contingent adjustments in their understanding of their new language, and how they inhabit their new environment. The GRR process creates limitations to the SCT concept of variability and contingent learning (van Lier, 1996; McCafferty & Rosborough, 2023) as it limits the students' abilities to trouble-shoot and make decisive changes of their understanding in the new second language. Essentially, this disregards Vygotsky's concept of mediation leading to development (Lantolf, Kurtz, & Kisselev, 2017) or other SCT principles and characteristics such as play, imitation, creativity, and abstract thinking (Negueruela-Azarola, 2020).

Contrasting a GRR scaffolding approach, an SCT-ZPD process promotes L2 learning to include the ability to think in abstract ways (Lantolf & Thorne, 2006), allowing students to make plans, extend new ideas, apply background information, and bring new understandings to their foreground thinking. In a true ZPD process, the teacher is able to consider their students' L1 / L2 relationship, some of which are planned in relation to both formal linguistic and cultural components and some of which arise spontaneously among teachers and students and their classroom environment. This is not to say, however, that teachers using a SCT-ZPD framework should ignore all predesigned literacy guidelines,[1] but to suggest that there is a need to focus on the process of meaning-making and embrace contingent interactions as fully connected with L1 / L2 learning paths (Swain & Deters, 2007). This includes that second language learners must participate in a form of play that provides *advanced, extended,* and *dynamic* language discourse in order to develop language proficiency and emphasizing conceptual relationships as mapped onto student experience. Such dynamic meaning-making experience is a fundamentally different objective than following scaffolding steps towards a correct answer (van de Pol, 2009).

GRR and Scaffolding are not Development

For Vygotskian ZPD, understanding the students' learning and development journey, ascension, and use of mediation, is a process of how materialized / mental and social / personal understandings come together (Chaiklin, 2003). While Chaiklin considers that Vygotsky provided a few different definitions of ZPD (see also McCafferty, 2012), Vygotsky's writings and central message all have strong relationship and focus concerning development of higher psychological functions, internalization, and self-regulation. Importantly, D stands for development in the ZPD (Chaiklin, ibid), and this concept belongs to the realm of development growth, where teachers may participate with the forward-oriented and dynamic interaction of how the student is learning and actively applying the affordances or mediational means at hand in real-time activity.

Concerning scaffolding and GRR frameworks, the "correct answer" journey is controlled by the teacher, who explicitly fixes and adjusts the learning pathway in a preplanned and step-like implementation (van Lier, 1996). Arguably, scaffolding and GRR may be simply positioned as a repair of a student's incorrect "output" – where the final output answer is already known by the teacher, and the input assistance provided merely serves to model and influence the student to rearrange or recast the teacher's input as an acceptable standardized output answer.

So, while scaffolding and GRRs may be viewed as social turns, social-based, and collaborative by popular curricula, the removal of scaffolds for students to gain independence does not equate well to Vygotsky's focus on development and growth through forward-oriented mediational use. Instead, popular curricula type scaffolding supports simplistic nomenclature-focused tiering systems, where student assistance is oriented towards getting the "right answer" in a more dictionary correct way. Disregarding this psycholinguistic L1 / L2 relational situation and Vygotsky's overarching framework, scaffolding has been turned into a tiering system with levels of intervention and produces a situation that positions students as those that "get it" and those that "do not" (i.e., struggling learners). Of concern to L2 issues are the overabundant placement of ELs in this latter (lower) tiering, and then repeating the sequence with *more* scaffolding and interventions until they get the "correct answer"[1] .   [1]

In summary, sociocultural theory (SCT) and second language learning, including the relationship between language and consciousness, has to do with mediational processes, creating learning that leads to development (Lantolf, 2000; Lantolf, et al., 2015). Contrastingly, many k-12 school practices simply *reorganize* potential mediational tools into instructional scaffolding, where the teacher is the active agent and the student becomes the less-agentive and passive learner (van Lier, 1996, 2004). Such a schematized or prescribed way to mediate students towards a correct answer is not compatible with Vygotsky's ZPD as it does not address Vygotsky's (1986) focus on the growth of awareness and the role of mediated consciousness leading to development, which includes the L1 / L2 relationship (Dunn & Lantolf, 1998; McCafferty, 2020).

Understanding Community of Practice Theory in Relation to Vygotskian Theory

Commensurabilities

Sociolinguistic-Based Community of Practice (CoP) theory (Lave & Wenger, 1991; Wenger, 1998, 2010) may, at a beginning level, be viewed as a learning theory commensurable with Vygotsky's (1978, 1997) educational perspectives in SCT. CoP has to do with human engagement in social contexts, the roles they play and relationships they share with characteristics such as emergent structure, self-organisation, dynamic boundaries and ongoing negotiation of identity and meaning-making (Wenger, 2010). It is currently found useful in a variety of disciplines beyond education including social work and psychology, public and health care administration, and business management (Koliba & & Gajda, 2009, p. 99).

At an initial level, the role and importance of culture and environment are shared between these two theories, which include the general premise that lived experience is a source of knowledge and should include having task-based practices and activities embedded in social engagement, including negotiable acts between teachers and students. At this preliminary level, commensurable aspects may include generalizations concerning methods and strategies, such as collaboration, modeling, and apprenticeship relations – all concepts that can play important roles in consciousness formation and the learning-development relationship in SCT. Using CoP terminology (Wenger, 2010), initial construal to SCT tenets can include such topics as:

1. Socialization orientation, which includes movements and activity shared in membership groups

2. Space for emergence of identity

3. Task oriented

4. Learning as negotiation

5. Teaching using educational designs that are open and flexible to students' needs

Such foundational pedagogical positions are congruent with SCT which acknowledges that the social setting, situated language, contingencies and variabilities, and the interactional importance of proper affect, collaboration, turn-taking, and shared-intentions in the learning process are important aspects of second language learning (Kramsch, 2002; McCafferty & Rosborough, 2023; Swain et al., 2015; van Lier, 1996).

Concerning commensurability between CoP and Vygotskian perspectives, research positioning socially situated contexts as key to L2 learning and teaching can be found coming from both SCT scholars (Donato, 2000; Swain & Deters, 2007) and sociolinguistic scholars (Creese, 2005; Norton, 2000, 2017). Sociolinguistic and other language socialization research (Duff & Talmy, 2011) which emphasize the importance of situated practice, *can be* viewed as commensurate or very complementary to Vygotsky's educational perspectives and on the role of the environment – evidenced through a variety of sociocognitive and ecological / ecosocial minded scholars (see Atkinson, 2011; Duff, 2007; Kramsch, 2002; Rosa, 2007; van Lier, 2004). Additional researchers, such as Polin (2010) and Swain et al. (2015), have placed CoP and Vygotskian theory together describing the unity as complementary social learning theories. Swain et al. does make the point that the two (SCT and CoP) are not synonymous but that, "'Learning implies becoming a different person' (Lave & Wenger, 1991, p. 53) which certainly is congruent with Vygotsky's notion of transformation in learning" (p. 27). However, as will be addressed in the next section, Swain et al. point out that CoP is not a theory of the mind, and while both theories recognize the importance of situated learning, Vygotsky's concepts, such as the ZPD, accounts for more specific and intentional learning, particularly in the case of learning scientific concepts.

Incommensurabilities

While the above principles, characteristics, and concepts share commensurable aspects, Vygotsky's later work on language and consciousness, and as taken up under the term of SCT and second language learning researchers[1] (See Lantolf, 2000; Lantolf & Poehner, 2008; Lantolf & Thorne, 2006) views the learning path beyond CoP targets if not altogether positioned psychologically differently. In SCT, the topics of cognition and consciousness in and through second languaging interactions, extends further than spontaneous mentoring, cooperation, collaboration, or sharing in a common endeavor or alignment as found in CoP theory (Wenger, 1998).

For Vygotsky (1987), learning (i.e., higher mental functions) in relationship to instruction and development was foundationally an issue of consciousness and concept formation (Davydov, 1967). In this way, second language learning, and accompanying concepts in formal school curriculums, has to do with the ability to isolate and develop an abstraction of the domain, activity, or concept which leads to a scientific system of relationships and the ability to handle such domains in logic-based orders and understandings (see also Blunden, 2012). Key to Vygotsky's (1997, p. 63) explanation of consciousness, he quotes Marx concerning the rise of imagination, envisioning, and planning before erecting or playing out the reality of the event or in other words, the use of the mediational tool to support abstract thinking in a praxis manner. The role of socialness can then be understood as a mediational endeavor, where intervention, awareness raising, reflection, and voluntary control influence participation. In a similar manner, CoP speaks to creating *optimal space* for such functions as planning, abstract thinking, and creative implementation. However, while CoP addresses social practices as being integrated in flexible forms and as having negotiable collaborative participation, it does *not* consider consciousness and accelerated language awareness as primary objectives.

CoP is Socialization: SCT Socialization is Scientific Concept Formation

CoP's concepts concerning engagement, crossing boundaries, and joint membership are viewed through spontaneous culminations which may turn into successful associated interactions (Wenger, 2010). These outcomes correlate with Vygotsky's discussion of pre-concepts, heaps of information, spontaneous / complex thinking, or basically pseudo-concepts (e.g., everyday concepts). Vygotsky's pre-conceptual and pseudo-conceptual foundation may be initially commensurate to CoP's concepts and viewed as similar "starting points" or necessary preconditions. However, it is the coming together of these everyday concepts with scientific-abstract concepts that is primary to understanding second language mediation and the learning and development relationship (Lantolf & Thorne, 2006). Socially situated practices may be viewed similarly between CoP and SCT, but this commensurability demonstrates only one side of a shared coin (Robbins, 2003). This points to a significant contrast between SCT and sociolinguistics-based CoP, where Vygotsky (1997) addresses consciousness and development as dialectically positioned, occurring both in connection between language acts (e.g., pragmatics and community practices) and pseudo-concepts, coming together with abstract

thoughts to understand and create new scientific-concept thinking. In his last years, Vygotsky (1994, 1998) began to address this dialectical thinking through his new psychological unit of perezhivanie, where sense, cognition, lived experience, identities, and emotion are inseparable (Fleer, Gonzalez Rey, & Versov, 2017). With regards to using Vygotsky's Perezhivanie in formal L2 classroom settings, the importance of the concept of imitation, where a student is able to demonstrate their identities and individual choice in the learning task, comes to the forefront (de Guerrero, 2018; McCafferty, 2018).

Additionally, incommensurability may be found between CoP as a "living curriculum" (Wenger, 1998) and Vygotsky's perezhivanie. Fundamentally different, CoP speaks mainly to the process of accumulation of knowledge between novice and master (i.e., apprenticeship model), as an interplay that provides wanted competence between people and their communities / systems. In new second language contexts, perezhivanie, as a unit of analysis, allows for the study of the student's development in the environment, viewing the learning path and the students' unique choices as *refraction,* a metaphor moving the child's experience as more than reflection but as demonstrating how they change the experiential and situated learning experience (Mok, 2017; Veresov & Mok, 2018, p. 90). In this case, CoP's apprenticeship model provides initial understanding of what it means to engage in present educational practices, but is not sufficient in understanding what it means to, "engage future-oriented dimensions of human practices" (Stetsenko, 2015, p. 104). CoP then speaks to the difference between one's current reflection and their purposeful interactions in an endeavor to create and negotiate in a new community, with little said about a unit of analysis that more overtly addresses one's development (Koliba & Gajda, 2009).

Second Language Trajectory

From an SCT perspective, L2 learning moves beyond adherence and joining to some form of associated cultural-based norm (via CoP). While CoP's design is commendable creating welcoming spaces, it does not account well for the linguistic nature of crossing boundaries ranging from beginning to advanced L2 learners. Such boundaries not only include diverse levels of proficiency but are also associated with ways of thinking and acting which include the L1 and L2 inter and intra-language situation (Lantolf & Thorne, 2006). Concerning second language learning, an example of difference and incommensurability between SCT and CoP can be identified in McCafferty (2020) discussing monolingual, bi/multilingual, and lingua franca situations. He explains that all these groups carry goals and have a need to establish shared social meaning but concludes that CoP's focus on membership building and identity-role importance during joint-associated tasks in education does not necessarily account for the essential necessity that meaning-making (and development) becomes much more emergent when dealing with second language learning (p. 49). This can be seen in Peltier & McCafferty (2010), which includes that gesture is an important part of L2 learning and a full part of Vygotskian psychology (McCafferty & Stam, 2008; McNeill, 2012; Rosborough, 2014, 2016). Results in Peltier & McCafferty demonstrate that the embodied and gestural portion of linguacultural learning in Italian foreign classrooms is extremely

challenging for many L2 learners to implement and may be completely neglected by them even when instructors invite, model, prolept, and welcome students towards embodied learning. McCafferty (2020) uses this Italian foreign language classroom research, English as a linguafranca topic, and the common diversity of multi-fluency levels often found in L2 classrooms to explain that *CoP models may be misplaced or limited* in meeting the variety and variable needs associated in such diverse and cross-cultural second language spaces.

