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Research Timeline

Sociocultural theory and second language acquisition

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Second language acquisition (SLA) research informed by sociocultural theory (henceforth, SCT) began in earnest with the publication of Frawley & Lantolf's (1985) article on L2 (second language) discourse (described in the timeline proper). Since then, well over 300 journal articles, book chapters and doctoral dissertations have appeared in the research literature. Although the term 'sociocultural' is often applied to a wide array of approaches to research that seeks to understand what it means to be a human being, in the present timeline, we restrict its interpretation to refer to the specific theory of psychological development proposed by Vygotsky (1986). Other approaches that have appropriated the term, such as those emanating from the writings of Bakhtin (1981), while compatible in many respects with Vygotskian theory, have a different focus and are not strictly speaking psychological or psycholinguistic theories. To be sure, Vygotsky rarely used the term 'sociocultural', preferring instead 'cultural psychology' or 'cultural-historical psychology' to refer to his theory. Wertsch (1985) is generally credited with having coined the term 'sociocultural' as a way of capturing the notion that human mental functioning results from participation in, and appropriation of, the forms of cultural mediation integrated into social activities.

The timeline that follows comprises forty-eight notable publications, all of which in some way implicate the basic claim of the theory that all mental activity is symbolically mediated. Within the general mediational framework, four additional themes characterize the literature: the theory as a lens for interpreting data (naturally occurring as well as elicited), the theory as an educational framework for promoting L2 development (i.e., developmental education), a concern with specific concepts with which the theory operates, including the ZONE OF PROXIMAL DEVELOPMENT and DYNAMIC ASSESSMENT, PRIVATE SPEECH, INTERNALIZATION, REGULATION, ACTIVITY THEORY, and THE GENETIC METHOD, and a concern with explicating a concept or theoretical issue. Publications quite often address more than one concept and, on occasion, more than one theoretical orientation.

Most of the first two decades of empirical SCT research falls within the first of the above themes. Beginning in 2003, however, with the appearance of Negueruela's (2003) doctoral dissertation (described in the timeline proper), the theory-as-educational-framework emerged as an important theme. This orientation reflects Vygotsky's (1926/1997) commitment to PRAXIS; that is, the dialectical unity of theory and practical activity as an instrument of change.

The selection presents a number of recurring themes and concepts, each of which is marked by capital letters in the annotations to each publication.

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General themes

A = using the theory as a lens through which data is analyzed and interpreted. This approach follows procedures through which most research deploys theories.

P = praxis, in which theory and practical activity are integrated for the purpose of promoting development through direct instruction. This approach adheres to Vygotsky's original goal for psychology.

Specific concepts included under the third theme

ZPD = zone of proximal development: all forms of development begin as external social activity, which are then appropriated by the individual as a result of this activity. This occurs in the ZPD, which is generally defined as the difference between what someone can do alone and what he or she can do with mediation.

DA = dynamic assessment: a sub-theme of ZPD in which instruction and assessment are unified as components of the same educational process.

I = internalization: the process through which individuals appropriate social forms of mediation, including cultural artifacts such as language, and use it to regulate their own mental activity.

PS = private speech (also inner speech): speech that is social in origin but which is cognitive in function. That is, it is used by individuals to organize and regular their own mental behavior.

R = self-, other- object- regulation (concern with where the locus of mediation is situated, either in the individual, as in expert speakers of a language, in other individuals, as when teachers or expert users provide support and assistance for a learner, or in objects, as when learners have problems with difficult tasks or complex linguistic concepts).

ACT = activity theory: a sub-theory of SCT, originally proposed by Vygotsky's colleague, A. N. Leontiev (1978), which argues that socially-organized and goal-directed actions play a central role in human development.

G = genetic method: the research methodology proposed by Vygotsky to uncover the origins and path of development over time.

T = a publication that focuses on a theoretical issue or concept rather than on data analysis.

References

Bakhtin, M. M. (1981). *The dialogic imagination*. Austin, TX: University of Texas.

Frawley, W. & J. P. Lantolf (1985). Second language discourse: A Vygotskyan perspective. *Applied Linguistics* 6, 19–44.

Leontiev, A. N. (1978). *Activity, consciousness, and personality*. Englewood Cliffs, NJ: Prentice Hall.

