Saeed Karimi-Aghdam, Hannele Dufva & Mika Lähteenmäki
University of Jyväskylä

Dancing with alternative lyrics: integrating sociocultural, dialogical, distributed and dynamical conceptualizations of language and its development for L2 studies

This paper sets out to chart underlying assumptions and fundamental axioms of an integrative research edifice for studying language and how it is developed over time as a human- and culture-centered and multifaceted phenomenon. Specifically, invoking Vygotskian sociocultural theory, the Bakhtin circle dialogism, distributed language and cognition and dynamic systems theory, it is argued that language is a purposive, multifaceted, complex, dialogical, and dynamic system that emerges distributively across the interpenetrated web of human somatic and brain activities, socio-cultural umwelt, sociohistorically-fashioned artifacts and realized affordances simultaneously and over time. Suggestions are provided, upon this foundation, to remediate the debate toward laying out a framework for describing, explaining and understanding L2 development as a unitary temporal system that has both cognitive and social dimensions but is not ontologically reducible to either. This argument leads to the conclusion that to further our understanding of language and its development over an individual's lifespan, we need to cross-fertilize different research programs and bridge across existing paradigmatic boundaries.

Keywords: sociocultural theory, dialogism, dynamic systems theory, language development

1   Introduction

This paper aims to provide a general vantage point from which to approach a wide array of problems and issues surrounding second language acquisition (SLA)[1] as a discipline. The purpose of the paper, more specifically, is to discuss potential foundations for a frame of reference for L2 studies, drawing together various resonances of a set of **alternative** ways of thinking about language, its learning and development including sociocultural theory, Bakhtin circle dialogism, distributed language and cognition and dynamic systems theory (for an introduction to alternative approaches to SLA, see also Atkinson 2011). Throughout the literature of L2 studies, a number of scholars have subscribed and significantly contributed, in one way or another, to a psycho-social dualism in L2 studies but also some hamstrung attempts at constructing an integrative theoretical framework for L2 studies have been made (e.g., Atkinson 2002).

Surveying the theoretical status quo of SLA research, it could be argued that the field, by and large, is roughly divided between two families of theories viz., those with cognitive orientation towards second language learning and teaching and those leaning on various sociointeractional views on second language learning and teaching (e.g., Firth & Wagner 1997; Hulstijn, Young, Ortega, Bigelow, DeKeyser, Ellis, Lantolf, Mackey & Talmy 2014). Ortega (2011) chalks up the differences between traditional SLA (i.e., cognitivist SLA) approaches and alternative ones (i.e., socially-oriented SLA) to three broad dimensions: 1) psychological versus socially-oriented explanations for L2 learning; 2) a cognitive SLA view about the existence of knowledge separated from its context (i.e., abstract knowledge) versus a social SLA standpoint regarding the inextricable embeddedness of knowledge in its attentive context (situated knowledge); 3) focus of cognitive SLA on entities and objects versus social SLA emphasis on actions and processes. In order to bridge the gap between the cognitive and the social – believed to be an ontological one by some scholars and an epistemological one by others and still some others conclude that there is 'no single, monolithic social-cognitive gap in L2 learning and teaching research' (Hulstijn et al. 2014: 414) – the paper sketches a metatheoretical architecture for understanding the dynamic totality of L2 development.

In this article, we particularly target issues that are significant for applied linguistics in general but also, in particular, for research questions, theoretical constructs, and empirical methods dealing with second/foreign language learning and teaching. To this end, we first discuss some fundamental positions that exist in the current landscape

---

1   In this article we use second language acquisition (SLA) to mean a general term which designates a multidisciplinary frame of reference for studying the nature, mechanisms and trajectories of learning any language other than first language without aligning ourselves necessarily with cognitivist connotations which somehow underpin the use of 'acquisition' in SLA.

of L2 studies. Further, we comment upon the ongoing debate concerning the dualistic conceptualizations of L2 learning and how to move beyond the false dilemmas of the field. We will deal with some anti-dualistic approaches to L2 learning and teaching, namely dialogism, sociocultural theory and distributed language and cognition. Shifting our analysis to dynamic systems theory, we present a brief articulation of dialectical dynamic systems theory as one of the alternative approaches that tries to integrate the social and cognitive dimensions of L2 learning without reducing one to the other. In conclusion, we argue that L2 studies could benefit from engaging with alternative thinking in terms of theoretical advancement and pedagogical practices of teaching languages in the classroom and in out-of-classroom contexts.

2　Social and cognitive approaches to SLA: current research directions

We suggest that alternative research programs that approach language from different perspectives deserve nuanced scrutiny and elucidation although none of them alone in their extant articulations are sufficient enough to adequately address all issues and aspects of language and its development. One may thus argue that **alternative** approaches to language and its development are not necessarily **alternatives** *to* the current theories and approaches in the sense that they would involve their rejection and replacement or be mutually exclusive of other research traditions. Rather, the alternatives will be discussed as potentially complementary and open to synthesis with other research traditions, provided that their ontological commitments are commensurable, that is, that the axiomatic principles, concepts and terms are translatable across theories, research paradigms and worldviews. Alternative approaches include, *inter alia*, Vygotskian cultural-historical theory (e.g., Lantolf & Thorne 2006; Lantolf & Poehner 2014), ecological linguistics (e.g., Kramsch & Steffensen 2008, van Lier 2004), distributed cognition (e.g., Cowley 2011), the Bakhtin circle dialogism (e.g., Bakhtin 1981, 1986; Brandist 2002; Linell 2009; Lähteenmäki 1994, Lähteenmäki 2010; Dufva, Suni & Aro 2014; Rommetveit 1992) and dynamic systems theory (e.g., Larsen-Freeman 1997, Larsen-Freeman & Cameron 2008; Karimi-Aghdam 2016a, 2016b).

It may be argued that the discussion of the philosophical assumptions and presuppositions that underlie the theories, models and hypotheses of SLA research has been insufficient. While initially subscribing to a cognitive conceptualization of L2 learning, the current SLA literature is divided between two distinctive paradigms, viz. cognitive SLA and social SLA (see e.g., Block 2003; Firth & Wagner 1997; Larsen-Freeman 2007; Ortega 2014). Here, we put forward the idea of **families of theories** to qualify the

application of these generic terms, *social SLA* and *cognitive SLA*, by which we designate two progenies of theories, models, hypotheses and research programmes that share family relationships and resemblances without being identical in their fundamental axioms and in auxiliary postulations. Duly, cognitive and social families of theories of SLA are here regarded as separate schools of thought because they have different categorical interpretations of *truth* of L2 and are essentially premised on different worldviews.