Implications

We have argued that popular curricula focus on a scaffolding-to-the-answer pattern, mimicry, and tiering system, all of which do not address development. In addition, we add that CoP was not necessarily designed for L1 / L2 learning paths. As former public-school teachers in the United States, we wish to advocate for the proper treatment and education of minority language speakers (e.g., English Learners). We recommend that educators and curricula writers take a more critical stance in supporting minority language students and more fully apply Vygotsky's SCT framework rather than applying simplistic interpretations of a few of his concepts. We add that these current teacher education curricula can create unwanted classroom hierarchy, enriching those students who "get it" (e.g., often the dominant-English students), with more fluent and forward progress in content-learning, over those (e.g., English Learners / minorities) who must wait to get the linguistic-side (i.e., lexico-syntax) of literacy correct, often before learning content. In this case, the bilingual learning experience often become remedial learning experiences, assigning L2 learners to lower and "slower" tiers, which positions them below and behind the "faster" dominant-major group.

Conclusion

Popular Curricula as Present and SCT as Past-Present-Future

The operationalization of language, learning and development for children and particularly SLLs as being a mediational and consciousness filled endeavor has been neglected or poorly defined in school curriculum and instruction (Rosborough, 2014). Social-turn frameworks do share some commensurable concepts similar to Vygotskian SCT when addressing environmental frameworks concerning social contexts, relationships, and emotions as necessary in the learning path. Duff and Talmy (2011) make an interesting argument in finding commonality among language socialization theories and neo-Vygotskian SCT, which include sociocognitive and ecological accounts of learning. However, we have argued that these are still fundamental different when considering Vygotsky's focus on the mediational roles of language and perezhivanie in understanding semantic consciousness. Extrapolated from our discussion of scaffolding, GRR theory, and other Social Turn theories is the focus they place welcoming affect, enculturation, and scaffolding as providing "correct answer" success. This is essentially different than Vygotsky's more process-oriented approach concerned with learning leading to development as entrenched within his overarching perezhivanie framework concerned with consciousness as imperative to understanding personhood and cognition in humans. Vygotsky viewed the importance of consciousness as

inseparable to sense-making and as fully integrated to emotions, expressions, and cognitive functions all within the socio-materialized environment.

Also, by viewing Vygotsky's larger framework, we begin to see contrasts extending beyond the usual commensurable promotion of identity, agency, and reflection found in both CoP and SCT. When embedded in the perezhivanie context and with consideration to multilingual speakers, SCT speaks to agency, contingency, and play in the learning and development process as demonstrating a unity between psychological reflection and the transformative and refractive position of experiencing one's new environment (e.g., new L2 languaculture).

Addressing child's psychology and consciousness, Vygotsky (1986) analyzed the inter-functions of expression, identities, and emotions as a full part of *conscious realizations* and *deliberateness*. As such, while L2 socially situated theories promote that social-based educational practices influence cognition, Vygotskian SCT takes the approach towards uncovering the students' learning and developmental path and as having an indirect mediated and forward-oriented journey as found during direct socialization (i.e., language as consciousness for other people and oneself). It is in this dialectic where language and meaning-making are not just creating cognitive development but become the very essence of consciousness and understanding with and through others (Johnson, 2021; Lantolf & Thorne, 2006; McCafferty, 2020; Vygotsky, 1997, p.285). It is here where future commensurable discussion can be identified, all of which should include clearly defined understandings that the *social situation of development* as explained by Vygotsky, fundamentally differs and should not be confused with *learning in social contexts* ideologies as currently demonstrated in popular curricula today.

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Appendix A

Popular Curricula Information and References

Below are references to texts, headings, subheadings, definitions, and terms that authors have associated as Vygotskian theory or stemming from it. These are well-known texts, terms, and scholars in the United States. The grouping are samples of popular curricula covering age groups from Early Childhood, Educational Psychology, Elementary Education (K-6), and Secondary Education (6-12). Popular curricula are defined as having over eight editions or being used and in circulation for over 20 years.

Teacher Education Texts & Curricula

Literacy & Methods Educational Texts: Pre-K-12 Authors	Topics and Terms associated as Vygotskian Theory and Supporting English Learners
Tompkins, G. (2010, p. 12; 2012, pp. 49-54; 2017)	Sociolinguistics; Situated Learning Theory; Social (more knowledgeable other terminology); ZPD as "scaffolding" and "Levels of Support"
Woolfolk, A. (2021, pp. 92-93, p. 412)	Social Constructivism; Scaffolding; Social Turn Theory; ZPD as "Magic Middle"; Social Constructivism;
Vacca et al. (2019)	Collaboration with others (MKO definition); Social Turn Theory;
Ruetzel & Cooter (2008, pp. 36-37; 2023, Chapter 2	"Three-stage" internalization process; Mimcry; Social Interactionist; Collaboration with others (MKO definition)
NAEYC (2021, pp. 42-43, 96)	Social Interaction; Scaffolding as ZPD; ZPD as MKO
Slavin (2018, p. 34)	Private Speech; ZPD as Scaffolding; Mediation[1] as MKO

Community of Practice

Authors	Topics & Terms
Lave & Wenger, 1991; Wenger, 1998; Wenger, 2010	Community of Practice; Living Curriculum; Identity; Situated Learning; Negotiation; Flexible

Notes

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1 For this paper, popular curricula refer to widely used K-12 methods texts (and accompanying curricula) defined as those with over 8 editions and / or spanning over 20 years of use in the educational field.

2 Vygotsky (1978, p. 73) uses the term awake / awakening. We acknowledge there is debate over the translated accuracy of this term but propose that it meets with his overall ideology of learning preceding the maturation of a task.

3 Slavin (2018) is one of the few sources mentioning mediation but the concept is only defined as a peer or adult providing an example or model of how to develop complex skills (p. 34).

4 Consciousness for this paper is defined as a unity of cognition, emotion, meditations, passions, spirituality, learning and development, and the movement or activity to-and-from empirical sensorial-physical experience to psychological ones (Zavershneva, 2014).

5 Block (2003) and Mitchell et al. (2018) use this "Social Turn" term to describe and collate more recent research and theories containing a focus on "meaning-making" as central in second language theories. This paper does not attempt to provide an all-encompassing view of L2 cognitivist, behaviorist, or sociolinguistic perspectives in comparison to SCT. Instead, it focuses on practices as belonging to the "social turn" in teacher education.

6 Cultural Historical and Sociocultural Theory are rooted in Vygotskian theory as proposed by such authors as Michael Cole and James Wertsch. The controversy of some of Vygotsky's work dealing with tool use as a central tenet and separate from consciousness in his theory is not addressed in this paper. See Miller, 2011 for this discussion.

7 Such mediational means or tools can be physical, symbolic, or psychological. With few exceptions (e.g., feral children), humans are born into socialness and language.

8 Tompkins (2016) is used as one example of many (see Appendix A). This is a reduction from the already reduced and more popularly referenced ZPD definition (Cole et. al., 1978, p. 89).

9 Van de Pol, Volman, & Beishuizen's (2009) findings of 66 scaffolding articles defining contingency as some type of "initial step" that is phased out during the teaching and scaffolding process, thus creating a more common and shared one-size fits all answer.

10 Reading steps and best reading practices have been well documented (see Rasinski, 2001; Flippo 1998, 2001; Guthrie & Anderson, 1999; Mazzoni & Gambrell, 2003; Vail, 1993).

11 Response to Intervention (RTI) is a systemic intervention program to support struggling students but does not address L1 / L2 learning paths as different than supporting the L1 learning path.

12 *The Journal of Language and Sociocultural Theory* while using the SCT moniker via Wertsch (1985) explicitly addresses Vygotsky's later and returning work towards understanding learning and development through the study of consciousness. In this case, SCT is applied as an educational associated term and not necessarily completely in line with Wertsch's interpretation or adjustments of Vygotskian theory.

13 Slavin (2018) is one of the few sources mentioning mediation but the concept is only defined as a peer or adult providing an example or model of how to develop complex skills (p. 34).

Authors' Biographies

Alessandro Rosborough is an Associate Professor in the Department of Teacher Education in the McKay School of Education at Brigham Young University. His research focuses on Vygotskian Sociocultural Theory in Second Language Learning and Teaching including English as a Second Language, Bilingualism, and Dual Language Immersion in K-12 settings. His publications include a focus on gesture, embodied learning and multimodality in education.

Jennifer J. Wimmer is an Associate Professor in the Teacher Education Department at Brigham Young University. Her research centers on the Intersection of Disciplinary Literacy, Multiliteracies, and Teacher Professional Education in elementary classrooms. She is interested in the implications this has for teacher education and inservice professional development.

Reflections on the Special Issue and the Significance of Pre-Paradigm Thinking for the Field of Second Language Acquisition

James P. Lantolf

Distinguished Professor, Beijing Language & Culture University, Beijing, China
Emeritus Professor of Language Acquisition and Applied Linguistics, The Pennsylvania State University, USA
ORCID: 0000-0003-4131-8368; Email: jpl7@psu.edu

Abstract

I am pleased to have been afforded the opportunity to offer my reflections on the articles included in the special issue of *JALDA* on what I will call "pre-paradigm" research. I borrow the concept from Kuhn (2012), which I believe appropriately describes the current state of affairs in SLA. Each article compares different aspects of SCT with other frameworks and methodologies in the field. An appealing aspect of the overall project is that contributions have adopted different perspectival lenses. In what follows, I will address each article individually. In some cases, I will expand upon what the authors argue and in others I will critique their arguments to encourage the authors to think more deeply about their proposal(s) and perhaps to bring to bear additional theoretical insights. For convenience, I have organized the seven articles into what I see as a coherent grouping. The criterion used was whether an article reflected more of a theoretical, empirical, or practical orientation.

Keywords: Sociocultural Theory, pre-paradigm thinking, second language development, Complex Dynamic Systems Theory, Collective Pedagogy, English as a Lingua Franca, indigenous language instruction, language curriculum, cognitive linguistics, Aspect Hypothesis

Introduction

I am pleased to have been afforded the opportunity to offer my reflections on the articles included in the special issue of *JALDA* on what I will call "pre-paradigm" research. I borrow the concept from Kuhn (2012), which I believe appropriately describes the current state of affairs in SLA[1]. Accordingly, the pre-paradigm period in scientific development is typical of an immature science "regularly marked by frequent and deep debates over legitimate methods, problems, and standards of solution, though these serve rather to define schools than to produce agreement" (Kuhn, 2012, pp. 48-49). I believe that SLA, even after more than fifty years of research is still in a pre-paradigm period given that there is no agreed upon theory under which researchers engage in the activities of normal science aimed at solving a fixed set of puzzles using an agreed upon collection of methodological procedures and instruments. We might even speculate that SLA has not yet reached the pre-paradigm stage of development, if this stage is indeed characterized by "frequent and deep debates" that not only involve methods, problems and standards of solution, but also debates regarding theory. While the middle of the 1990s witnessed a brief flare up of theoretical debate, triggered by the so-called "social turn" (e.g., Block, 2003; Firth & Wagner, 1997; Gass, 1998; Lantolf, 1996; Long, 1997 & 1998; van Lier, 1993), much of what transpired in the pages of the leading SLA journals at the time might qualify as the type of debate needed to move toward a unified paradigm science. Unfortunately, at times the debate degenerated into ad hominem (e.g., Gregg, 2000; Lantolf, 2002) and at other times it was construed as an attack by those espousing the social turn on those supporting the cognitive stance on SLD (e.g., Long, 1998). In the end, not much was resolved and the various approaches retreated to their respective camps where they continue to carry out research more or less in splendid isolation.

To be sure, occasional attempts continue to be made to bridge gaps in the field, such as the colloquium on SLD theory sponsored by the American Association for Applied Linguistics that resulted in a multi-authored publication by Hulstijn, et al (2014) that in reality had little if any unifying impact on the field. Some contributors to the article, such as Nick Ellis, outlined a hyper-rich set of recommendations for a division of labor in which researchers work cooperatively on the cognitive and social aspects of SLD. Ortega suggested that perhaps the way forward would be to build bridges open to bi-directional traffic whereby researchers occupying different epistemic ground share the results of their research efforts. Despite the best efforts of the colloquium participants, the editor of *SSLA*, Albert Valdman, in his concluding remarks to the jointly-authored article, noted that a member of the colloquium audience remarked that "when a gap is bridged there is still a gap" (pp. 414-415). This is the problem that the field is confronting. When there is a gap, or in the case of SLA, multiple gaps, bridging them will not result in a unified field. Vygotsky (1997) understood this very well in his proposal to formulate a unified psychology. He rejected any attempt at what could be seen as gap-bridging activity that involved cobbling together a patchwork psychology comprised of elements of materialism (Pavlov in Russia and Thorndike in the US) with features of idealism represented in the theories of Freud and Husserl, among others. I will have

more to say about Vygotsky's approach to theory building in my concluding remarks.