Negueruela, E. (2003). A sociocultural approach to teaching and researching second language: Systemic-theoretical instruction and second language development. Ph.D. dissertation, The Pennsylvania State University.

Vygotsky, L. S. (1926)/1997). *Educational psychology*. Boca Raton, FL: St. Lucie Press.

Vygotsky, L. S. (1986). *Language and thought*. Cambridge, MA: MIT Press.

Wertsch, J. V. (1985). *Vygotsky and the social formation of mind*. Cambridge, MA: Harvard University Press.

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YEAR	REFERENCES	ANNOTATIONS	THEME/CONCEPT
1985	Frawley, W. & J. P. Lantolf (1985). Second language discourse: A Vygotskyan perspective. *Applied Linguistics* 6, 19–44.	Discourse analysis of L2 adult, L1 children, and L1 adult oral narratives shows that language functions not only to relate a story but also as a means of regulating the thinking process as the narrative itself unfolds in real time. Linguistic features such as tense-aspect marking, pronoun selection and discourse connectors mark control, loss of control, or attempts to regain control of the thinking process. Native-speaker (NS) and non-native-speaker (NNS) proficiency is not dichotomous but is situated on a continuum of control.	**A** **PS** **R**
1992	McCafferty, S. G. (1992). The use of private speech by adult second language learners: A cross-cultural study. *The Modern Language Journal* 76, 179–189.	**McCafferty** confirmed many of the findings of FRAWLEY & LANTOLF (1985); however, he also found that proficiency level affects the amount of private speech (PS) speakers generate, with more advanced learners producing less than lower-ability NSs. He also reports differences in the amount of PS produced by NSs from different cultural backgrounds.	**A** **PS** **R**
1994	Aljaafreh, A. & J. P. Lantolf (1994). Negative feedback as regulation and second language learning in the zone of proximal development. *The Modern Language Journal* 78, 465–483.	Four important findings emerge from this longitudinal study of corrective feedback negotiated between an expert and learners in the ZPD: implicit and explicit feedback is effective depending on a learner's ZPD; different learners can have different ZPDs for the same L2 features and the same learner can have different ZPDs for different features; development is an uneven process that depends on the mediation negotiated between expert and learner; development is manifested not only in learner performance but also in shifts from more explicit to more implicit mediation.	**P** **ZPD** **G**
1994	Appel, G. & J. P. Lantolf (1994). Speaking as mediation: A study of L1 and L2 text recall tasks. *The Modern Language Journal* 78, 437–452.	A study of text recall tasks comparing NSs with advanced NNSs of English, which corroborates the finding of FRAWLEY & LANTOLF (1985) that NS and NNS performance lies on a continuum and depends on the complexity of a task. Some NNSs were better able to comprehend and recall a complex text than were NSs. A second finding is that text comprehension does not necessarily occur during reading but during the recall process, an indication that speaking can serve comprehension.	**A** **PS** **R**

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1994	Brooks, F. B. & R. Donato (1994). Vygotskyan approaches to understanding foreign language learner discourse during communicative tasks. *Hispania* 77, 262–274.	An exploration of the regulatory functions of language in two-way information gap tasks. These functions were: speaking as object regulation; shared orientation; goal formation. Private speech helped students focus on their language resources as well as sustain and initiate further discourse. All learner talk (L2 and L1 and talk that appears to an observer to be off task) is collaborative activity that functions to complete a task.	**A** **PS** **R**
1994	Coughlan, P. & P. A. Duff (1994). Same task, different activities: Analysis of a SLA task from an activity theory perspective. In J. P. Lantolf & G. Appel (eds.), *Vygotskian approaches to second language research*. Norwood, NJ: Ablex, 173–194.	The study has important implications for task-based pedagogy. It shows that tasks only serve as vague blueprints for concrete goal-directed activity. Learners ultimately decide how activities are carried out in terms of their goals, the resources brought to bear, and motivation. **Coughlan & Duff** document how different learners ostensibly engaged in the same task realized it as a very different activity, and how the same learner realized the same task as different activities at different points in time.	**A** **ACT**
1994	Donato, R. (1994). Collective scaffolding in second language learning. In J. P. Lantolf & G. Appel (eds.), *Vygotskian approaches to second language research*. Norwood, NJ: Ablex, 33–56.	**Donato** examines the scaffolding behavior of learners during peer interactions and shows how learners mediate each other in their ZPDs in order to collaboratively construct the linguistic forms they require to complete an L2 task.	**A** **ZPD** **R**
1994	Donato, R. & D. McCormick (1994). A sociocultural perspective on language learning strategies: The role of mediation. *The Modern Language Journal* 78, 453–464.	Performance-based portfolio assessment socialized learners into constructing their own strategy learning through other- and self-dialogue during tasks rather than being explicitly taught learning strategies independent of specific activities. **Donato & McCormick** argue that learning strategies are by-products of private speech linked to specific learning goals and stress the importance of the genesis of phenomenon in 'culturally-specific situated activity' (p. 462).	**P** **PS** **ACT** **G**
1994	Platt, E. & F. B. Brooks (1994). The acquisition-rich environment revisited. *The Modern Language Journal* 78, 497–511.	The study questions the validity of 'acquisition-rich environment' along with INPUT and OUTPUT as constructs derived from the CONDUIT METAPHOR of communication. As such, the learner's interaction with,	**A** **ACT** **R**