On the other hand, we argue that both cognitive and social SLA share some commonalities that represent the dominant tenor of the SLA discipline. Currently, both families of theories set out to determine exhaustively all the isolated components and structural elements of L2 and how they may be connected together to form the whole of L2. In other words, both camps seem to assume that L2 is a structured totality which can be described and explained by breaking it down to its discrete atomic elements and reducing it consistently to homogeneous structures abstracted from the experiential reality of an L2 learner, and that this can be done without changing the quality of an L2 as a human- and culture-centered phenomenon (see Ratner 2016) which is meaningful within unique sociocultural and situational contexts. A related assumption is that if we as third-person researchers aggregate and put together all these isolated structures that are obtained on the basis of the experimental verifications and observational corroborations, we can make conclusions about the nature and mechanisms that underpin L2 learning as a holistic ensemble.

Within cognitive SLA, L2 acquisition is typically considered to be a genetically deterministic attainment: L2 acquisition is viewed as a teleological unfolding and orderly differentiation of an inborn language faculty which is triggered by external language input. We must note that genetic determinism does not mean that all L2 learners achieve the same level of L2 proficiency irrespective of a rich matrix of factors that effect L2. It is stated that because the cognitive SLA family of theories is premised on the ontological axiom that the human brain is hardwired and programmed with a language acquisition apparatus, L2 attainment cannot be fundamentally changed by environmental perturbations but will normatively, directionally, and universally progress toward acquiring an idealized end-goal (see e.g., Long 1990; Gregg 2003).

However, cognitive approaches to SLA do not exclude contextual effects totally. Rather, context is primarily considered as a simple environment that provides the raw ingredients to be processed by the internally 'located' mind, resulting in individual mental traits and patterns. From the standpoint of cognitive SLA, contextual influences and variations can either inhibit or facilitate the pace and quantitative progression of L2 acquisition, but cannot fundamentally alter the outcome of the sequential and unidirectional orders of stages that lead toward reaching an idealized level of language proficiency. Moreover, as the cognitive schools see the learner's mind and the physical

context as two separate entities that interact with one another, it is assumed that the 'internal' cognitive activity of L2 acquisition can be investigated without considering the role of contextual artifacts and conditions.

The socially-oriented approaches to SLA tend to view L2 learning as a probabilistic contingency and see L2 development as an individualistic aggregate of fragmentary, discrete and additive tokens of purpose-shorn and quantitative changes engendered solely by experiential and contextual forces. Social SLA is commonly predicated on the assumption that language use 'here and now', as elementary bedrock component, gives rise to L2 development that is therefore seen as an assemblage of L2 uses. Thus development is seen as a quantitative addition of grammatical structures that are solely derived from language use in social interaction. The contextual and discrete variables of L2 development play a primary role in that they are the only fundamental and atomic elements that can be studied.

Since the inception of the SLA tradition, cognitive SLA with its cognitivist construal of language learning as 'acquisition' has been dominant, but today the hold of cognitivism has diminished in favor of social approaches such as conversation analysis (CA) for SLA studies (Schegloff, Koshik, Jacoby, & Olsher 2002; Markee & Kasper 2004) or sociocultural directions that particularly speak of 'development', inspired by Vygotskian cultural-historical theory of human development (Frawley & Lantolf 1985; Lantolf & Poehner 2014).

To continue, 'language' as a pivotal concept for applied linguistics and second language learning and teaching has been subject to a variety of interpretations. Two perspectives on the nature of language that have significantly influenced the discipline of applied linguistics are (a) the Chomskyan doctrine of an idealized, homogeneous, internalist and innate linguistic competence divorced from contextual contingencies and situational particularities (Chomsky 1966, Chomsky 1995) vis-à-vis (b) the Hymesian doctrine of language as a socialized, heterogeneous, externalist communicative competence that is experientially learned and wedded to social and contextual idiosyncrasies (Hymes 1971).

A similar dichotomy is also shown between the formalist and functionalist approaches to language (cf. also Harris' 1981 distinction between 'autonomous linguistics' vs. 'integrational linguistics'). Leech (1984: 46) captures their distinction as follows: 'Formalists (e.g. Chomsky) tend to regard language primarily as a mental phenomenon. Functionalists (e.g. Halliday) tend to regard it primarily as a social phenomenon…. Formalists study language as an autonomous system… functionalists study it in relation to its social functions'. Dik (1978: 4–5) enumerates the main points on which the formal paradigm of language is at variance with the functional paradigm in terms of the definition of language, the primary function of language, psychological correlates of

language, the study of language system and its use, the relationship between language and its putative setting, mechanism of language acquisition, language universals and the relation between syntax, semantics, and pragmatics.

In recent years, many new approaches to language have been distanced from casting light on the *essence* of the language faculty as an internal, monolithic and monological possession of a solitary individual. Contrariwise, language is now often seen as a dialogical process which is extrasomatically distributed, socioculturally co-constructed, ecologically adaptive, intentionally purposive and dynamically complex (see e.g., Love 2004; Karimi-Aghdam 2016a). However, it can be argued that (applied) linguistics and L2 studies have not yet fully explored and critically evaluated some of their own ontological and epistemological presuppositions and putative undercurrents. We develop our case for the importance of rethinking and reconceptualizing the notions of language, language learning and development by discussing some of the similarities we see in sociocultural theory (SCT), Bakhtin Circle dialogism (BCD), dynamic systems theory (DST) and distributed language and cognition (DLC). Here, we examine their intellectual affiliation with one another by discussing some metatheoretical issues facing (applied) linguistics and studies on L2 learning and development.

First, we posit an ontological commitment to a monistic and material interpretation of language and its development as opposed to a dualistic dichotomy that is postulated between the **material** social and the **ideal** cognitive. Second, we subscribe to a kindred ontological pronouncement about the nature of the ultimate reality of language as a fluent and mutable process as opposed to views that assume the fundamental nature of language reality to be a static permanence. Third, we discuss possibilities for a dialectical and dialogical synthesis of the subjective experience of the intersubjective speeching process and the objective extrasomatic world distributed across a spatiotemporal and concrete continuum. We present this as an alternative to a reductionist and monological analysis of language as an internal and abstract essence divorced from contacts with the outer world and regulated deterministically by its genetic design. Fourth, we point out that the historical-temporal evolution of language and its material aspects shape human speeching activities and are relationally shaped by them, in particular by situational and sociocultural contexts. This view is discussed as an alternative to the assumption that language is an atemporal, abstract and synchronic structural aggregate that is to be studied synchronically. Fifth, we question the position that language is a finite repertoire of normative uses and a baggage of static forms that is directly retrievable from an 'internal' mind of an individual native speaker for encoding ready-made meanings. Instead, we argue for a viewpoint which regards language as a purposive, dynamic and complex system with infinite and qualitative potentialities, or, as a unitary whole for co-constructing a meaning-laden activity in intersubjective participation embedded

in immediate and sociocultural boundaries. Sixth, we discuss the vantage points that assume the origin of language to be a primordially human 'skull-skin bound' individual mind in contrast to holding that the origin of language is primarily a 'skin-space bound' social mind.