I applaud the contributors as well as the guest editors of the SI for taking on the comparative project. Each article compares different aspects of SCT with other frameworks and methodologies in the field. An especially appealing aspect of the overall project is that contributions have adopted different perspectival lenses. Amory and Becker use a macro-level lens to compare SCT and CDST. White and Masuda, with perhaps a somewhat narrower lens, compare the pedagogical approaches of SCT and Cognitive Linguistics (CL), while at the same time appropriately acknowledging that the former offers a much more principled model of instruction's impact on development and that the latter provides a much deeper analysis of the relationship between meaning and language structure. Kissling's study integrates SCT pedagogical principles realized through C-BLI with conceptual knowledge of language developed in CL to challenge one of the most researched topics in mainstream SLA, the Aspect Hypothesis. Grazzi and Siekmann and Webster respectively take on two long-standing practical problems— instruction in English as a lingua franca and instruction that involves dual literacy in an indigenous language and English. Rosborough and Wimmer also adopt a practical orientation in their comparison of SCT principles and concepts with those that operate in the accepted approach to language instruction reflected in most school curricula. Van Compernolle and Ballesteros Soria address the CAF approach to task-based language instruction and argue for broadening the scope of pre-task preparation to incorporate a collectivist component.

In what follows, I will address each article individually. In some cases, I will expand upon what the authors argue and in others I will critique their arguments, not with the intent of casting them in a negative light but to encourage the authors to think more deeply about their proposal(s) and perhaps to bring to bear additional theoretical insights. As will be obvious, I will have more to say about some contributions than others. Again, in so doing, I am not implying in any way those that provoked more commentary should be seen either in a more positive or more negative light. It is strictly a matter of the nature of the topic under discussion. For instance, because Amory and Becker conducted a macro-level comparison between two robust theories involving an array of concepts and principles, their work understandably calls for greater reflection and commentary. Those contributions with a narrower focus quite naturally elicited more focused and succinct reflection.

Reflections

For convenience, I have organized the seven articles into what I see as a coherent grouping, which was not an easy task. The criterion used was whether an article reflected more of a theoretical, empirical, or practical orientation. For instance, the chapters by Amory and Becker as well as by White and Matsuda clearly seemed to fit under the theory rubric. However, Kissling's contribution could have been grouped with the empirical studies. However, I opted to group it with the theoretical chapters because even though it reports the results of an empirical study,

its goal is to challenge the theoretical claims of the Aspect Hypothesis. The articles by Ballesteros Soria and van Compernolle and by Siekmann and Webster I decided to group together as empirical studies, although they both could have been discussed as practically oriented studies, given their focus on classroom practice. This leaves two practical articles, one by Grazzi on ELF and the other by Rosborough and Wimmer on L2 in the school curriculum. Readers might well disagree with my categorization of the articles, which I fully appreciate and which I believe illustrates the robustness and vitality of the theory itself. Indeed, all of the articles include consideration of various aspects of general SCT and all address its relevance for specific concepts and concrete practice in some way.

Before moving on with the discussion, I want to stress that while it might appear that the SI is making the case that SCT-L2 should become the dominant theory of SLD and as such serve as the paradigm umbrella for normal L2 research, that is not the intent. The point, and I believe that the authors and guest-editors would concur, is to illustrate a possible way to proceed to build a unified theory. That is, instead of surveying the various theories interested in SLD and then somehow synthesizing research conducted under the auspices of the theories (see Mitchell, Myles, & Marsden, 2019; Douglas Fir Group, 2016), the proposal here is to illustrate the value of cross-theory comparison. If more and more of this kind of work is carried out, it might eventually result in a unified theory, or at least stimulate the kinds of conversations necessary to move in this direction.

Theoretical Articles

Amory and Becker: SCT and CDST

Even though the authors focus on the concept of motivation in SCT and CDST, they in fact present a broader-based comparative exegesis of the theories themselves, explicating the central tenets of each theory demonstrating points of (in)commensurability. We have to acknowledge that those who work in CDST might not fully concur with their interpretation of the CDST literature. Surely, they have not read all that has been written on CDST, even within the limited domain of L2 research. Nevertheless, I still believe that their project has value. In my view, they exhibit a deeper understanding, even if not fully accurate, of the theory than for example has occurred when others have undertaken a comparative analysis. For example, de Bot, et al (2013) incorporated a brief comparison of SCT and CDST in their general discussion of dynamic systems theory. Unfortunately, a significant problem is their characterization of SCT, as others have also done, as a social theory (p. 203), which it most definitely is not, certainly not in any way that would group it with sociolinguistic and language socialization theories. SCT is a psychological theory concerned with the development of the human psyche—the evolutionary adaptation that empowers humans to cope with unanticipated objects and events (Arievitch, 2017). What perhaps misleads some into conceiving the theory as social is the fact that the core of the theory is the dialectical connection between human biology and human culture. However, Vygotsky (1994, p. 349) insists that the relevant role of the environment as far as the theory is concerned is not to socialize individuals into a community's system of social behavior (linguistic or otherwise),

but to serve "as the *source* [italics added] of [psychological] development and not its setting." Thus, the social world is not the context in which development happens, but it is the origin, the mechanism that provokes the formation higher mental activity. Without robust access to the social world, the internal psychological plane would either be degraded, as can happen to children raised exclusively in some orphanages (Vygotsky, 1994, p. 350), or absent altogether as attested in the case of feral children. I return to the matter of socialization later.

While there are numerous issues that I would very much like to react to in Amory and Becker's article, not the least of which is the matter of importing a theory from one domain, the natural sciences, into another domain, the social sciences, I will limit myself to one—unit of analysis.[2] They do a good job explicating how this concept is interpreted in SCT, although I believe their discussion can be sharpened a bit, as I will attempt to do below. Unfortunately, they do not have much to say regarding the unit of analysis in CDST. Instead, they assume that CDST adopts a different orientation with regard to the whole of a system and its component parts, which, I think is ambiguous, as I will try to explain below. I am also somewhat surprised by their claim that CDST does not have an adequate research methodology, given that they reference Hiver and Al-Hoorie's (2020) book on CDST research methods, and they also discuss Dörnyei's proposal on retrodiction.

In their book on CDST research methods, Hiver and Al-Hoorie (2020, p. 21) propose that the appropriate unit of analysis for CDST research is a "phenomenologically real" contextualized complex system. An additional unit of analysis—the individual—is offered by Al-Hoorie, et al (2023) in their discussion of replication research in CDST. As far as I can tell, in neither publication do they relate the two units, despite the fact that they are quite different in scope. I will address each unit separately but will leave it to CDST researchers to either link them up or explain why they are not to be linked.

Claiming that the proper unit of analysis for the study of complex systems is a complex system, such as motivation, would mean that the unit of analysis to study motivation would be motivation itself. This is problematic as it defeats the purpose of units of analysis. For one thing, it requires the entire system to be analyzed as a whole. Vygotsky (1987, p. 46) cautioned that such a move would make it very difficult if not impossible to carry out a proper analysis, especially in the social sciences, given the complex nature of human systems, including above all, our psyche, the proper subject matter of psychology. Consequently, a simpler, more manageable unit is required—a unit that contributes to the full system and at the same time "possesses *all the basic characteristics of the whole*" (Vygotsky, 1987, p. 46, italics in original). Additionally, whenever Vygotsky focused on the various components of consciousness (memory, attention, perception, imagination, emotion), he realized that they could not be studied without eventually linking them back up to the other components and to the entire system of which it is a part (see Vygotsky, 1997a). Finding his inspiration in Marx's analysis of capitalism through commodity as his basic unit of analysis, Vygotsky (1987) originally proposed word meaning as the appropriate unit for the study of the formation and functioning of our

higher mental system. In word meaning, he saw the crucial dialectical connection between thinking (meaning) and speaking (symbolic activity).

Not all SCT researchers agree with Vygotsky in this regard, because they believe the unit to be too narrow and therefore failing to capture the process of higher mental activity and its development. Basing his proposal on activity theory, Wertsch (1985, p. 208) has suggested "tool-mediated, goal-directed action" as a more viable unit, because it "applies to the interpsychological as well as the intrapsychological plane, and it provides an appropriate framework for mediation." It is important to remember, again following Marx, that word meaning for Vygotsky is not understood as a static object (a noun) that one looks up in a dictionary but a doing (a verb) that mediates an individual's goal-directed activity.

In keeping with his propensity to criticize his own theoretical statements in his unrelenting quest to improve and sharpen the theory, toward the last years of his life, Vygotsky proposed a new unit of analysis that incorporated what he considered to be the motive for all thinking—emotion. He captured the new unit with the Russian term, *perezhivanie,* as mentioned by Amory and Becker. The term in ordinary Russian references the living through of an emotional experience. In keeping with his general dialectical orientation, Vygotsky interpreted *perezhivanie* as a theoretically relevant unit comprised of emotion and intellect (in contemporary parlance, cognition). He characterized the unit as a prism through which the social world is not reflected, but refracted by the individual (Vygotsky, 1994, p. 340), and therefore better explains the unity formed between the individual and the environment that results in development than did the earlier more cognitively aligned unit (Veresov, 2016).

Among the recommendations for how CDST might approach the matter of replication, a hot topic in SLD research, Al-Hoorie, et al (2023, p. 285) propose the individual across time as an appropriate unit of analysis. To appreciate what this entails, I will need to briefly consider the basis of their argument on replication and its connection to prediction, a thorny issue for CDST. The matter of prediction is potentially problematic for CDST, because of its claims that factors such as initial conditions, context-dependence, interconnectedness, soft-assembly, and emergence can result in different developmental outcomes (p. 282).[3] Al-Hoorie, et al (2023) seem to recognize the problem and therefore acknowledge that all actions cannot be narrowly "idiographic," but must, to some extent, manifest aspects of the original action. When it comes to science, this means that replication has clear and unambiguous value, but only when a theory has achieved maturity (p. 280). A mature theory should be able to explicitly indicate prior to a replication attempt which aspects of the replication are relevant and which are not. In the case of direct replication, some variations from the conditions for the initial study may be irrelevant; thus, as long as the relevant conditions are met, the study is considered to have positive value. In conceptual replications, if the claims of the theory hold even when relevant conditions vary from the original study, the findings strengthen the value of the theory, and if the theoretical statements do not hold up under the new conditions, the value of the theory is weakened (p. 280). The situation changes in the case of studies conducted under the auspices of an immature theory, because such a

theory cannot "elaborate on the necessary conditions to produce a particular outcome" (p. 281). While positive findings could imply support for the theory, negative findings could be at best ambiguous, because one could not know with certainty their value for the theory, given that the theory would be unable to specify with clarity the possible outcomes of a study under different conditions (p. 281).

In order to address the prediction issue in the absence of mature theories, the authors propose a reinterpretation of replication, which they describe under the rubric of "substantiation" (p. 280)—a procedure that mitigates the need for a theory of some phenomenon of reality (e.g., SLD) prior to exploring, observing and experimenting with that phenomenon (p. 283). Under substantiation, researchers "intervene in and influence the complex dynamic realities of the phenomena under investigation" with the goal of "generating positive change that is complex, situated, iterative, and time-scaled in nature" (p. 282), without necessarily fully and explicitly understanding the object of interest (p. 283).

One of the three directions for substantiation research envisioned by Al-Hoorie, et al (2023) entails the previously mentioned analysis of performances across individuals whereby one individual is focused on as the initial study with the performance of additional individuals counted as subsequent replications.[4] In such an approach the expectation is that the effect from one study to the next would not be uniform, but the result would yield a "cumulatively richer picture" that would reveal the pattern and extent of replicability across the participants (p. 285).

In essence what Al-Hoorie, et al (2023) propose is a break from what they call "theory fetish", which "devalues exploratory and pre-theoretical observation and experimentation" (p. 283). Accordingly, Al-Hoorie, et al (2023) argue that a viable alternative is "to instead focus on intervention" (p. 283). This entails the previously mentioned use of machine learning with big data to make predictions as well as acting intentionally to "influence the complex dynamic realities" and generate "positive change that is complex, situated, iterative, and time-scaled in nature" as well as "practical in use in applied settings" (p. 282). Thus, they want to flip the relationship between theory, basic research and its eventual application, something the field has worried about since its inception nearly five decades ago (e.g., Tarone, Swain & Fathman, 1976).[5]

Underlying Al-Hoorie, et al's (2023) position is a dualistic assumption— that theory and practice are separate and independent activities, regardless if one moves from theory to practice or from practice to theory. However, there is a third, dialectical option, which calls for the unity of theory and practice. Al-Hoorie, et al (2023, p. 280) assume that as research "attempts to approximate the complexities of real life, the more unwieldy theories inevitably become" until the findings of research become irrelevant. I agree with their argument when it comes to the traditional way of conceptualizing the theory / basic research vs. practice gap that no doubt underlies Jakobovtis and Gordon's forceful comment in note 5.