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		and dynamic creation of, the language is just as important as the language itself. Problem-solving tasks are about more than message transfer because they also provide opportunities for learners to engage each other through the tasks in such a way that self-regulation and motivation emerge through collaborative activity rather than as prerequisites for successful task completion.	
1996	van Lier, L. (1996). *Interaction in the language curriculum: Awareness, autonomy & authenticity*. Harlow: Longman.	This is a complex and important statement on L2 classroom teaching and learning that draws on Vygotskian theory as well as the writings of Bakhtin[1] and C. S. Peirce's[2] concept of sign. As such it incorporates aspects of themes A and P. Through analysis of real classroom teaching and learning activity, **van Lier** argues that a curriculum is a theory of practice that integrates a theory of learning, of pedagogical interaction and of instruction. Classroom learning is a collaboratively constructed and contingent process that only emerges if the teacher is able to scaffold learners in their ZPD and in so doing move the class from initiation-response-feedback (IRF) patterning to true dialogic interaction.	**A** **P**
1997	DiCamilla, F. J. & M. Antón (1997). The function of repetition in the collaborative discourse of L2 learners: A Vygotskian perspective. *The Canadian Modern Language Review* 53, 609–633.	Repetition in L2 peer dialogue during a joint writing task functions to establish and maintain intersubjectivity. The mental activity of the learners is mediated by the repetition of both L1& L2 utterances, the effect of which is to create and maintain a shared perspective of the task and to construct scaffolded help that enables them to complete a task.	**A** **ZPD** **R**
1997	Lantolf, J. P. (1997). The function of language play in the acquisition of L2 Spanish. In W. R. Glass & A.T. Perez-Leroux (eds.), *Contemporary*	Based on Vygotsky's argument that play is an activity that promotes development, **Lantolf** reports on the results of a questionnaire asking respondents the circumstances under which they are aware of using private speech to experiment and play with the features of an L2 they are	**A** **PS** **I**

[1] Bahktin, M. (1981). *The dialogic imagination*. Austin, TX: The University of Texas Press.
[2] Apel, K-O. (1981). *Charles S. Peirce: From pragmatism to pragmaticism*. Amherst, MA: University of Massachusetts Press.