3   Towards dissolving dualisms?

One of the most intractable problems confronting a scientific and systematic account of L2 learning is that the theoretical frameworks that are used to describe, explain, and optimize the learners' development fail to map the mosaic and regulative changes of the L2 learner's multifaceted and continually variable language cognizance and in this, fail to identify and scrutinize the processes, systemic and systematic regularities, the general principles, mechanisms and conditions underlying those changes. One major problem is an unfortunate lack of discussion on the ontological controversies about the nature of L2 development. Thus SLA theories have been more interested in studying the course of L2 acquisition/development than in paying due attention to *what* is acquired/ developed (i.e., language). This has obviously had a huge impact on the epistemological and methodological heuristics that are invoked to study it.

Further, it seems that SLA theories, hypotheses, and models have scarcely considered the difference between descriptive and explanatory accounts of L2. A descriptive narrative of L2 mainly seeks to understand and interpret the main characteristics and properties of second language as a purposive, human activity materialized by an agentive L2 learner. That is, a descriptive approach, drawing on the tradition of human sciences, seeks answers to the *what*-question invoking meanings of the L2 as a human-centered and individual phenomenon embodied by and embedded in a socio-historical *umwelt*. In comparison, an explanatory account sets out to explain causal relations and to predict the likely future of L2 by reference to its past. In that, the explanatory approach tries to answer the *why*-question by dealing with objective and empirical facts of L2 as a natural and generalizable phenomenon that is detached from subjective ideations of a sociocultural milieu. Here, it draws upon the tradition of natural sciences. From our perspective, descriptive and explanatory SLA are not necessarily antithetical but also complementary perspectives. The directions we introduce suggest that L2 emerges at the mediated nexus between individuality and sociality. Thus learning is regarded as a psychological and sociohistorical human phenomenon that both shapes and is shaped by sociohistorical reality.

Thus, it is not tenable to explicate L2 learning by drawing exclusively upon the rigorous and analytical methodology of natural sciences that aims to establish causal

laws and analyze statistical regularities in L2 learning, irrespective of the individuality of the learners and their spatio-temporal contexts. However, it can be a similarly misjudged enterprise to rely on such human science methodology only in which interpretations concern a single L2 learner's experience and its central characteristic features without making a connection to possible causal and nomothetic regularities of experiential processes. The main differences and antinomies between social and cognitive families of theories which can be, by and large, imputed to distinguishable worldviews, ontological presuppositions and epistemological pronouncements that SLA theory construction endeavours have been implicitly or explicitly catalogued in the extant literature (e.g., Canale & Swain 1980; Breen 1985; Gregg 1989; Larsen-Freeman & Long 1991; Atkinson 2002; Doughty & Long 2003; Watson-Gegeo 2004; Zuengler & Miller 2006; Larsen-Freeman 2007; Long 2007; Ellis 2010; Ortega 2014; Ellis 2015; The Douglas Fir Group 2016).

4   Anti-individualistic approaches to language and consciousness: dialogism, sociocultural theory and distributed language and cognition

The linguistic aspects of the works by the Bakhtin Circle have been an important source of inspiration for the development of dialogically oriented language studies as a critical alternative to various formal approaches. Similarly, Vygotsky's sociocultural theory, which emphasizes the fundamental role of social interaction and cultural and historical contexts in the cognitive and emotional development of an individual has exerted significant influence on contemporary theorizing about consciousness, education, second language acquisition and so forth. We see dialogism and sociocultural theory, which emerged in Russia and the Soviet Union in the 1920s and 1930s, as general theoretical frameworks or metatheories for the study of language and consciousness, which foreground the importance of semiotically mediated social interaction taking place in a particular situational, social, cultural and historical context.

In this section, we will address the 'Russian tradition', that is, dialogical and sociocultural thinking together with the contemporary research on distributed language and cognition with an aim of showing their significance for applied linguistics, and, in more particular, to the (re)conceptualization of 'language learning'. In contesting the essentialist, monological traditions of (applied) linguistics and the internalist, individualist and brain-centered views on cognition, these traditions offer a perspective for analyzing language learning as a process that reaches beyond a single agent and that is distributed across time and space. At the same time, these views encourage

developing such practices of language education that take into account both agency and awareness – here seen in terms of participation in interactivity. Dialogical, sociocultural, and distributed arguments suggest a need to rethink the social vs. cognitive antinomy (see e.g., Cole & Engeström 1993).

First, the dialogical and distributed perspectives share a non-individualist view of cognition. Voloshinov saw both language and consciousness as essentially semiotic phenomena (ideological, in his terms) and his conception which assumes that signs are *material* entities may help to overcome the dichotomies between internal vs. external and individual vs. social in language and consciousness.

> Every phenomenon functioning as an ideological sign has some kind of material embodiment, whether in sound, physical mass, color, movements of the body, or the like. […] A sign is a phenomenon of the external world. Both the sign itself and all the effects it produces […] occur in outer experience. (Voloshinov 1973: 11)

As signs have material embodiment, they are part of the same material reality as the objects and events which they refer to. Any material object existing in the 'natural' world can become a sign on the condition that it is used as a sign by two or more socially organized people. The concept of the material sign implies an anti-essentialist conception of meaning, according to which meanings do not exist as things outside the social interaction based on the use of material signs. As meaning only emerges when a sign is actually used in a particular social context to express a specific meaning position, it does not have autonomous existence outside the actual use of signs. Voloshinov's anti-essentialism is also reflected in his understanding of the relation of language and thought. According to Voloshinov (1973: 26), thought, or thinking, must be seen as a semiotic or symbolic process from which it follows that "the reality of the inner psyche is the same reality as that of the sign". From the semiotic nature of language and thought it follows that there is no qualitative difference between an inner experience and its outward expression, for they are both manifested in signs which are social in their nature.