Vygotsky rejected the traditional approach to scientific theorizing and its application to practice whereby practice takes place only after theory has been formulated and basic scientific research completed (1997a, p. 305). On this view,

should the application of a theory confirmed by basic research fail in its application to practical activity, "it had practically no effect on the fate of the theory" (p. 305). He insisted that in the new historical dialectical psychology that he was seeking to establish practice must pervade "the deepest foundations of the scientific operation" and must "reform it from beginning to end"; moreover, practice must become "the supreme judge of theory, as its truth criterion" and determine "how to construct the concepts and how to formulate the laws" (p. 305).

This does not mean that Vygotsky eschewed laboratory research. He and his colleagues regularly conducted laboratory experiments through what he variously called the experimental-developmental method or the method of double stimulation, in which the object of research was not to observe the behavior of participants, but to intervene in the process of interest through offering the participants various mediational tools to carry out the experimental tasks (Vygotsky, 1978). However, he understood that it was necessary to transfer the results of experimentation to real life, as revealed in the following quotation:

> If the experiment discloses for us a sequence of patterns or any specific type, we can never be limited by this and must ask ourselves how the process being studied occurs under conditions of actual real life, what replaces the hand of the experimenter who deliberately evoked the process in the laboratory. One of the most important supports in transferring the experimental outline into reality are the data obtained nonexperimentally. We have already indicated that we see in these data a valid confirmation of the correctness of our outline. (Vygotsky, 1997b, p. 94)

What all of this means is that even though in dialectical relationships there is a necessary interaction between the contrasting poles of a relationship, one of the poles takes precedence over the other (see Marx, 1973 on production and consumption). Thus, for Vygotsky if theory and experimental research fail to make a difference in real life practice, the theory is faulty and must be revised or abandoned altogether. One of the ways in which the theory was in fact tested in practical activity was to focus on schooling, because the fundamental tenet of the theory is that higher psychological processes are social in origin (Vygotsky, 1986). Schooling is a social process that is markedly different from the social processes that transpire in everyday life. Vygotsky (1997a, p. 88) described education as the "artificial development of the child", which "restructures all functions of behavior in a most essential manner." It does this through the systematically created, organized and sequenced signs "designed by an external agent", such as teachers, textbooks, curriculum, syllabus, etc. (Wertsch, 2007, p. 185). If schooling does not promote development, the theory must be considered suspect, and either revised or abandoned (see van der Veer, 1985 for a fuller discussion of this important topic).

One of the earliest tests of the theory in real-life was carried out by Luria (1976), who investigated the impact of schooling in general on the thinking of rural agricultural communities in the Uzbekistan and Kurghizia during the 1930s government collectivization efforts of these communities. His research team uncovered clear evidence that even a few years of schooling significantly changed

the manner of thinking, not only of children, but of adults. These studies were later replicated among indigenous populations in Canada (Schubert, 1983) as well as among the rural populations of the Taymyr peninsula of Russia and in Kurghizia (Tulviste, 1991).

This brings me to the article by Kissling in which a real-world educational study conducted in accordance with SCT principles of instructional development challenged the predictions of the Aspect Hypothesis, one of the most robustly researched hypotheses in SLA.

Kissling: SCT and the Aspect Hypothesis

Recent SCT-L2 research has begun to compare the effects of specifically designed instruction on L2 development and in particular testing the claims of other theories on the effects of schooled instruction on L2 development. Zhang (2014) was the first such study to test the predictions of a specific SLA theory, Pienemann's (1989) teachability hypothesis, when instruction on topicalization in L2 Chinese is designed according to SCT principles. Similar to Andersen's Aspect Hypothesis, as well as most theories of SLA, Pienemann's (1998) general processability theory claims that L2 development is governed by learner internal mechanisms that are not subject to modification by contextual factors, including those that are typical of language classrooms. Recall that the mechanisms that shape higher psychological development are situated in the social world not in our biological endowment.

One of the problems with previous research that has investigated both hypotheses in classrooms is that they have not paid sufficient attention to the quality of classroom instruction and have assumed that any variation in instructional design will not impact the mechanisms responsible for SLD. Salaberry (2008, p. 13), however, found that beginning L2 learners do not exhibit effects of the AH until they improve their proficiency in the new language. As such, he proposed the default past-tense hypothesis which states that in the very early stages of development learners will tend to rely on perfective morphology (in the case of Spanish, preterite forms) to mark past distinctions and only later will they reflect the predictions of the AH. A possible source of learner predilection for perfective morphology in early SLD is the fact that traditionally instruction on Spanish past-tense morphology has relied on rules-of-thumb that isolate instruction on each of the two forms (preterite and imperfect) with the preterite given precedence (Bardovi-Harlig & Colomé, 2020, p. 1146). This segregationist approach undermines the very concept of aspect, given that the concept itself depends on a contrast between the two temporal perspectives. Moreover, as Kissling also points out, teacher talk tends to exhibit a higher frequency of prototypical than nonprototypical use of past morphology. This raises the question of whether or not Kissling also produced more incidents of prototypical use in the 85 hours of classroom talk that preceded instruction on aspect. If she followed the general trend reported in the research literature, this should lend even stronger support to her finding that her students were able to use aspect in nonprototypical ways: imperfect with achievement predicates and preterite with stative predicates, something that normally does not

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usually emerge until learners have reached more advanced levels of proficiency (see Yáñez-Prieto, 2014).

Kissling argues that future research should incorporate direct comparisons of C-BLI with other pedagogical approaches. While I agree with this recommendation, I also think that comparing the performance of her students with a learner corpus is legitimate, especially since the learner corpus is based on the same task used in her study, although this might not come across so clearly in her presentation. A question that also arises with respect to Kissling's study is even though her students seem to control viewpoint aspect in ways that are similar to more advanced learners and to some extent even L1 speakers, do they have the ability to use lexical aspect appropriately in personal narrative tasks where lexical aspect typically appears? This is an important question to answer given that the study by Palacio Alegre cited in her article found that learners avoided its use preferring instead non-target-like use motivated by the rules they were taught. I also encourage more C-BLI comparative research on other agreed-upon features supposedly typical of SLD, including English question formation and negation, German word order and negation, and Spanish mood, among others.

White and Masuda: SCT and CL

The final article in the theory group is White and Masuda's comparative analysis of SCT and cognitive linguistics. In my view, the most important contribution of their article is raising the issue of the dialectical interaction between grammar as conceptual knowledge and grammar as usage. The fact that those working in CL, such as Achard, who apparently is agnostic with respect to whether instruction should be implicit or explicit, fail to appreciate the significance of this type of interconnectedness whereby each component depends upon and, at the same time, pushes the other must be noted. Vygotsky cogently develops the argument in support of the relevant dialectical relationship between both capacities in chapter 6 of *Thinking and Speech* (Vygotsky, 1987), whereby the weakness of conceptual knowledge that is not sufficiently saturated with concrete practical relevance results in "verbalism", while at the same time its strength resides in a students' capacity to deploy it to carry out practical actions (p. 165). In the absence of a connection with practical action, students do not learn concepts, but words that imitate concepts or what Ilyenkov (2007, p. 75) characterizes as the "*illusion* of knowledge" (italics in original). Hence, again echoing Marx's thinking[6], true concepts for Vygotsky are not static nouns, but are instead imbued with action and therefore function as verbs; without this, they are petrified relics of the educational process. In other words, as White and Masuda stress, SCT pedagogy is designed to breathe life into the conceptual knowledge uncovered by CL research.

The other side of the dialectical coin is just as important. In other words, doing without understanding stifles any performance. This is what I believe results from implicit exposure to any kind of knowledge, including linguistic knowledge whether inside or outside of a classroom. The danger is that exposure only, even if to a large number of tokens, constrains learner creativity as it forces them to blindly mimic native speaker performance, who, with the exception of literary figures and a

few others, are constrained in their use of language by virtue of its invisibility. Scientific concepts change the structure of spontaneous concepts that are internalized implicitly outside of schooling (Vygotsky, 1987, p. 174), a process that is essential for creativity and imagination to flourish. In this regard, however, we need to appreciate how Vygotsky interprets creativity and imaginative activity. He is not referring to the accomplishments of exceptional figures of history, such as Tolstoy, Edison, but in the activity of ordinary individuals "whenever a person imagines, combines, alters and creates something new, no matter how small a drop in the bucket this new thing appears compared to the works of geniuses" (Vygotsky, 2007, pp. 10-11). It is the task of education to cultivate the development of every student's imagination and creativity (p. 88), and this must be an intentional explicit feature of the educational process. Hence, the importance of making language visible through presentation of its conceptual organization linked to practical communicative activity. An example is evidenced in Kissling's article as well as in Yáñez-Prieto's (2014) study involving nonprototypical use of verbal aspect in Spanish.

In addition to the general significance of White and Masuda's article, I would like to point out a few matters that should strengthen their line of argument. The authors state that "the foundation of SCT lies in developmental psychology", which can be misinterpreted to support the position expressed by many scholars that Vygotsky is a developmental psychologist and as such that the theory is essentially a theory of child development. This interpretation loses sight of the fact that Vygotsky proposed a historical materialist theory of the adult psyche and as such his research methodology is historical. John-Steiner and Souberman (1978, p. 128), in their afterward to *Mind in Society* (Vygotsky, 1978), make this key point abundantly clear:

> Though Vygotsky focused much of his research energies on the study of children, to view this great Russian psychologist as primarily a student of child development would be an error; he emphasized the study of development because he believed it to be the primary theoretical and methodological means necessary to unravel complex human processes, a view of human psychology that distinguishes him from his and our contemporaries. There was, for him, no real distinction between developmental psychology and basic psychological inquiry.

White and Matsuda recommend use of stimulated recall in order to gain access to how learners use specific concepts in their L2 performances and as a means of enabling teachers to more appropriately guide learner development. The study reported in Yáñez-Prieto (2014) does this, although with regard to written rather than spoken performance. In keeping with principles of C-BLI, she interviewed her students to discover how they decided to manipulate Spanish aspect in their written narratives. The procedure revealed that the students intentionally made use of nonprotypical aspect marking in order to create a different impression on the reader than would have been transmitted through typical use of aspect in Spanish discourse, especially with regard to foreground and background information.

I would like to underscore the authors' recommendation that longer term studies are needed than has been the case in SCT-L2 research so far, and as is unfortunately, also typical of much SLA research. In this regard, I believe it would have been extremely informative to discover how the students who participated in Negueruela's (2003) and Yáñez-Prieto's (2014) semester-long projects performed when we they once again returned to more traditional pedagogical experiences in subsequent courses. Would there have been resistance to their re-encounter with rule-of-thumb explanations or would they have succumbed to what was required in traditional instruction?

With respect to question that a reviewer asked if intermediate and advanced level learners can be considered at "the beginning of their conceptual understanding", it would have been instructive if White and Matsuda had presented excerpts from Negueruela's and Yáñez-Prieto's respective studies in which when asked to explain the new concept of aspect the students struggled to reconcile the conflicting old and the new information and then eventually began to change their understanding toward the new concept over time. The struggle might have highlighted the relevance of conflict and dissonance in giving impetus to development, a central feature of Vygotsky's theorizing (Vygotsky, 1987).

The authors recommend including L2 instructors as participants in future research, something that I encourage as well. The work of Olga Esteve and her colleagues in the Barcelona Formative Model cannot be overlooked in this regard (see Esteve & Alsina, 2024). The program they have implemented has had a profound impact on language instruction in the schools in the Barcelona region of Spain. It uses C-BLI to prepare teachers and teacher-educators to deliver C-BLI instruction in an array of L2s and it also inspires and prepares teachers and teacher-educators to carry out and publish research focused on their experiences, not as action research but as research that assesses the value of the theory to make a difference in real-world settings, as Vygotsky proposed.