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	perspectives on the acquisition of Spanish (vol. 2): *Production, processing and comprehension*. Somerville, MA: Cascadilla Press, 3–24.	in the process of learning. Higher proficiency students play less frequently with the language than do lower proficiency students. Individuals with the goal of learning a language report greater frequency of play than students whose language study is coerced by degree requirements. The conclusion is that play is a necessary condition for successful language learning.	
1997	Pavlenko, A. (1997). Bilingualism and cognition. Ph.D. dissertation, Cornell University.	**Pavlenko** addresses the question of whether or not L2 learners can develop the capacity to use the new language to mediate their thinking processes through a completely new set of meanings. She found that individuals who immigrate to a new speech community indeed develop this ability and in fact they begin to lose the ability to mediate their thinking through the L1. Foreign language and study abroad learners do not show evidence of using the L2 as a mental tool.	**A** **PS** **I**
1998	Antón, M. & F. J. DiCamilla (1998). Socio-cognitive functions of L1 collaborative interaction in the L2 classroom. *The Canadian Modern Language Review* 54, 314–342.	The study challenges the assumption that use of the L1 must be avoided in an L2 classroom. The evidence documents the relevance of the L1 as a tool for regulating thinking activity as well as intersubjectivity between participants in collaborative tasks.	**A** **PS** **R**
1998	Dunn, W. & J. P. Lantolf (1998). Vygotsky's zone of proximal development and Krashen's i + 1: Incommensurable constructs; incommensurable theories. *Language Learning* 48, 411–442.	This theoretical article contests the view that Krashen's i + 1 hypothesis and Vygotsky's ZPD are, if not synonymous constructs, at least compatible. The core of the argument is that Krashen's hypothesis is concerned with language, while Vygotsky's concept focuses on individuals. Moreover, each concept is embedded in radically different theories of mind and development. Finally, the prediction of Krashen's hypothesis, as others have argued, is not testable, while predictions based on ZPD are testable on the grounds that what individuals are able to do with negotiated mediation is a glimpse of what they will be able to do in the future without mediation.	**T** **ZPD**
1998	McCafferty, S. G. (1998). Nonverbal expression and L2 private speech. *Applied Linguistics* 19, 73–96.	The first SCT study to investigate the relevance of the speech–gesture interface in L2 speakers. It shows that gestures not only have a communicative function but also reveal a speaker's internal cognitive processing. That is, they are a non-verbal form of private speech.	**A** **PS**

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1998	Roebuck, R. (1998). *Reading and recall in L1 and L2: A sociocultural approach*. Stamford, CT: Ablex.	This extensive study is based on the research of APPEL & LANTOLF (1994) and confirms their findings with regard to the function of PS in text comprehension. The participants were at a lower proficiency level than in the above study and they operated with a different L2 – Spanish instead of English. **Roebuck** argues that research participants must be understood as agents rather than as subjects (i.e., individuals subjected to the researcher's control and gaze) if we are to fully understand how they engage in thinking activity.	**A** **PS** **ACT**
2000	de Guerrero, M. C. M. & O. Villamil (2000). Activating the ZPD: Mutual scaffolding in L2 peer revision. *The Modern Language Journal* 84, 51–68.	Adopting a microgenetic approach to development, **de Guerrero & Villamil** analyze the dynamics of scaffolding during L2 peer revision sessions in a writing class. The research reveals how social interactions not only shape the revision process but also impact the attainment of self-regulation and commitment to task accomplishment. This study contributes to a greater understanding of the complex and intricate mechanisms that are at play during mediated interaction and highlights the behaviors that may facilitate or inhibit growth within the ZPD.	**A** **ZPD** **R** **G**
2000	McCafferty, S. G. & M. Ahmed (2000). The appropriation of gestures of the abstract by L2 learners. In J. P. Lantolf (ed.), *Sociocultural theory and second language learning*. Oxford: Oxford University Press, 199–218.	**McCafferty & Ahmed** investigated the extent to which advanced, untutored, immersion learners of L2 American English and advanced tutored learners acquire target-like abstract gestures (e.g., positioning the hands as if holding a container to metaphorically refer to the focus of one's attention while speaking) related to talk about marriage. They report that gestures play a pivotal role in transforming learning and that learners immersed in American culture (with non-conventional gestural behavior) were more target-like in their use of abstract gestures than were learners with formal instruction only.	**PS**
2000	Nassaji, H. & M. Swain (2000). A Vygotskian perspective on corrective feedback in L2: The effect of random	**Nassaji & Swain** experimentally verify the findings on the ZPD of ALJAAFREH & LANTOLF's (1994) study. They report that a learner who received feedback that was graduated and contingent, and therefore took	**P** **ZPD**