Voloshinov's (1973: 39) notion of reciprocity between psyche and ideology and Bakhtin's notion of consciousness emerging in dialogue between selves and others are in consonance with more contemporary arguments that argue for the distributed nature of cognition (Hutchins 1995). Hence, one needs to assume that the working space of cognition is beyond an individual. Individual cognitive activity emerges in interactivity with other people, in "meshworks in which persons affect and are affected by each other" (Thibault 2011: 8) and in activity involving social and cultural tools, that is, when people are "thinking with tools" (Kirsh 2010). Further, as pointed out by Vygotsky (1987a, 1987b), tools were, and still are, important for the development of human intellect (Vygotsky 1987b). This seems to suggest a need to pay more attention to how the socially and

culturally constructed environment both provides affordances and sets constraints for newcomers and novices in the language community in question, that is, how learning and development of L2 are supported and scaffolded by the environment.

Second, there are similarities in the notion of language between dialogical and contemporary (distributed, integrationalist and sociolinguistic) views. The Bakhtinian notion of heteroglossic language (Bakhtin 1981) resonates in contemporary arguments that criticize the monological and monolithic notions of language as a code (Love 2004) and that reconfigure language as 'languaging', or first-order interactivity (Steffensen 2013; Cowley 2011) where situated resources are used. For Bakhtin (1981: 262–263), all languages are internally stratified into varieties including "social dialects, characteristic group behavior, professional jargons, generic languages, languages of generations and age groups" and so forth. Instead of treating heteroglossia as a purely linguistic phenomenon, Bakhtin sees 'language' as a conglomerate of competing varieties connected with particular ideological positions and world-views. Thus, language is never a neutral medium or a 'mirror of nature' but represents different interpretations and evaluations of extra-discursive reality.

The dialogical and sociocultural perspectives as well as the conception of distributed language and cognition hence necessitate a reconsideration of what language learning is. Adopting a dialogically oriented view, language learning can be seen to emerge within interactivity (Steffensen & Pedersen 2014). Hence, learning is not a process operated by an individual per se, and not a process of 'acquisition' either, as the customary interpretation in the Cartesian and mentalist tradition of cognitive SLA was (for criticism, see Dufva 1998). The dialogical and distributed conceptualizations suggest that the scope of research is not to be defined within an individual, neither in their individual cognition nor in their brain activity, but in the interactivity they are engaged in with other people and social artefacts. Importantly, the view suggests that it is just as inappropriate to move the focus of study to social interaction or to socially emergent discourses only (Dufva 2010). Instead, a new research focus is implied in which language learners and their environments are regarded holistically, in terms of, e.g., organism-environment systems (Järvilehto 1998). To take interactivity as a foundation against which a new conceptualization of learning is speculated means taking into account the constraints and affordances of the environment as an integral part of the learning process itself. These include, e.g., the role of collaboration and scaffolding in learning, but also, the impact of the learning materials and means of instruction in language classrooms. Hence, it is important to investigate the environment as *part* of the learning process itself, not as a context exerting an 'external' influence on the learner or the learning process.

These points of departure make it necessary to readjust several notions of classical 'psycholinguistics' (see also Dufva 1998). Drawing on the dialogical notion of language as heteroglossia and more recent 'language critique', Dufva et al. (2014) discuss language learning as a process in which linguistic resources are being recycled and in which these resources do not become individually 'acquired', but, rather, 'appropriated'. These formulations (see also Dufva, Suni, Aro, & Salo 2011) are used to illustrate the notion that, similarly to the notion of 'language', also the notion of 'internal language' is a myth. Descriptions of language as a system – whether 'external' or 'internal' – are artefacts, products of a conscious reflection and analysis of a linguist who aims at capturing particular aspects of language (Voloshinov 1973; Dufva et al. 2014). However, it is important to problematize how a conscious analysis of the structure that emerges collectively ('language') may differ from the analysis of the processes by which it is appropriated and used by an individual ('speeching').

If language is seen as a concrete historical phenomenon, a form of situated interaction utilising material signs between socially organised people, it follows that 'language', in the context of learning, could be redefined as linguistic (or semiotic) resources, as opposed to a fixed system consisting of grammatical rules. As Dufva et al. argue, theories of second and foreign language learning and development should not ignore the situated nature of language nor the multimodality of its use. As the dialogical points of departure suggest, language use varies across time and space and results in a number of different varieties, registers, and genres. Hence, one can question the view of learning as acquisition of a neatly organised acontextual formal system with the internal storage of decontextual representations as its outcome. Instead, learning could be reimagined as appropriating different ways of dealing with the diverse linguistic resources the learners meet in their everyday interactivity. Similarly, the dialogical, sociocultural and distributed arguments suggest that theories of language learning need to account for the physicality and materiality of the resources and the processes involved.

Moving away from the metaphor of acquisition and the 'internal language myth', one can reimagine learning by re-examining the processes by which human agents notice, understand and reflect upon particular situated and multimodal affordances, and how they grow to reuse these affordances for their own purposes in new contexts they face (for the notion of language learning as skilled action, see Cowley 2014). Hence, by questioning the 'internal' vs. 'external' dualism and the need to assume a 'language storage', the arguments critique the notions of language learning as 'internalization' and language use as operationalisation of the memorised knowledge. Instead, it is suggested that language learning can be reconceptualised as an expansion of one's

action potential in different social, cultural and physical environments and by using different linguistic resources (Järvilehto 1998).

The above arguments help to understand language learning as a distributed process: as social practices that are individually attended to. In this, the arguments also help to rethink and tackle the assumed chasm between social and cognitive SLA studies. However, the ideas discussed above do not have theoretical relevance only: we wish to point out that the perspectives we have discussed may also be helpful in rethinking issues of language education and developing pedagogical practices at schools and institutions. That is, pedagogical practices should be encouraged that both foster the learners' individual agency and their capacity to notice and take heed of the resources of the environment and to use this for their socially emerging interactivity. Here, we find similarities with such approaches as, e.g., van Lier's (2007) ecologically-oriented views on action-based teaching.