In Table 2 on extensions of recent studies, White and Masuda offer two important recommendations, one on the use of gesture as a means of visualizing conceptual knowledge and the other having to do with perhaps the most important aspect of development—the ability of learners to generalize a concept to new circumstances. As for gesture, recall that in her study on aspect, Kissling used gesture to depict [±boundedness]. The value of gesture is that it can be taken up by learners as a significant step toward internalization as it helps them break from full reliance on a SCOBA and because it is inherently part of embodied cognition. To paraphrase McNeil (1992), the hand is part of the mind even if it is not part of the brain. Lantolf and Zhang (2017) provide evidence for this claim from an L2 learner of Chinese who used her hand movements to successfully compensate for her low working memory capacity. As for generalization, a study by Lee (2012) using C-BLI principles reported that learners instructed in the conceptual relationship between literal and metaphorical meaning of English particle verbs such as "take out", "spread out", "fish out" etc. were able to correctly generalize their knowledge to new particle verbs formed with "down" and "in". In terms of Dynamic Assessment this would comprise a near transfer because focus would still be on particle verbs.

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However, as suggested by White and Masuda, boundedness is a broader concept in that it not only accounts for verbal aspect, but it also underlies nouns, adjectives and articles. Hence, an interesting assessment of learner ability to generalize would be to determine if they can extend the concept in a far transfer task that would include any or all of the other applicable categories.

Empirical Studies

Siekmann and Parker Webster: Activity Theory

The model proposed by the authors based on what is known as third generation activity theory adopts a somewhat different set of principles from those that underly C-BLI. The reason is that activity theory emerged from a different set of assumptions about what constitutes the mediating artifact and the explanatory principle that account for higher mental processes. This is not the place to enter into the historical and political details of the divergent viewpoints between Vygotsky and Leontiev (see van der Veer & Valsiner, 1991; Wertsch, 1985). Suffice it to say that the two psychologists disagreed on what constituted the foundation on which the higher mental system is built. For Vygotsky it is semiotic mediation during goal-directed activity, largely, though not exclusively, provided by language and for Leontiev it is concrete practical activity itself that mediates the formation of the higher system. Vygotsky recognized the importance of practical activity, but for such activity to occur requires a symbolically organized mental plan. He explained the inherent connection between mental and material activity through Marx's notion of "doubled experience" in which humans, unlike other animals, first symbolically construct a plan of action in their imagination before actualizing the plan in the material world (Vygotsky, 1997a, p. 68). This doubled experience is a form of adaptation that is unique to humans, because, as Arievitch (2017) argues, we are able to adapt the environment to ourselves rather than to adapt to environmental change. This notion is key to appreciating the significance of activity for human development, because changing the environment also changes us. However, the difference between Leontiev and Vygotsky in this regard is that at least in Leontiev's early formulation of activity theory there is no role for doubled experience and with it, symbolic activity. Leontiev's second generation activity theory, according to Siekmann and Parker Webster, featured collective activity, which seems to have come at the expense of individual activity. As far as I can determine, doubled experience does not play a role in Engeström's third generation activity theory either. If it does, I stand corrected.

The above matter aside, I find the on-going efforts of Siekmann and her colleagues with regard to indigenous language education very impressive. One issue that I would like to bring to the forefront of their efforts, however, is the appropriateness of the concept of participatory teacher action research. In light of my earlier discussion of the dialectical interaction between theoretically informed practical research and practically informed theory (i.e., praxis), I strongly encourage Siekmann and her colleagues to jettison the modifier "action" and instead refer to what is carried out in classrooms as research as the ultimate test of the theoretical validity. I believe that this is one of the significant contributions of Esteve's

Barcelona Formative Model, in which research carried out by teachers is as highly valued, if not more so, than basic research. Indeed, the authors make the extremely important point in their comment that theorizing in the absence of "practical implications, calls into question the applicability to practitioners, thereby inhibiting the potential for transformative action or praxis." This is precisely the significance of Vygotsky's insistence that theory has to be ineluctably connected to practice. I also wonder why the community node in their activity system is limited to Indigenous and non-Indigenous teachers and students as well as non-Indigenous university faculty but no mention is made of Indigenous and non-Indigenous families? In the BFM, families are very involved in understanding and supporting the changes in the language curriculum and program of instruction.

The authors' final commentary on diffractive methodology is intriguing and should be looked at more carefully with regard to how it might or might not interface with SCT. My curiosity was sufficiently piqued by the remark to have grappled with Barad's (2007) book. In a nutshell, diffraction is a physical process in which a wave of light, water, or sound, bends and expands when it encounters an obstacle.[7] Thus, in classical physics, when an ocean wave encounters a natural or human-made barrier, the wave diffracts resulting in a series of small waves or ripples. When sound waves strike a barrier such as a wall, they bend around it, which is why someone can hear the sound even though they may not be standing in a direct line with the waves. Without going into the details, the study of diffraction is the study of "patterns of difference that make a difference" (Barad, 2007, p. 72). Researchers can then determine something about the nature of the object that diffracts (e.g., waves or particles), or the object that causes the diffraction (e.g., the barrier). Barad brings this notion into social science with regard to the "differences our knowledge-making practices make and the effects they have on the world" (p. 72).

Siekmann and Parker Webster, if I understand them correctly, see something methodologically attractive about diffraction. While diffraction as a physical process might be a useful analogy to explain the relationship between individuals and the social environment (i.e., the social situation of development), I do not believe it adds much to Vygotsky's use of refraction to illustrate the same process. The issue that needs to be investigated, however, is its value as a methodological procedure, which is what Barad is primarily interested in. In other words, does the way in which physicists utilize the diffraction process to investigate the properties and behavior of waves, particles as well as the barriers enhance in any way the genetic methodology already deployed in SCT research? This matters because of Vygotsky's reluctance to introduce into psychology research methodologies developed in other sciences to study their phenomena of interest.

Ballesteros Soria and van Compernolle: The Collective and TBLT

Without question, one of the most powerful modes of socially organized forms of goal-directed activity is a collective. Since the time of Donato's early work on collective activity in L2 classrooms, cited in Ballesteros Soria and van Compernolle's article, there has been a dearth of research on this important topic.

For this reason alone, the present work is significant. The project investigates the process of pre-task planning carried out collectively instead of individually, as is typical in task-based instruction. According to the authors, the students creating the DSISs are assumed to function collectively because they are "working toward a common objective." However, this requirement alone does not constitute a collective, according to Petrovsky (1985). Collectives are also characterized by a clear division of labor in which the members of the group carry out socially significant tasks (e.g., development of L2 interactional competence) by relying on the specific contribution of each member of the group. In other words, an "inherent feature" of a collective is one of dependence whereby the "success or failure of one [member] conditions the success or failure of all" (Petrovsky, 1985, p. 99). Harré (2002, p. 148) differentiates between a "structured collective" and a "taxonomic collective". Structured collectives are held together by "real relations" such as occurs in families, and social institutions (e.g., government, factories, farms, etc.), and in Petrovsky's view, properly organized academic environments. In each of these cases, there is a mutual dependency created by a clear division of labor. In taxonomic collectives, coherence results from the members sharing common properties rather than real relations. It seems to me that the collective featured in Ballesteros Soria and van Compernolle's work is closer to a taxonomic category than it is to a structured collective, of the type addressed in Petrovsky (1985).

As an example of a structured collective, I point to the work of Urbanski (2023), which reports on a C-BLI study of L2 French students learning collectively whereby each of the subcomponents of the reading process (grammar / discourse knowledge, lexical knowledge, prediction, main idea) is assigned to individual students as together they work their way through narrative texts. In the absence of, or problem with, any subcomponent, the reading task would break down. The consequence of this approach gives rise to what Petrovsky (1985, p. 99) calls the "group effect" through which the activity of the collective contributes to the development of its members, something that is documented in Urbanski's study. Ballesteros Soria and van Compernolle might consider following a similar division-of-labor approach to teaching French conversational interaction, assuming that the process is comprised of subcomponents—eye-gaze, haptics, proxemics, pausing, intonation, and the like.

It seems to me that academic collective pedagogy is a promising approach to instruction that should be explored in more depth in real classrooms. As far as I am aware, research on task-based learning does not intentionally organize groups as collectives in order to complete tasks. I believe it might be an excellent way to organize students grouped according to their ZPD, as proposed by Vygotsky (2011, see below). A teacher would need to be sensitive to the quality and complexity of tasks given to any collective depending on the size of their ZPD. Also, the quality of mediation offered to a given collective would be expected to vary again depending on the size of the ZPD of the group members.

Practical Studies

Grazzi: English as a Lingua Franca

Grazzi tasks on a rather daunting task of bringing principles of SCT pedagogy into contact with the perplexing problem of ELF. The conundrum that teachers face, as described by Grazzi, is an excellent example of the tyranny of irrelevant expertise. On the one hand, teachers are told, and indeed are generally sympathetic to the priority of communicative effectiveness and fluency over accuracy in following presumed NS norms; on the other hand, they have not been given much guidance on how to assess and evaluate learner performance other than to suggest that if it is important for students to pass a test, teachers should instruct students in what are and are not acceptable NS norms, despite a commitment to ELF. Thus, while EFL researchers fulfill their academic desire to investigate the behavior of NNS English speakers in an array of different contexts attempting to fulfill a variety of communicative needs in various geographic regions of the world, teachers remain "lost and confused". The task that Grazzi has set for himself is to try to ameliorate the situation through engaging with the principles of SCT, especially with regard to language pedagogy (C-BLI) and assessment (Dynamic Assessment). Again, this endeavor represents a prime illustration of the importance of the dialectical unity of theory and practice that is praxis. Given that C-BLI brings conceptual meanings, as developed primarily by Cognitive Linguistics, to center stage in language pedagogy, and because it seeks to promote reasoned creativity in communicative activity rather than normative and rule-following behavior, nonprototypical performance is valued rather than to be avoided. This includes in language assessment practice as well. The primary difficulty that learners face, as pointed out by Grazzi, is flawed or incomplete conceptual knowledge of language features that empower them to generate and express meaning through their own version of English.

It might be useful for Grazzi to consider Harré's (2002) distinction among different ways of construing the concept of "norm" based on Wittgenstein's interpretation of grammar as well as what he calls the Taxonomic Priority Principle and the Task / Tool Principle (p. 137). Because Harré's work draws on Vygotskyian theory, especially with regard to tool-based mediation, I believe it has something to offer for refining the argument that Grazzi makes with regard to teachers, learners, and ELF.

Rosborough and Wimmer: The Language Curriculum

Rosborough and Wimmer engage in a more expansive encounter with educational practice than Grazzi. Nevertheless, the concerns they raise are not unlike those that are more narrowly in focus in Grazzi's analysis of the EFL situation. The crucial argument the authors make, in agreement with researchers such as Gredler (2012), is that extracting specific concepts out of the general framework of the theory simplifies, weakens, and, in my view, distorts the significance and impact of the concept. Without question, the most violated concept, again as Rosborough and Wimmer note, is the Zone of Proximal Development. Once isolated from the theory, it loses its intended function, which I believe explains the most pervasive

misinterpretation of the concept—"scaffolding". For one thing, as the authors rightly highlight, the principle that learning leads development is lost. In fact, in most work that I am aware of on scaffolding, the concept of development evaporates, as the goal is to guide leaners toward task mastery rather to promote developmental processes that result in different ways of thinking and behaving (see Xi & Lantolf, 2021).

A particularly thorny matter regarding the ZPD, according to Veresov (2017) is the inadequate, and frequently quoted, English rendering of Vygotsky's original Russian description of the ZPD that appears in Vygotsky (1978). For Veresov (2017, p. 27), the problem is the term "determined" which appears in the 1978 English definition: " . . . the level of potential development as *determined* [italics added] through problem solving under adult guidance . . ." (Vygotsky, 1978, p. 86). The term is problematic because it leaves the inappropriate impression that the child is a passive participant who is heavily dependent on the adult (Veresov, 2017, p. 27). A later translation appearing in Vygotsky (2011, p. 204) replaces "determined" with "defined"—a term that may be closer to the meaning intended in the original Russian: " . . . the level of possible development, *defined* [italics added] with the help of tasks solved by the child under the guidance of adults . . . ." Veresov (2017, p. 27) suggests that an even better rendering of Vygotsky's intended meaning would be "identified", so that the ZPD is then understood as a cooperative process between adult and child that "creates conditions for the development of those functions that are at the very beginning of their developmental cycle." Indeed, as I have mentioned with regard to collectives, Vygotsky (2011, p. 205) suggests that instruction would be much more effective if learners were grouped, not according to their independent performance on diagnostic tests, but according to their ZPD identified according to their performance in cooperation with adults.

I am in complete agreement with Rosborough and Wimmer's analysis of the community of practice perspective as far as the support they seek in Vygotskian theory (see Duff & Talmy, 2011). For one thing, a community of practice, such as occurs in the apprenticeship model of education, harkens back to a proposal that Egan (2002) attributes to Spencer, Dewey, and Piaget to the effect that formal education will be successful if the features of everyday learning are imported into schools. Although Egan's focus is on the learning process exhibited by children in out-of-school settings, the learning that transpires in apprenticeships shares an important feature with everyday learning in that apprentices are not expected to have deep generalizable knowledge of the tasks they are trained to perform (see Lave & Wenger, 1991). As with children, learning is highly empirical rather than conceptual. Moreover, Rosborough and Wimmer are on the mark when they state that Vygotsky is concerned with "consciousness and development as dialectically positioned" in contrast to the CoP approach, which has shown little interest in the formation and study of higher mental functions.