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	versus negotiated help on the learning of English articles. *Language Awareness* 1, 34–52.	account of the ZPD, was a more effective learner of English articles than one given random feedback not sensitive to the ZPD.	
2000	Pavlenko, A. & J. P. Lantolf (2000). Second language learning as participation and the (re)construction of selves. In J. P. Lantolf (ed.), *Sociocultural theory and second language learning*. Oxford: Oxford University Press, 155–177.	This study is situated within the general framework established in PAVLENKO (1997). It analyzes the experiences of intellectuals and literary figures documented in their writings as they transition from one culture to another. Of particular interest is the writings that deal with loss of control of the L1 and the struggle to reconstitute the self through a new language and what this means for the individual's mental and emotional life.	**A** **PS** **I** **R**
2000	Verity, D. P. (2000). Side affects: The strategic development of professional satisfaction. In J. P. Lantolf (ed.), *Sociocultural theory and second language learning*. Oxford: Oxford University Press, 179–198.	**Verity** relates and analyzes her own experience as an 'expert' ESL teacher when, upon migrating from the US to Japan, she discovered that her North American approach to teaching did not function well in the Japanese educational setting. Using a diary, she not only documents her struggle to regain lost expertise, but the activity of writing itself served as a symbolic means of mediating and scaffolding herself through the transition from an expert ESL teacher in the US to an expert EFL teacher in Japan.	**A** **ZPD** **PS** **R**
2001	Ohta, A. S. (2001). *Second language acquisition processes in the classroom setting: Learning Japanese*. Mahwah, NJ: Lawrence Erlbaum.	This is an empirically rich longitudinal study of a university Japanese L2 classroom, providing robust evidence that learners use private speech during instructional activities to help them internalize the target language. In PS, learners often focus on aspects of the target language that are of interest to them even when not the direct object of instruction. They frequently produce vicarious recasts of teacher feedback intended for someone else. Evidence is also presented that some learners during collaborative activities are able to provide mediation for an interlocutor that manifests sensitivity to the ZPD.	**A** **ZPD** **PS** **I**

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2001	Swain, M. (2001). Examining dialogue: Another approach to content specification and to validating inferences drawn from test scores. *Language Testing* 18, 275–302.	Relying on SCT principles, it is argued that when assessing proficiency, language testers must find a way to take account of the language that emerges during group interaction. It is also necessary to consider the effects of interlocutor and task goal. Moreover, language use in testing situations at the same time provides opportunities for language learning, an issue that has begun to interest testing researchers.	**T**
2002	Kinginger, C. (2002). Defining the zone of proximal development in US foreign language education. *Applied Linguistics* 23, 240–261.	Situating the ZPD in a broader interpretive frame, **Kinginger** outlines the debate in US foreign language instruction that revolves around the ZPD. She examines the history and provides an interpretation of the ZPD as it relates to classroom instruction. Providing an in-depth view of progressive and conservative trends in foreign language education, she scrutinizes three interpretations of the ZPD as it relates to foreign language education.	**T** **ZPD**
2002	Lantolf, J. P. & P. Genung (2002). 'I'd rather switch than fight': An activity theoretic study of power, success and failure in a foreign language classroom. In C. Kramsch (ed.), *Language acquisition and language socialization: Ecological perspectives*. London: Continuum Press, 175–196.	Using activity theory, **Lantolf & Genung** analyze the classroom experience of a doctoral student enrolled in an elementary Chinese class in order to meet the language requirement for the degree. The study relies on a diary maintained by the student, one of the co-authors, in which she writes about the experience particularly with regard to her pedagogical expectations and motives. The findings corroborate a central claim of activity theory: the motive and goal of an activity frequently change as the activity itself is being carried out. In this case, the learner shifted from a desire to want to learn the language to the more pragmatic goal of passing the course when she realized that the pedagogy employed by the instructors did not mesh with her expectations for how communicative ability in a language should be developed.	**A** **ACT**