5   Dialectical dynamic systems theory: a conceptual framework for L2 developmental studies

Dynamic systems theory (DST) was originally introduced to applied linguistics and SLA by Larsen-Freeman (1997) under the banner of chaos/complexity theory. Although DST and chaos/complexity theories are not identical in all of their respective epistemological assumptions, they can be regarded to belong to the same family of theories. DST views language as a dynamic, nonlinear, complex and self-organizing system (see, e.g., Larsen-Freeman & Cameron 2008, de Bot, Lowie, & Verspoor 2007; Verspoor, Lowie, & de Bot 2011). Recently, a dialectical construal of DST has been put forward which shares some epistemological affinities with the dominant interpretation of DST in L2 studies, termed *contextual DST*, but also diverges on a set of branching lines. First, while contextual DST appears to be anchored to the science of "discontinuous static permanence" (i.e., fixed and inactive *Reality*), dialectical DST "embraces the science of ceaseless fluent flux" (i.e., active and changing *Reality*) as its axiological principle (Karimi-Aghdam 2016a: 58–59). Second, dialectical DST maintains that language use in context is a necessary but an insufficient condition for the emergence of an L2 system in and over time (Karimi-Aghdam 2016a, 2016b). In comparison, contextual DST equates L2 development with a purpose-shorn collection of L2 use over time meaning that L2 use, *ipso facto*, is a necessary and sufficient condition for the generation of an L2 developmental ensemble. Here, dialectical DST comes into closer alignment with Thompson's (2007: 60) assertion that "an emergent process belongs to an ensemble or network of elements, arises

spontaneously or self-organizes from the locally defined and globally constrained or controlled interactions of those elements, and does not belong to any single element".

Given that L2 development is a human- and culture-centered phenomenon and that human cognition and goal-directed intentionality are essential parts of every aspect of higher-order functions, dialectical DST espouses the role of the cognitive and purposive agency of an L2 learner on a temporal trajectory of the L2 system. In this, dialectical DST differentiates between L2 use and L2 development as "iterative heterochronic levels (i.e., interconnected levels over different timescales) of a syncretized organizational whole" (Karimi-Aghdam 2016a: 10). The dialectical approach holds that the development of an L2 system is more than additive summation of real-time and quantitative changes. Hence, the main goal of dialectical DST is to study *creative becoming* rather than *explicative being* and look at the interconnected on-going process of change rather than the stasis and the discrete and dispersive products of L2.

Dialectical DST argues that L2 development is a qualitative, subjective and ongoing process and an integrated whole as well. While every L2 use in real-time scale changes the development, it at the same time necessarily becomes integrated into this dynamic totality. Therefore, an L2 system as a whole both constrains and facilitates any change at real-time scale giving relative malleability and directionality to the temporal trajectory of the L2 developmental system. Further, this leads to the view that each learner's L2 developmental system is both different from other L2 learners' systems and shares similarities with them. Put another way, the L2 developmental system of every learner, mainly due to his/her distinctive lived experience including speeching activities, differs from other learners' L2 systems (i.e., intra-individual dynamicity) while it shares some similarities with the L2 developmental systems of other learners in terms of interrelated patterns of change and directionality of L2 developmental pathways (i.e., inter-individual congruity).

For this reason, dialectical DST emphasizes that in L2 studies one should be aware of the confusion which may arise due to attributing and extrapolating changes and similarities *between* L2 learners to differences and commonalities *within* an L2 learner over time. It is suggested that an L2 learner and the sociocultural and immediate contexts and ambients in and through which L2 development emerges are relationally constitutive and should be studied as an integrated and holistic system. While dialectical DST conceives of an L2 learner-speeching-in-context to be analytically separable to be scrutinized, it holds that an L2 learner is ontologically and essentially indissociable from the environment of which s/he is a constitutive part. In this way, the approach avoids positing an independent existence for an L2 learner and cultural and situational contexts while being a non-reductionist metatheory for L2 developmental studies. Hence, both an L2 learner and the sociocultural context are seen to be embedded and integrated in

a matrix of changing variables influencing and being influenced by a change in other components.

The interactive and dynamic relationalism that dialectical DST argues to obtain between an L2 learner and the sociocultural context conduces to plasticity (potentiality for systematic change), multidirectionality (variegated developmental trajectory) and indeed individuality of every L2 developmental system. On the other hand, dialectical DST argues that L2 development should be investigated by drawing upon a plethora of research methodologies from different perspectives. Seeing an L2 learner-cum-putative-context as an integrated, interpenetrated, and constantly mutating ensemble of nested systems in such a way that a change in one dimension leads to attentive changes in the other dimensions may appear *prima facie* incompatible with the pluralistic and scientific research methodology that dialectical DST espouses. Dialectical DST eschews ontologically reducing social and cognitive dimensions of L2 development to one another while submitting that an L2 system should be probed from different methodological and epistemological vantage points. The categorical acceptance of the irreducibility of an L2 system to either cognitive or contextual influences entails relational unity and a bidirectional causality nexus between cognitive and social dimensions. An L2 developmental system is therefore seen as much context-dependent for coming into existence and externalization as it is contingent upon individualistic cognitive processes and traits to be appropriated and orchestrated by an L2 learner.

Further, dialectical DST considers both an L2 learner and the relationally meaningful context as a continuously changing and dynamic process. An agentive L2 learner actively co-constructs context and realizes its affordances. At the same time an L2 learner is constituted and mediated by the contextual affordances (both material and immaterial). An L2 learner changes and is changed synchronically and diachronically across nested timescales primarily in and through individual L2 purposive speeching activities and so in and through co-evolutionary and situated collaborations in dialogue with other human beings. As Karimi-Aghdam (2016a: 92) argues, a speeching activity "is transposed into life through dual participation of an embodied mind of an L2 learner distributed over and enmeshed with discursive and encultured matrices of material and conceptual artifacts and other individual(s) in the extrasomatic world dialogically".

It should be emphasized that dialectical DST views the past and future timescales of an L2 learning process to be interconnected by social semiotic sign systems and artifacts of which language is a quintessential example. Dialectical DST also holds that an agentive L2 learner embodies, interweaves, and *re-presents* the past and future of his/her subjective experiences including L2 learning experiences in order to materialize his/her intentions mainly qua speeching activities into a meaningful world and in turn is transformed by those same activities. Thus, from a dialectical DST perspective, there

exists a bidirectional causal nexus between the past of an L2 learner and his/her present L2 learning experience. There exists also a causal relationality between an L2 learner's present learning experiences and the envisioned and anticipatory future experiences and proleptic goals, making this causal connectivity range back and forth in terms of temporality intra-individually and inter-individually.