This leads me to the final point of incommensurability I want to make with regard to CoP and social constructivist perspectives, inspired by Rosborough and Wimmer's challenge to popular school curricula—the meaning of "socialization" for Vygotsky and for social constructivists and those interested in L2 socialization. Duff

and Talmy describe language socialization as a "branch of linguistic anthropology" that is concerned with "understanding the development of linguistic, cultural, and communicative competence through interaction with others who are more knowledgeable or proficient" as well as with "*the other forms of knowledge* [italics in original] that are learned in and through language", including social knowledge, ideologies, epistemologies, identities, affect and the like (Duff & Talmy, 2011, pp. 95-96). These authors assert that "language socialization has much in common with neo-Vygotskian sociocultural theory" in that it recognizes the role of "more proficient interlocutors, peers, caregivers, or teachers in helping novices/newcomers reach their potential by means of scaffolding or guided assistance" (Duff & Talmy, 2011, p. 110).

Vygotsky (1986, p. 61) views ontogenesis not as a process that moves toward socialization, but toward individualization of social functions; that is the transformation of social functions into psychological functions. Instead of asking how do children come to behave in a collective, Vygotsky asks how collectives generate higher functions in children (p. 61). Nowhere is Vygotsky's interpretation of socialization more distinct from how it is described by Duff and Talmy than in the contrast he draws between his perspective and Piaget's on the fate of egocentric speech. Egocentric speech for Piaget is indicative of the insufficient socialization of speech that eventually disappears has children master / socialized into the language of their community. For Vygotsky speech is from the beginning social and egocentric speech is social speech that does not disappear but instead transforms into psychological speech—inner speech—thus, socialization for Vygotsky is an individualization process that creates our higher mental system (Vygotsky, 1987, *Thinking and Speech*, chapter 7).

Concluding Remarks

Some very important lessons can be learned from Vygotsky's approach to building a unified theory of psychology. One is that a menu-based approach will not work. By this, I mean cobbling together features from theories A, B, C, D . . . is not going to yield anything other than a list, which is not a theory. Yet, such an approach is evidenced in SLA, whether in the various colloquia on theories with subsequent jointly authored publications (e.g., Hulstijn, et al., 2014), in the Douglas Fir Group (2016) in which a set of individuals representing different theories met for several hours to hammer out a transdisciplinary document, rather than a unified theory of SLD. Some such as Mitchell, Myles, and Marsden (2019) attempt to explicate, evaluate, and synthesize various SLD theories. Others such as VanPatten, Keating, and Wulff's (2020) edited volume compile a collection of chapters authored by representatives of particular theories in which they present the major features of the theory and then explain how the theory accounts for particular facts of SLD. A problem with this approach is that facts are not theory independent (see Harré, 2020). For instance, Chomskyan theory considers ungrammaticalities to be crucial facts in supporting theoretical arguments, but neither Systemic Functional Theory, nor Cognitive Linguistic Theory do. Yet other approaches invite contributors to edited volumes to in some way "briefly" compare their theory to other theories (e.g., Atkinson, 2011).

A newly published edited volume by McManus (2024) includes a final chapter, typical of the various compilations that have appeared in the literature, in that it includes a final chapter that undertakes the unenviable task of synthesizing the various contributions of invited authors. In this case, theories focused on usage-based SLA. After summarizing each contribution and drawing out useful insights from each theory and associated research, McManus (p. 188) writes the following: "An additional insight gained from this review is that not all approaches weigh the same factors or ways of studying usage in identical ways, which is one reason why future research should blend insights from multiple approaches." This sentence gets at the heart of the matter regarding a unified theory: different approaches establish different facts using different research methods and the different facts somehow need to be blended. If facts are to some degree theory dependent, will representatives of different approaches agree on the facts, which seems to be a crucial step if the facts are to be blended?

This is where I believe the second lesson from Vygotsky comes into play and that is his remarkable ability to engage with a wide array of theoretical perspectives and empirical output of other research traditions. Anyone who reads the six volumes of the *Collected Works* as well as his notebooks (see Zavershneva & van der Veer, 2018) will recognize that Vygotsky did not develop his theory in splendid isolation from other contemporary theories. He constantly brought his thinking into profound contact with different ways of conceptualizing and researching human psychology. In effect, he read his theory through other theories, and he read other theories through his theory. In some cases, such as egocentric speech, he rejected Piaget's interpretation and provided support for his own perspective. In other cases, he accepted what others had written about concepts such as mediation, internalization, imagination, the ZPD, activity, semiotics, etc. and blended this information into his theoretical thinking. It may be somewhat of a pipedream to assume that SLA researchers would be able to follow Vygotsky's approach but there may be other ways of achieving a similar outcome. The articles included in the special issue produced by a team of researchers rather than a single individual represent a beginning. By comparing aspects of different theories and approaches at a macro and / or micro level agreement might eventually emerge regarding the blending of insights. It will take time and effort but the payoff might be worth it. For instance, it would be informative to know how those working in CDST would respond to the discussion of unit of analysis and the theory-practice dualism.

In 2015, I participated in a symposium on individual differences and L2 interlocutors at Indiana University that brought together researchers from four different theoretical orientations: cognitive-interactionist, variationist, CDST, and SCT. Each presentation and the edited volume that followed included a theoretical statement and an empirical study illustrating the theory. Similar to other edited compilations, the symposium organizer Gurzynski-Weiss (2020) made the effort to synthesize the theoretical and empirical presentations accompanied by an agenda for future research. Unfortunately, what is missing from the published version of the symposium is documentation of the fruitful exchanges that occurred among the

participants outside of the formal proceedings where similarities and differences among the theories were explored.

In 2017, I had the opportunity to take part, along with a representative of CDST, in a six-hour pre-conference workshop sponsored by AAAL. Each presenter first explained the major principles, concepts, and research methodology of their respective theory. They then engaged with each other and with the audience in an extended discussion comparing the theories and their relevance for SLD. The event involved direct interactions of individuals deeply involved and knowledgeable of the respective theories. As interesting and as stimulating as the workshop was, as far as I can determine, nothing much came of the event in the sense that there was neither a follow-up event, nor was there an effort to produce a collaborative publication that might have stimulated additional and more in-depth discussions along the lines one encounters in Vygotsky's writings.

With this in mind, my recommendation is that in the future researchers from different theoretical perspectives collaborate on theoretical as well as empirical projects from beginning to end and using an array of concepts and principles to address topics of interest to the field; for example the study of motivation from two different theoretical perspectives as Amory and Becker did, or investigation of developmental sequences in empirical projects carried out under the auspices of different theories, as Kissling did. It would also be informative to engage in projects comparing theories at a more macro level as illustrated in White and Masuda's article. This is not to leave out more focused projects along the lines of Ballesteros Soria and van Compernolle's approach to task-based instruction. Grazzi's project is particularly provocative because it makes a speculative argument about integrating C-BLI and DA into ELF teaching. I do firmly believe that the leading journals in the field need to open up space for publication and discussion of theoretical manuscripts. Even though most journals avow a commitment to theory in their instructions to would-be authors, they clearly show a strong preference for publication of empirically rather than theoretically oriented manuscripts. Perhaps the current trend toward open access journals where authors and reviewers engage in open, and hopefully constructive, conversations over theoretical manuscripts would be at least one venue conducive to bringing theories into contact. Be that as it may, the effort to do something has to be worth the effort!

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Notes

1 While I believe that SLD (D is for Development), in agreement with those working in CDST, is a more appropriate means of referring to the process than is SLA (A is for Acquisition), the abbreviation SLA has become the accepted way to refer to research field that investigates the process. I will make this distinction throughout the article: SLD is the process and SLA is the field of study.

2. Vygotsky (1997a) cautioned against the tendency of psychology at his time to import theories and research methodologies from the natural sciences into psychology. In Lantolf (2016), I raised this issue with regard to CDST. Hiver and Al-Hoorie (2020) briefly responded to my observation, commenting that researchers in the social sciences have realized "that the human and social domains, at their

core, reflect and are characterized by the very principles that make up complexity" and furthermore there are "many instances when the human and social sciences have taken their inspiration from developments in the physical sciences" (p. 18). This may be all well and good, but it does not mean that the findings of such research appropriately reflect what is going on when it comes to human mental development and it very well could overlook aspects of the developmental process itself, for instance, how do the biological and cultural factors necessary for human mental development come together to form our higher unified psychological system? (see Vygotsky, 1994, 1997a). As for inspiration from the physical sciences, according to Dafermos (2018, p. 21), physics envy "became a hallmark of twentieth century psychology" resulting in the "reproduction of the natural-social dualism" that continues to plague the discipline. As an example of what can happen when concepts from physics are imported into psychology see Brown, Sokal, and Friedman's (2013) scathing critique of Fredrickson and Losada's (2005) misguided attempt to predict whether an individual would emotionally flourish or languish based their "positivity ratio", a mathematical model derived from nonlinear fluid dynamics.

3. According to Morrison (2008, p. 29), "if the same behavior does not produce the same results twice" and "if its outcomes are unknowable," "the nature of responsibility" and rationality are seriously called into question.

4. The other two involve machine learning using big data that apparently has been successful at making predictions in the absence of a human generated theory, and mini-theory thinking as a type of preregistered statement of what would count as evidence for or against the thinking underlying the study.

5. It could well be that basic research, especially when it entails controlled experiments, can never be relevant for applied purposes. Jakobovits and Gordon (1974, p. 85) pleaded for teachers to free themselves from what they characterized as "the tyranny of irrelevant expertise". In their view, application of the findings of basic academic research, even when "focused on educationally relevant issues" must not be confused with "applied educational research" (pp. 86-87). A major problem with basic research in the social sciences, is that in laboratory circumstances, human participants cease behaving in "typically human ways" and instead are converted into "organisms", thus erasing "the boundaries between animal and human psychology" (Newman & Holzman, 1996, p. 81). Behaving as organisms (e.g., rats) alienates humans from their appropriate life form (p. 81).

6. In *Grundrisse,* Marx (1973, p. 91) states that "a garment becomes a real garment only in the act of being worn; a house where no one lives is in fact not a real house."

7. Not to be confused with refraction, the image used by Vygotsky to illustrate what occurs in SSD, which is the pending of light when it passes from one medium (e.g., air) to another medium (e.g., water). Waves are not in themselves objects, but are rather perturbations in matter, whereas things like electrons, atoms, etc. are particles of matter. The weird thing, at least for non-physicists, is that in the quantum world, electrons, and other particles, behave as if they were both waves and particles.

Author's Biography

James P. Lantolf, Greer Professor in Applied Linguistics, Emeritus, Pennsylvania State University & Distinguished Professor, Beijing Language & Culture University. President—American Association of Applied Linguistics (2005), received its Distinguished Scholarship & Service Award (2016). Co-editor—*Applied Linguistics* (1993-1998); founding editor, *Language and Sociocultural Theory* (2013-2023). Co-authored *Sociocultural Theory and the Genesis of Second Language Development* (2006); *Sociocultural Theory and the Pedagogical Imperative in L2 Education* (2014)—awarded the Mildenberger Prize of the Modern Language Association of America. Co-editor—*Routledge Handbook of Sociocultural Theory and Second Language Development* (2018). Published 144 articles and book chapters.