Moreover, dialectical DST holds that L2 development is a purposive, time-locked, complex, and emergent system. It stresses that the L2 system arises as the result of a dialectical synthesis of an L2 learner's actively-mediated internalization of socioculturally positioned and meaningful speeching activities and intentional and goal-oriented externalization of mental purposes into socially-constructed and meaning-anchored speeching activities. The approach also tries to embed both social and cognitive dimensions of L2 development: in other words, dialectical DST maintains that neither an L2 learner nor situational and socioculturally-fashioned ambients alone can originate and potentiate the processual trajectory of the L2 system. Mutually interpenetrating opposites of the L2 system, viz. socialized cognition (i.e., psychogenesis) and cognized social (i.e., sociogenesis), enacted by the volitional intentionality of an L2 learner, give rise to nonlinear, emergent, dynamic, purposive, goal-directed, and processual nature of L2 development over time. The interpenetration of socialized cognition and cognized social dimensions of the L2 system is actualized for the most part in and through speeching activities. A speeching activity by virtue of proleptic outcomes and as a means for the actualization of self-ideated significations "is intended or aimed to perceived or conceived artifacts and symbolic notations – conceptual or physical, denotative or connotative – of the objective world" (Karimi-Aghdam 2016b: 91). In other words, the social and cognitive dimensions are internally relational within the L2 developmental system: not independent from one another but mutually constitutive and dependent.

To continue, dialectical DST sees that every speeching activity means inherently and simultaneously a transformational emergence of the subjective intentions and purposes of an L2 learner and a transformational emergence of objective sociohistorical goals and meaningful artifacts. Within this conceptualization, every L2 speeching activity concatenates and is concatenated by two timescales: First, it connects the past and future of an individual and irreversible L2 learner's language development process; second, it interpenetrates the past and future of a culture within which the target language of an L2 is embedded, meaningful and situated. This in turn leads to the position that every speeching activity that emerges out of an internal contradiction (unity of the opposites) between a subjective L2 learner and objective context is meaningless unless the individual history of an L2 learner coupled with the sociocultural history within which an L2 learner acts and reacts are taken into consideration. While a speeching activity is meaningless *by itself* and *for itself*, it is meaningful by virtue of being articulated by a

purposive human being. Additionally, a speeching activity is a transforming and (re-) signifying process that encapsulates first-person intentionalities and ideations *about* umwelt which is saturated with a socioculturally-fashioned and time-dependent web of semiotic suggestivities in different modalities that include already existing speeching events and social conventions.

Every speeching activity both draws on the previous meaningful activities and actualities of the lived experience of an L2 learner and paves the way for the emergence of meaningful future activities and possibilities. It also contributes, consciously or unconsciously and with success or failure, to a change of locutionary and illocutionary forms and meanings in an individual L2 system and the sociohistorically shared L2 system. By the same token, every speeching activity not only belongs to specific learners and their interlocutor(s), but also complies with and overlaps with previously registered speeching activities in different modalities and timescales. It is argued that the L2 developmental system of an agentive L2 learner is both engendered by and through speeching activities, and the L2 developmental system entails producing L2 speeching activities. A speeching activity, in turn, brings order and goal-directedness to the L2 developmental system of a learner while simultaneously differentiating it from the L2 developmental systems of other learners.

From the vantage point of dialectical DST, L2 development cannot be reduced to, and is unexplainable in terms of, speeching activities or an agglomerate of speeching activities. Commonly, L2 development is described in terms of decontextualized monadic 'grammars' and structural homologues that are stripped off from their situational and cultural-historical contexts and the vital intentionality of an L2 learner, thus becoming abstract and atomic objects of 'acquisition' and losing the purposivity and human- and culture-centered nature of the L2 developmental system. In contrast, dialectical DST sees every L2 system as a totality in a perpetual state of **becoming** that in its coming into existence and functioning is dependent on an agentive and subjective L2 learner. An L2 learner perceives and conceives speeching events by means, and because, of attentive situational and socio-historical milieus within which they are co-constructed and actualized. Furthermore, an L2 learner constantly synthesizes nascent changes and speeching events into his/her ever-evolving L2 developmental system. The constitutive relationality between an L2 learner and his/her objective reality mutates dynamically. Therefore, when an L2 system is abstracted from its intersubjective 'dialogic habitat' and its intrasubjective and discursive idiosyncrasies, its qualitative properties as a holistic and emergent system change accordingly whereas its quantitative structures may not necessarily undergo metamorphosis.

Dialectical DST does not argue for the ontological separability of the form and meaning of L2 speeching activities. On the contrary, it should be emphasized that

every L2 speeching activity is simultaneously a qualitatively heterogeneous process (i.e., a subjectively experienced, mutating, and temporal flux) and a quantitatively homogeneous product (i.e., an objectively divisible, uniform, and atemporal thing). Therefore, the meaning and purposivity of every L2 speeching activity when unhinged from its subjective and objective ambient and **re-presented** and re-contextualized in another ambient (or even the same ambient with all the same constituents including L2 user and his/her interlocutor(s) and with the same structural and quantitative building blocks), is not by its very nature qualitatively (in terms of meaning and purpose) exactly the same as it was before. This characteristic feature of L2 development as a human- and culture-centered phenomenon renders every L2 developmental system of a learner stable to be identified and recognizable as a whole while making it dynamic and constantly changing to be categorized as an individualistic-temporally evolving and singular-developmental system.

6   Conclusion

The paper aimed at discussing some metatheoretical considerations concerning applied linguistics, and second/foreign language learning in more particular to provide an impetus for an empirical agenda for future studies. We aimed at bringing in arguments from some alternative research traditions, namely, Bakhtin Circle dialogism, sociocultural theory, distributed language and cognition and dynamic systems theory and pointing out some commonalities for offering a conceptual scheme for understanding, describing and explaining L2 development as a human- and culture-centered phenomenon. Both cognitive and social frameworks were seen as ontologically reductionist, with cognitive SLA reducing L2 (explaining in terms of) to mental elements and atomic constituents and social SLA reducing L2 to (explaining in terms of) discrete and disparate interactions embedded within situational contexts. From our alternative vantage point, L2 both emerges in and through dialogical processes of speeching activities which are extrasomatically distributed, sociohistorically constructed, ecologically adaptive, and dynamically complex systems. This monistic ontology suggests that an L2 developmental system is neither purely deterministic nor purely probabilistic. Rather, it is an emergent phenomenon which is neither describable nor explainable in terms of properties and features of atomic components of an L2 learner or contextual configurations *per se*. We have further stated that an L2 developmental system is an ongoing process which is generated and remediated by the bidirectional relationality that obtains between an L2 learner's embodied and embedded lived experiences in constant dynamic interaction with social semiotic systems including speeching events in and over time. The events

concatenate the history (backward temporality) and future (forward temporality), actualizing it in the present temporality.

Bringing the arguments from different frameworks together does not indicate that we consider them identical or in all respects commensurable. Still, having a family resemblance in their understanding of the social vs. cognitive issue, they may turn out to be highly useful in formulating a feasible theoretical framework for second and foreign language learning and development. Subscribing to the view that every theoretical approach is predicated on a worldview which describes and prescribes what is permissible and commensurable with underlying axioms and assumptions at a theoretical, methodological and observational level of a scientific inquiry, we argued for an integrative metatheoretical framework which transcends the unproductive schism that has been current in L2 studies for a long time. The antinomies which underlie different social and cognitive families of SLA were unearthed in order to cast light on the ontological and epistemological premises on which they operate. Further, we argue that new metatheoretical arguments, such as suggested above, also help towards rethinking several, more particular, issues and concerns of SLA research that have to do with learners' capacities, abilities and processes and their intertwinement with the variety of contextual features, thus also addressing pragmatic issues faced by language learners and teachers alike.

Acknowledgments

References

Atkinson, D. 2002. Toward a sociocognitive approach to second language acquisition. *The Modern Language Journal, 86* (4), 525–545. DOI: 10.1111/1540-4781.00159.

Atkinson, D. (ed.) 2011. *Alternative approaches to second language acquisition.* Oxford: Routledge.

Bakhtin, M. M. 1981. *The dialogic imagination. Four essays by M. M. Bakhtin.* Trans. C. Emerson & M. Holquist. Austin: University of Texas Press.

Bakhtin, M. M. 1986. *Speech genres and other late essays.* Austin: University of Texas Press.

Block, D. 2003. *The social turn in second language acquisition.* Edinburgh: University of Edinburgh Press.

Brandist, C. 2002. *The Bakhtin Circle: philosophy, culture and politics.* London: Pluto Press.

Breen, M. 1985. The social context for language learning: a neglected situation? *Studies in Second Language Acquisition, 7* (2), 135–158. DOI: 10.1017/S0272263100005337.

Canale, M. & M. Swain 1980. Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics, 1* (1), 1–47. DOI: 10.1093/applin/I.1.1.

Chomsky, N. 1966. *Cartesian linguistics: a chapter in the history of rationalist thought*. New York: Cambridge University Press.

Chomsky, N. 1995. Language and nature. *Mind, 104* (413), 1–61. DOI: 10.1093/mind/104.413.1.

Cole, M. & Y. Engeström 1993. A cultural-historical view to distributed cognition. In G. Salomon (ed.) *Distributed cognitions: psychological and educational considerations*. Cambridge: Cambridge University Press, 1–46.

Cowley, S. J. (ed.) 2011. *Distributed language.* Amsterdam: John Benjamins.

Cowley, S. J. 2014. Linguistic embodiment and verbal constraints: human cognition and the scales of time. *Frontiers in Psychology, 5*, 1–11. DOI: 10.3389/fpsyg.2014.01085.

de Bot, K., W. Lowie & M. Verspoor 2007. A dynamic systems theory approach to second language acquisition. *Bilingualism, 10* (1), 7–21.

Dik, S. 1978. *Functional grammar*. Amsterdam: North-Holland.

Doughty, C. J., & M. H. Long (eds). 2003. *The handbook of second language acquisition*. Malden, MA: Blackwell.

The Douglas Fir Group. 2016. A transdisciplinary framework for SLA in a multilingual world. *The Modern Language Journal, 100* (S1), 19–47. DOI: 10.1111/modl.12301.

Dufva, H. 1998. From psycholinguistics to a dialogical psychology of language: aspects of the inner discourse(s). In H. Dufva & M. Lähteenmäki (eds) *Dialogues on Bakhtin: interdisciplinary readings.* Jyväskylä: Centre for Applied Language Studies, 87–104.

Dufva, H. 2010. Reclaiming the mind: dialogism, language learning and the importance of considering cognition. In K. Junefelt & P. Nordin (eds) *Proceedings of the second international interdisciplinary conference on perspectives and limits of dialogism in Mikhail Bakhtin*. Stockholm: Stockholm university. 41–48.

Dufva, H., M. Suni, M. Aro & O.-P. Salo 2011. Languages as objects of learning: language learning as a case of multilingualism. *Apples – Journal of Applied Language Studies, 5* (1), 109–124. http://apples.jyu.fi/article/abstract/179.

Dufva, H., M. Suni & M. Aro 2014. Language learning as appropriation: how linguistic resources are recycled and regenerated. In P. Lintunen, M. S. Peltola & M.-L. Varila (eds) *AFinLA-e: Soveltavan kielitieteen tutkimuksia 6*. Jyväskylä: Suomen soveltavan kielitieteen yhdistys AFinLA, 20–31. http://ojs.tsv.fi/index.php/afinla/article/view/46278.

Ellis, N.C. 2015. Cognitive and social aspects of learning from usage. In T. Cadierno & S. W. Eskildsen (eds) *Usage-based perspectives on second language learning*. Berlin: de Gruyter Mouton, 49–73.

Ellis, R. 2010. Theoretical pluralism in SLA: is there a way forward? In P. Seedhouse, S. Walsh, & C. Jenks (eds) *Conceptualising learning in applied linguistics*. Basingstoke: Palgrave Macmillan, 23–51.

Firth, A. & J. Wagner 1997. On discourse, communication, and (some) fundamental concepts in SLA research. *The Modern Language Journal, 81* (3), 285–300. DOI: 10.1111/j.1540-4781.1997.tb05480.x.

Frawley, W. & Lantolf, J. P. 1985. Second language discourse: a Vygotskyan perspective. *Applied Linguistics, 6* (1), 19–44. DOI: 10.1093/applin/6.1.19.

Gregg, K. 1989. Second language acquisition theory: the case for a generative perspective. In S. M. Gass & J. Schachter (eds) *Linguistic perspectives on second language acquisition*. Cambridge: Cambridge University Press, 15–40.

Gregg, K. 2003. SLA theory: construction and assessment. In C. J. Doughty & M. H. Long (eds), *The handbook of second language acquisition*. Maiden: Blackwell, 831–865.

Harris, R. 1981. *The language myth*. London: Duckworth.

Hulstijn, J. H., R. F. Young, L. Ortega, M. Bigelow, R. DeKeyser, N. C. Ellis, J. P. Lantolf, A. Mackey & S. Talmy 2014. Bridging the gap: cognitive and social approaches to research in second

language learning and teaching. *Studies in Second Language Acquisition, 36* (3), 1–61. DOI: http://dx.doi.org/10.1017/S0272263114000035.

Hutchins, E. 1995. *Cognition in the wild*. Cambridge: MIT Press.