Persian Abstracts

نظریه اجتماعی-فرهنگی، گفت و گوی بیننظریهای و قیاس(نا)پذیریهای حوزهٔ فراگیری زبان دوم: دیباچهای بر ویژهنامه

سعید کریمی اقدم

دانشیار زبان و آموزش انگلیسی، دانشکدهٔ علوم تربیتی و هنر، پردیس لونگر، دانشگاه نورد، نروژ
saeed.karimi.aghdam@nord.no

ریمی آدام ون کومپرنوله

دانشیار فراگیری زبان دوم و زبانشناسی کاربردی، گروه زبانهای نو، دانشگاه کارنگی ملون، پیتزبورگ، ایالات متحدهٔ آمریکا
vancomp@andrew.cmu.edu

چکیده

در این مقاله، ابتدا توجیه و برهان باز کردن فضای گفتگو بین نظریهٔ اجتماعی-فرهنگی و سایر نظریههای علمی سازگار مورد بحث قرار میگیرد. در بخش دوم، مرور مختصری بر نظریهٔ اجتماعی-فرهنگی ویگوتسکی در ارتباط با حوزهٔ فراگیری زبان دوم ارائه میگردد. در بخش سوم، ضمن کاوش و تأمل بر ارتباط زیربنایی و دوسویهای که لاجرم بین هر نظریهٔ فراگیری زبان دوم و جهان بینی مفروض در آن وجود دارد، به تشریح کاربرد و تأثیر عمیق جهانبینیها بر ماهیت و نحوهٔ انجام پژوهشهای علمی و همچنین روشهای علمی و تحقیقی جامعهٔ علمی فراگیری زبان دوم میپردازیم. سپس، با استناد به فلسفهٔ علم توماس کوهن و با تمرکز ویژه بر ماهیت نظریه-محور شواهد و دادههای تجربی و همچنین مفاهیم کلیدی نظیر پارادایم، ماتریس رشتههای علمی، و قیاسناپذیری نظریههای رقیب، تلاش میشود تا تصویری از چگونگی تغییر و تحول علمی در حوزهٔ فراگیری زبان دوم ترسیم گردد. در بخش چهارم، با پرداختن به مقالاتی که در شمارهٔ ویژهٔ این مجله گنجانده شدهاند، به طور خاص توجه خود را به موضوع قیاسناپذیری و گفتگوهای بین-نظریهای در حوزهٔ فراگیری زبان دوم معطوف نموده و دلالتها و کاربردهای نظری و عملی آنها را مورد بحث میدهیم. بخش پایانی این مقاله به بیان نکاتی در باب اهمیت و تأثیر اتخاذ دیدگاه جهان بینی-محور درانجام فعالیتهای تحقیقاتی، انتخاب نظریهٔ علمی، و چگونگی تغییر و تحول علمی در حوزهٔ فراگیری زبان دوم اختصاص یافته است که به باور نویسندگان میتواند در پیشبرد فهم و توضیح علمی یکپارچه و منسجم در خصوص فرآیندهای یادگیری زبان دوم مؤثر باشد.

واژگان کلیدی: نظریه اجتماعی-فرهنگی، فراگیری زبان دوم، گفتگوی بین نظریهای، ویگوتسکی، کوهن، پارادایم، ماتریس رشتهای، قیاسناپذیری، تغییر علمی، جهانبینی

انگیزش در زبان دوم از منظر نظریه اجتماعی-فرهنگی و نظریه پیچیدگی / سیستم های پویا: بررسی تناسب‌پذیری دو نظریه

مایکل دی آموری

استادیار آموزش زبان انگلیسی و زبانشناسی کاربردی، گروه زبان انگلیسی، دانشگاه ایالتی اوکلاهما،
استیل واتر، ایالات متحده آمریکا
Email: michael.amory@okstate.edu

ماریانا لیما بکر

استادیار گروه نظریه و کاربرد علوم تربیتی، کالج علوم تربیتی مری فرانسیس، دانشگاه جورجیا،
جورجیا، ایالات متحدۀ آمریکا
Email: beckermr@bc.edu

چکیده

تحقیقات در مورد انگیزه در یادگیری زبان دوم در چند دهه گذشته پیشرفت چشمگیری داشته است. در گرایش اخیر به مطالعهٔ زمینه‌های اجتماعی انگیزش و نقش فرآیندهای اجتماعی در شکل‌دهی انگیزش فرد، نقش نظریه اجتماعی-فرهنگی (SCT) و نظریه پیچیدگی / سیستم‌های پویا (CDST) بسیار برجسته بوده است. اگرچه محققان تلاش کرده‌اند نظریه اجتماعی-فرهنگی و نظریه پیچیدگی / سیستم‌های پویا را با هم ترکیب کنند، حوزهٔ زبان‌شناسی کاربردی شاهد بحث‌های مداومی در مورد سازگاری کلی این دو نظریه بوده است. مقالهٔ حاضر شامل مرور انتقادی و بررسی نظری پیرامون رویکردهای متفاوت نظریهٔ فرهنگی-اجتماعی، با تمرکز بر نظریه فعالیت (AT)، و نظریهٔ پیچیدگی / سیستم‌های پویا، با تمرکز بر سیستم خود انگیزشی زبان دوم، در خصوص انگیزش در زبان دوم است. در اینجا استدلال می‌شود که دو نظریه به طور سطحی سازگار هستند، زیرا که در هر دو نظریه، انگیزش زبان دوم را با ماهیتی پویا، پیچیده و ناشی از تعاملات بین افراد و محیط هایشان نشان می‌دهند. با این حال، بررسی عمیق‌تر موضوع حاکی از تفاوت‌های اساسی نه تنها در زمینه انگیزش زبان دوم، بلکه در مفاهیم اساسی حاکم بر دو نظریهٔ پژوهشی است. در نهایت، با توسل به دیدگاه فرهنگی-اجتماعی، ضمن نقد نظریهٔ پیچیدگی / سیستم‌های پویا، چنین استدلال می‌شود که دو نظریهٔ مورد بررسی در این تحقیق نه تنها از حیث رویکرشان به مقولهٔ انگیزش در زبان دوم بلکه به طور عام تناسبی با یکدیگر ندارند.

واژگان کلیدی: نظریه اجتماعی-فرهنگی، نظریه پیچیدگی/سیستم‌های پویا، نظریه فعالیت، انگیزش در زبان دوم

اثر آموزش زبان مبتنی بر مفهوم بر یادگیری «نگره» توسط زبان‌آموزان مبتدی: شواهد تجربی مقدماتی مبنی بر اثرپذیری کمتر آموزش مفهوم «بی‌کرانگی» به زبان- آموزان مبتدی از نگرۀ واژگانی

الیزابت ام. کیسلینگ

دانشیار زبان شناسی اسپانیایی و کاربردی، دانشگاه ریچموند، ایالات متحده آمریکا

Email: ekisslin@richmond.edu

چکیده

آموزش زبان مبتنی بر مفهوم (C-BLI) ریشه در نظریه یادگیری اجتماعی-فرهنگی ویگوتسکی (SCT) دارد و بر اساس آموزش نظری سیستمی مدل‌سازی شده است. مطالعات بر روی آموزش زبان مبتنی بر مفهوم حاکی از اثرات آموزشی مثبتی مانند افزایش آگاهی مفهومی و تسلط بر انواع مفاهیم هدف در زبان های مختلف، از جمله نگره در زبان اسپانیایی است. با هدف یافتن شواهدی در این زمینه، در تحقیق حاضر زبان‌آموزان مبتدی زبان اسپانیایی (تعداد ۲۶ نفر) با مفهوم نگرۀ دیدگاه به عنوان یک مفهوم دستوری مربوط به بی‌کرانگی آموزش داده شدند. همچنین توانایی فراگیران برای ایجاد ارتباط‌های غیرمعمول بین ریخت‌شناسی تقدم-ناکامل و مقوله‌های نگره واژگانی بطور مستقیم مورد سنجش قرار گرفت. این نوع از یادگیری بیشتر مورد علاقۀ محققانی است که عمدتاً قائل به دیدگاه‌های نظری معناشناختی خارج از حوزۀ نظریه یادگیری اجتماعی-فرهنگی همچون «فرضیه نگره» (AH) هستند. مقایسه داده‌های پیکره (۷۵ = n) نشان داد که زبان‌آموزان آموزش دیده بر اساس آموزش زبان مبتنی بر مفهوم بر خلاف انتظار توانستند مفاهیم دستوری پیش سویگی و ناکاملی را بیشتر شبیه کاربران پیشرفته زبان اسپانیایی استفاده کنند تا زبان آموزان مبتدی. نتایج نشان می‌دهد که آموزش زبان مبتنی بر مفهوم موجب تسهیل یادگیری آن بخش از مفهوم نگره می‌گردد که در تفکیک نگرۀ دیدگاه و نگرۀ واژگانی کاربرد دارد. چنین برداشت می‌شود که تلفیق آموزش زبان مبتنی بر مفهوم و سایر رویکردهایی که ریشه در نظریۀ اجتماعی-فرهنگی دارند، با روش‌های نوین یادگیری موجب غنای این نظریه و در نتیجه جلب علاقۀ محققان خارج از نظریه فرهنگی-اجتماعی شود. همچنین استدلال می‌شود که تحقیقات پیرامون فرضیۀ نگره را می‌توان با در نظر گرفتن داده‌هایی که اثرات رویکردهای آموزشی خاص را روشن می‌کند، غنی‌تر نمود.

واژگان کلیدی: آموزش زبان مبتنی بر مفهوم، آموزش مبتنی بر مفهوم، نگره، فرضیه نگره، پیش‌سویه و ناکامل

تلفیق و سازگاری نظریه اجتماعی-فرهنگی و زبان‌شناسی شناختی برای آموزش دستور و واژگان زبان دوم

بنجامین وایت

دانشیار زبان شناسی کاربردی، گروه علوم تربیتی، کالج سنت مایکل، کولچستر، ورمونت، ایالات متحده آمریکا

Email: bwhite3@smcvt.edu

کیوکو ماسودا

دانشیار زبان ژاپنی و زبان‌شناسی، دانشکده زبان‌های معاصر، دانشگاه فنی جورجیا، آتلانتا،

جورجیا، ایالات متحده آمریکا

Email: km210@gatech.edu

چکیده

در سال‌های اخیر، شاهد علاقه‌مندی فزاینده‌ای به تلفیق نظریه اجتماعی-فرهنگی ویگوتسکی با زبان‌شناسی شناختی برای تحقیق در مورد آموزش زبان دوم بوده‌ایم. مقاله حاضر با بررسی امکان سازگاری دو جهت‌گیری نظری ادعا دارد که برخی مفروضات کلیدی در زبان‌شناسی شناختی به خوبی با نظریه اجتماعی-فرهنگی همسو هستند. نکته حائز اهمیت این است که هر دو نظریه مواضع مشابهی پیرامون رابطه بین زبان و شناخت و نیز تأثیرات فرهنگ و دنیای فیزیکی بیرونی بر زبان دارند. اختلاف احتمالی بین دو نظریه به نحوۀ کاربرد آنها در آموزش زبان دوم و روش تحقیق در کلاس‌های زبان دوم مربوط است. به منظور بررسی نحوۀ ادغام نظریه اجتماعی-فرهنگی و زبان شناسی شناختی در آموزش زبان دوم، ما شش مطالعه تجربی اخیر مرتبط با هر دو نظریه را مرور می‌کنیم که همگی به آموزش دستور زبان و واژگان در چهار زبان مختلف پرداخته‌اند. تلاش می‌شود ضمن شناسایی مضامین مشترک، چالش‌های تحقیقات آتی در این زمینه خاطرنشان گردند. در نهایت، توصیه‌هایی را برای ادغام تئوری اجتماعی-فرهنگی و زبان شناسی شناختی به منظور آموزش زبان دوم ارائه می کنیم.

واژگان کلیدی: آموزش زبان مبتنی بر مفهوم، زبان شناسی شناختی، آموزش دستور و واژگان زبان، نظریه اجتماعی-فرهنگی

خوانش انکساری چندسوادی، اقدام پژوهی مشارکتی معلمان و نظریه فعالیت تاریخی فرهنگی: درهم تنیدگی‌ها و بینش‌ها در آموزش زبان بومی

سبینه سیکمان

استاد زبان‌شناسی کاربردی، برنامۀ زبانشناسی، دانشگاه آلاسکا فیربنکس (UAF)، فیربنکس، آلاسکا، ایالات متحده آمریکا

Email: ssiekmann@alaska.edu

جون پارکر وبستر

دانشیار بازنشسته آموزش، مرکز مطالعات بین فرهنگی، دانشگاه آلاسکا فیربنکس (UAF)، فیربنکس، آلاسکا، ایالات متحده آمریکا

Email: jpwebster@alaska.edu

چکیده

این مقاله به بررسی زمینه‌های هستی‌شناختی، معرفت‌شناختی و روش‌شناختی مفهوم پراکسیس در زمینه آموزش زبان بومی برای حفظ و احیای آن می‌پردازد. ما با ارائۀ یک قرائت انکساری (باراد، ۲۰۰۷) از نظریه فعالیت تاریخی فرهنگی (ویگوتسکی، ۱۹۷۸؛ انگستروم، ۲۰۰۱) و اقدام‌پژوهی مشارکتی معلمان (کمیس و مک تاگرت ۲۰۰۵؛ سیکمان و همکاران، ۲۰۱۹) و آموزش چندسوادی (کازدن و همکاران، ۱۹۹۶؛ کوپ و کلانزیس، ۲۰۰۹) تلاش می‌کنیم به بینش‌های جدیدی در مورد قیاس‌پذیری مفروضات هستی‌شناختی و زیربنای معرفت‌شناختی این نظریه‌ها دست یابیم. در ابتدا زمینه‌های تحقیق حاضر در جوامع آموزشی بومی ارائه می‌گردد. در مرحله بعد، ضمن توضیح روش‌شناسی انکساری باراد، سه فرضیه مورد بحث و بررسی قرار می‌گیرد: ۱) درهم‌تنیدگی مبانی وجود-معرفت و عمل یعنی عمل در مقابل پراکسیس، ۲) تقویت عاملیت معلم از طریق چرخه‌های روش تحقیق مارپیچی و رفت و برگشتی معمول در اقدام‌پژوهی مشارکتی معلمان، و بالاخره ۳) ضرورت شناخت تنش‌ها و تضادها برای تسهیل عمل دگرگونی‌پذیر پراکسیس. نتیجه‌گیری ما درهم‌تنیدگی نظریه-عمل را از دیدگاه پراکسیس که در درون کنش نهفته است، توضیح می‌دهد. پیشنهاد ما این است که استفاده از روش انکساری در قرائت نظریه‌ها از طریق یکدیگر و نه در مقابل یکدیگر، موجب نمایان‌شدن برداشت‌های درون-نظریه‌ای می‌گردد که می‌تواند جایگزینی برای بحث در مورد این نظریه‌ها در قالب بدبستان بین مفاهیم نظری باشد.

واژگان کلیدی: پراکسیس، اقدام‌پژوهی مشارکتی معلمان، چندسوادی، زبان‌های بومی

جمعی‌سازی سوگیری برای تخصیص نوبت به‌عنوان آموختنی به کمک برنامه‌ریزی پیش از تکلیف

نوریا بلستروس سوریا

عضو هیأت علمی ویژه، دانشکدۀ علوم انسانی و اجتماعی دیتریخ، دانشگاه کارنجی ملون،
پیتزبورگ، ایالات متحدۀ آمریکا
Email: nballest@andrew.cmu.edu

ریمی آدام ون کومپرنوله

دانشیار فراگیری زبان دوم و زبانشناسی کاربردی، گروه زبانهای نو، دانشگاه کارنگی ملون، پیتزبورگ،
ایالات متحدۀ آمریکا
vancomp@andrew.cmu.edu

چکیده

با وجود اینکه "برنامه ریزی پیش از اجرای تکلیف" به طور گسترده در تحقیقات آموزش زبان تکلیف-محور مورد مطالعه قرار گرفته است، تعداد محدودی از مطالعات تا به امروز این پدیده را از دیدگاه نظریه اجتماعی-فرهنگی بررسی کرده‌اند. مقاله حاضر گزارشی از اجرای برنامه‌ریزی پیش از اجرای تکلیف از منظر دیدگاه "گروه بمثابه جمع" منتسب به ویگوتسکی است که با تمرکز بر نقش میانجی‌گری این نوع برنامه‌ریزی در حین اجرای تکالیف موسوم به سناریو تعامل استراتژیک پویا (DSIS) و در کلاس درس سطح پایۀ زبان اسپانیایی دانشجویان آمریکایی ترم اولی اجرا شده است. تکالیف معروف به سناریو تعامل استراتژیک پویا شامل برنامه‌ریزی قبل از اجرای تکلیف، اجرای تکلیف توسط گروه‌های کوچک در جلوی کلاس، و جلسات بررسی متعاقب تکلیف است که در آن نظرات همتایان و معلمان بلافاصله پیش رو گذاشته می‌شود. با تکیه بر روش تجزیه و تحلیل ژنتیکی ویگوتسکی (۱۹۷۸)، ابتدا نشان می‌دهیم که چگونه "تخصیص نوبت" به عنوان یک موضوع یادگیری در طول اولین جلسه توجیهی پدیدار می‌شود که به نظر می‌رسد نتیجه برنامه‌ریزی قبل از تکلیف و مشاهدات دانش‌آموزان پس از اجرای اولین گروه بوده باشد. در ادامه، از طریق تجزیه و تحلیل برنامه‌ریزی تکالیف و بررسی نحوۀ چارچوب‌بندی و مدل‌سازی بازخورد مناسب توسط معلم، به توضیح چگونگی زایش مشاهدات توجیهی می‌پردازیم با این باور که می‌توان سوگیری زبان‌آموز میانجی‌گری شده به سمت تخصیص نوبت را یک آموختنی مرتبط تلقی نمود. در پایان، به بحث در مورد نتایج تحقیق، کاربردهای پژوهشی و آموزشی آن‌ها و پیشنهاداتی در زمینۀ تحقیقات آموزش-محور پیرامون توسعۀ مهارت گفتاری در زبان دوم می‌پردازیم.

واژگان کلیدی: سناریو تعامل استراتژیک پویا، برنامه ریزی قبل از اجرای تکلیف، آموزش زبان مبتنی بر تکلیف، نظریه اجتماعی-فرهنگی، تخصیص نوبت

انگلیسی به عنوان زبان ارتباطی مشترک و نظریه اجتماعی-فرهنگی: رویکردی یکپارچه

آندره گراتزی

دانشیار زبان و ترجمه انگلیسی، گروه زبان‌های خارجی، ادبیات و فرهنگ، دانشگاه روما تره، رم، ایتالیا
Email:enrico.grazzi@uniroma3.it

چکیده

تمرکز اصلی این مقاله بر روی موضوع بحث برانگیز ادغام زبان انگلیسی به عنوان زبان ارتباطی مشترک (ELF) در آموزش زبان انگلیسی (ELT) است. ماهیت متکثر انگلیسی به عنوان یک زبان بین‌المللی در عصر جهانی‌سازی به طوری خاص مسألۀ پرسابقۀ بومی بودن زبان انگلیسی را در کلاس درس انگلیسی به چالش کشیده است. با این وجود، علیرغم پیشینۀ آکادمیک گسترده در زمینه تحقیقات انگلیسی به عنوان زبان ارتباطی مشترک، به نظر می‌رسد که جای یک رویکرد آموزشی متعادل از سوی محققان کاربردی انگلیسی به عنوان زبان ارتباطی مشترک هنوز خالی است. بنابراین، هدف مطالعه حاضر نشان دادن این است که چگونه نظریه اجتماعی-فرهنگی ویگوتسکی (SCT) و نظریۀ آموزش نظری سیستمی گالپرین (STI) که رویکرد آموزشی زبان دوم تحت عنوان «آموزش زبان مبتنی بر مفهوم» بر اساس این نظریه ارائه شده، می‌تواند چارچوب علمی مناسبی را در جهت پر-کردن شکاف بین برنامه درسی اصلی زبان انگلیسی به عنوان زبان خارجی (EFL) که بر اساس مدل استاندارد انگلیسی زبان مادری است، از یک سو و شیوۀ نوظهور استفاده از انگلیسی به عنوان زبان مشترک ارتباطی که حاصل تماس زبان مادری زبان‌آموزان با زبان انگلیسی است از سوی دیگر پر نماید. در نتیجه، این تحقیق قصد دارد یک رویکرد یکپارچه برای آموزش زبان انگلیسی ارائه دهد که ترکیبی از ELF، SCT و C-BLI است. انتظار می‌رود چنین رویکردی بتواند یک چارچوب مفهومی و جهت‌گیری نظری جدیدی در اختیار مدرسان زبان انگلیسی قرار دهد تا بواسطۀ آن بتوانند تغییر پارادایم مورد نظر اکثر محققا ELF را در کلاس‌های آموزش زبان انگلیسی پیاده کنند.

واژگان کلیدی: انگلیسی به عنوان زبان ارتباطی مشترک، نظریه اجتماعی-فرهنگی، آموزش نظری سیستمی، آموزش زبان مبتنی بر مفهوم، ارزیابی پویا

نظریه اجتماعی- فرهنگی ویگوتسکی برای زبان آموزان زبان دوم: پرداختن به قابلیت‌های همسان با برنامه‌های درسی عمومی مدرسه محور

الساندرو رازبورو

دانشیار گروه آموزش معلمان، دانشکدۀ علوم تربیتی مک کی، دانشگاه بیرگهام یانگ، ایالات متحدۀ آمریکا
Email: alex_rosborough@byu.edu

جنیفر ویمر

دانشیار گروه آموزش معلمان، دانشکدۀ علوم تربیتی مک کی، دانشگاه بیرگهام یانگ، ایالات متحدۀ آمریکا
Email: jennifer_wimmer@byu.edu

چکیده

مقاله حاضر به غیرقابل مقایسه بودن نظریه فرهنگی اجتماعی ویگوتسکی (SCT) با برنامه های درسی آموزشی محبوب K-12 می پردازد که ادعا دارد در عمل به این نظریه پایبند است. (مک لئود، ۲۰۱۹). در این مقاله در مورد برنامه‌های درسی، مدل‌ها و نظریه‌های اجتماعی معروف در رابطه با یادگیری زبان دوم بحث می‌کنیم. مثال‌های منتخب برای مقایسه‌های قابل قیاس/غیرقابل قیاس برگرفته از برنامه‌های درسی پیش دبستانی، ابتدایی، متوسطه، و متون روان‌شناسی‌تربیتی هستند که همگی در درجه اول به عنوان آمادگی آموزشی برای معلمان پیش از خدمت استفاده می‌شوند. در عملیاتی کردن این مقایسه‌ها برای قیاس‌پذیری/قیاس ناپذیری، ما استدلال می‌کنیم که توضیحات ویگوتسکی در مورد وحدت فکر و زبان، نزدیکترین حیطۀ رشد، ابزار میانجی برای یادگیری و توسعه، و چارچوب فراگیر او در مورد پرژیوانی و آگاهی در این متون و برنامه های درسی، به ویژه برای زبان آموزان زبان دوم که همواره در حوزۀ آموزش مهجور واقع شده‌اند، به خوبی توسط این افراد مورد توجه قرار نگرفته است. نتیجه‌گیری کاربردی این بحث شامل استدلال‌هایی برای پیاده‌سازی کامل‌تر نظریه فرهنگی اجتماعی ویگوتسکی به جای راهبردهای ساده‌انگارانۀ چرخش اجتماعی و فراخوانی برای حمایت از دانش‌آموزان اقلیت زبان است.

واژگان کلیدی: نظریۀ فرهنگی اجتماعی، نظام مدارس دوازده پایه ای، ، وحدت فکر و زبان، آموزش زبان دوم

تأملاتی بر مقالات ویژه‌نامه و اهمیت تفکر پیش‌پارادایم در حوزهٔ فراگیری زبان دوم

جیمز پی لانتولف

استاد برجسته دانشگاه زبان و فرهنگ پکن، پکن، چین

استاد بازنشسته فراگیری زبان و زبان شناسی کاربردی، دانشگاه ایالتی پنسیلوانیا، ایالات متحده آمریکا

Email: jpl7@psu.edu

چکیده

خرسندم که این فرصت به من داده شد تا نظرات خود را در مورد مقالات ارائه شده در شماره ویژه «مجلهٔ زبانشناسی کاربردی و ادبیات کاربردی» با موضوعی که من تحقیق «پیش‌پارادایم» می‌نامم، ارائه دهم. این مفهوم را از کوهن (۲۰۱۲) وام گرفته‌ام، که به اعتقاد من وضعیت فعلی در حوزهٔ فراگیری زبان دوم را به درستی توصیف می‌کند. مقالات ارائه شده در این ویژه‌نامه به مقایسهٔ جنبه‌های مختلف نظریهٔ فرهنگی-اجتماعی با چارچوب‌ها و رویکردهای دیگر فراگیری زبان دوم پرداخته‌اند. یکی از جنبه‌های جذاب این شماره این است که هر یک از مقالات ارائه شده از دیدگاه متفاوتی بهره جسته‌اند. در نوشتهٔ حاضر هر یک از مقالات بطور جداگانه مورد نقد و بررسی قرار گرفته‌اند. در برخی موارد، استدلال نویسندگان بسط داده شده و در موارد دیگر، استدلال‌های آنها مورد نقد قرار گرفته‌اند که از آن ترغیب نویسندگان به تفکر عمیق‌تر پیرامون پیشنهاد(های) خود و احیاناً دستیابی به بینش نظری جدید است. برای سهولت کار، هفت مقاله ارائه شده، در قالب یک دسته‌بندی منسجم تقسیم‌بندی شده‌اند. معیار مورد استفاده در این دسته بندی رویکرد غالب مقاله در پرداختن به هر یک از جنبه‌های نظری، تجربی و یا عملی بوده است.

واژگان کلیدی: نظریه اجتماعی-فرهنگی، تفکر پیش‌پارادایم، توسعه زبان دوم، نظریه سیستم‌های پیچیدهٔ پویا، آموزش جمعی، انگلیسی به عنوان زبان مشترک ارتباطی، آموزش زبان، برنامهٔ آموزش زبان، زبانشناسی شناختی، فرضیهٔ وجه