Hymes, D. 1971. Competence and performance in linguistic theory. In R. Huxley & E. Ingram (eds) *Language acquisition: models and methods*. London: Academic Press.

Järvilehto, T. 1998. The theory of the organism-environment system: I. Description of the theory. *Integrative Physiological and Behavioural Science, 33* (4), 321–334. DOI: 10.1007/BF02688700.

Karimi-Aghdam, S. 2016a. A dialectical reading of dynamic systems theory: transcending socialized cognition and cognized social dualism in L2 studies. *Language and Sociocultural Theory, 3* (1), 55–82. DOI: 10.1558/lst.v3i1.27547.

Karimi-Aghdam, S. 2016b. Moving toward a supertheory for all seasons: dialectical dynamic systems theory and sociocultural theory – a reply to McCafferty (2016). *Language and Sociocultural Theory, 3* (1), 89–96. DOI: 10.1558/lst.v3i1.30478.

Kirsh, D. 2010. Thinking with external representations. *AI and Society, 25* (4), 441–454. DOI: 10.1007/s00146-010-0272-8.

Kramsch, C. & S. V. Steffensen 2008. Ecological perspectives on second language acquisition and socialization. In P. A. Duff & N. H. Hornberger (eds) *Encyclopedia of language and education*. Volume 8: Language Socialization. Berlin: Springer, 17–28.

Lantolf, J. P. & M. E. Poehner 2014. *Sociocultural theory and the pedagogical imperative in L2 education: Vygotskian praxis and the research/practice divide*. New York: Routledge.

Lantolf, J. P. & S. Thorne 2006. *Sociocultural theory and the genesis of L2 development*. Oxford: Oxford University Press.

Larsen-Freeman, D. 1997. Chaos/complexity science and second language acquisition. *Applied Linguistics, 18* (2), 140–165. DOI: 10.1093/applin/18.2.141.

Larsen-Freeman, D. 2007. Reflecting on the cognitive-social debate in second language acquisition. *The Modern Language Journal, 91* (S1), 773–787. DOI: 10.1111/j.1540-4781.2007.00668.x.

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

Larsen-Freeman, D. & M. Long 1991. *An introduction to second language acquisition research*. London: Longman.

Leech, G. N. 1983. *Principles of pragmatics*. London: Longman.

Linell, P. 2009. *Rethinking language, mind and world dialogically: interactional and contextual theories of human sense-making*. Charlotte, NC: IAP.

Long, M. H. 1990. The least a second language acquisition theory needs to explain. *TESOL Quarterly, 24* (4), 649–666. DOI: 10.2307/3587113.

Long, M. 2007. *Problems in SLA*. Mahwah, NJ: Erlbaum.

Love, N. 2004. Cognition and the language myth. *Language Sciences, 26*, 525–544.

Lähteenmäki, M. 1994. Consciousness as a social and dialogical phenomenon. *Finlance, 14*, 1–21

Lähteenmäki, M. 2010. Heteroglossia and voice: conceptualising multilingualism from a Bakhtinian perspective. In M. Lähteenmäki & M. Vanhala-Aniszewski (eds) *Language ideologies in transition: multilingualism in Finland and Russia*. Frankfurt am Main: Peter Lang, 17–34.

Markee, N. & G. Kasper 2004. Classroom talks: an introduction. *The Modern Language Journal, 88*, 491–500. DOI: 10.1111/j.0026-7902.2004.t01-14-.x.

Ortega, L. 2011. SLA after the social turn: where cognitivism and its alternatives stand. In D. Atkinson (ed.) *Alternative approaches in second language acquisition*. New York: Routledge, 167–180.

Ortega, L. 2014. The cognitive-social gap: multiple understandings, hopeful commensurabilities. *Studies in Second Language Acquisition, 36*, 407–414.

Ratner, C. 2016. Culture-centric vs. person-centered cultural psychology and political philosophy. *Language and Sociocultural Theory, 3* (1), 11–25. DOI: 10.1558/lst.v3i1.30503.

Rommetveit, R. 1992. Outlines of a dialogically based social-cognitive approach to human cognition and communication. In A. H. Wold (ed.) *The dialogical alternative: towards a theory of language and mind.* Oslo: Scandinavian University Press, 19–44.

Schegloff, M. I., S. Koshik, A. Jacoby & D. Olsher 2002. Conversation and applied linguistics. *Annual Review of Applied Linguistics, 22*, 3–31. DOI: 10.1017/S0267190502000016.

Steffensen, S.V. 2013. Human interactivity: problem-solving, solution-probing and verbal patterns in the wild. In S. J. Cowley & F. Vallée-Tourangeau (eds) *Cognition beyond the brain: computation, interactivity and human artifice.* Berlin: Springer, 195–221.

Steffensen, S.V. & S. B. Pedersen 2014. Temporal dynamics of human interaction. *Cybernetics and Human Knowing, 21*, 80–97.

Thibault, P. 2011. First-order languaging dynamics and second-order language: a distributed view. *Ecological Psychology, 23*, 1–36. DOI: 10.1080/10407413.2011.591274.

Thompson, E. 2007. *Mind in life: biology, phenomenology, and the sciences of mind.* Cambridge: Harvard University Press.

van Lier, L. 2004. *The ecology and semiotics of language learning: a sociocultural perspective.* Boston: Kluwer Academic Publishers.

van Lier, L. 2007. Action-based teaching, autonomy and identity. *Innovation in Language Learning and Teaching, 1* (1), 46–65. DOI: 10.2167/illt42.0.

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

Voloshinov, V. N. 1973. *Marxism and the philosophy of language.* New York: Seminar Press.

Vygotsky, L. S. 1987a. Thinking and speech (N. Minick, Trans.). (Orig. 1934) In R. W. Rieber & A. S. Carton (eds) *The collected works of L.S. Vygotsky.* Volume 1: Problems of General Psychology. New York: Plenum Press, 39–285.

Vygotsky, L. S. 1987b. Lectures on psychology (N. Minick, Trans.). (Orig. 1934) In R. W. Rieber & A. S. Carton (eds) *The collected works of L.S. Vygotsky.* Volume 1: Problems of General Psychology. New York: Plenum Press, 289-358.

Watson-Gegeo, K. A. 2004. Mind, language, and epistemology: toward a language socialization paradigm for SLA. *The Modern Language Journal, 88* (3), 331–350. DOI: 10.1111/j.0026-7902.2004.00233.x.

Zuengler, J., & E. R. Miller 2006. Cognitive and sociocultural perspectives: two parallel SLA worlds?. *TESOL Quarterly, 40* (1), 35–58. DOI: 10.2307/40264510.