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2002	Swain, M. & S. Lapkin (2002). Talking it through: Two French immersion learners' response to reformulation. *International Journal of Educational Research* 37, 285–304.	**Swain & Lapkin** document the contribution of collaborative dialogue to the L2 learning process. SCT informs their analysis of three examples of learners confronting and resolving language-related problems. They report that comparison between learners' original piece of writing with that reformulated by an expert effectively stimulates awareness and reflection on language as carried out through talk. The talk can reveal the learners' ZPD and allow them to operate effectively in this space to move their learning forward.	**A** **ZPD**
2003	Negueruela, E. (2003). A sociocultural approach to teaching and researching second language: Systemic-theoretical instruction and second language development. Ph.D. dissertation, The Pennsylvania State University.	This is an extensive study of a sixteen-week university L2 Spanish course taught by the researcher that was conducted according to SCT principles of developmental education. Specifically, Gal'perin's pedagogical theory known as System-Theoretical Instruction was used.[3] This employs scientific concepts (i.e., systematic knowledge that describes the essence of the object of study) as the unit of instruction and aims to guide students to develop the ability to internalize the knowledge so they can use it in a wide array of normal communicative activities. The concepts (grammatical aspect, subjunctive mood) were presented in a verbal and material (schematized model) form, which learners used to develop their understanding and regulate their use and eventual internalization of the concepts. The study documents the process through which this occurred.	**P** **ZPD** **I** **R** **G**
2003	Robbins, D. (2003). *Vygotsky's and A. A. Leontiev's semiotics and psycholinguistics: Applications for education, second language acquisition, and theories of language*. Westport, CT: Praeger.	The book contains an informative discussion of the principles of SCT but from a perspective that reflects more of a Russian, rather than an Anglo-Western, reading of Vygotsky and Leontiev. It critiques SLA research grounded in Chomskyan linguistics, among other things, as reductive, especially with regard to the competence–performance distinction and its concern with structure rather than meaning. It also offers numerous recommendations for enhancing language instruction based on principles of the theory.	**P** **ZPD** **I**

[3] Haenen, J. (1996). *Piotr Gal'perin: Psychologist in Vygotsky's footsteps*. New York: Nova Science Publishers.

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2003	Thorne, S. L. (2003). Artifacts and cultures-of-use in intercultural communication. *Language Teaching and Technology* 7, 38–67.	Using the concepts of regulation, ACT and ZPD, and flow activity (Csikszentmihalyi),[4] **Thorne** analyzes three case studies of university learners of French as they engage in internet-mediated (e-mail, IM and synchronous chat) communication with NSs of the language. He discusses how different cultures-of-use deploy a common communicative artifact to attain variant communicative goals (e.g., students prefer IM for interacting with peers, while e-mail is reserved for communication with professors, parents, etc.). He documents the process through which one student struggled to learn French locative prepositions and another worked to understand the pragmatics of *tu/vous* use.	**A** **ACT** **ZPD** **R**
2004	Centeno-Cortés, B. & A. Jiménez-Jiménez (2004). Problem-solving tasks in a foreign language: The importance of the L1 in private verbal thinking. *International Journal of Applied Linguistics* 14, 7–35.	This is one of the few studies that investigate the extent to which L2 speakers can use the language as a mental tool to regulate their thinking process. L2 learners at different levels of proficiency were asked to solve complex cognitive tasks (e.g., arithmetic problems, spatial positing problems, etc.). The tasks were presented in L2 Spanish, in the hope that this would stimulate participants to use the language to work through the solution. The findings show that if speakers sustained their verbal thinking in the L2 they were usually unable to solve the problems. If they switched to the L1 during completion of the tasks, they were more often successful.	**A** **PS** **R**
2004	Lantolf, J. P. & M. E. Poehner (2004). Dynamic assessment of L2 development: Bringing the past into the future. *Journal of Applied Linguistics* 1, 49–72.	The article builds a theoretical argument for the relevance of Dynamic Assessment (DA) in L2 instruction. DA is grounded in the ZPD and as such it overcomes the dualism between assessment and instruction and unities them as components of the same pedagogical activity. Traditional forms of assessment focus on past learning and leave future (potential) learning out of the picture. To bring the future into the picture requires mediation (i.e., instruction) that is sensitive to a learner's ZPD. Thus, assessment without instruction overlooks the future, and instruction without assessment ignores the past, upon which the future is built.	**T** **DA**

[4] Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row.

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2004	van Lier, L. (2004). *The ecology and semiotics of language learning: A sociocultural perspective*. Boston, MA: Kluwer.	**Van Lier** brings concepts from sociocultural theory, most especially, ZPD, mediation and Activity Theory, into contact with principles of an ecological understanding of humans as agents particularly as this relates to language teaching and learning. Among other things, it means that learners must be related to as whole persons comprised of minds, bodies, emotions embedded and active in their environments rather than as grammar production units (p. 223). The approach also argues against a sharp distinction between language learning and language use and instead recognizes these as components of a unified process whereby the learning that matters occurs in meaningful contexts and with a goal-directed purpose. The teacher's role is to mediate the process with sensitivity to learners' ZPD.	**ZPD** **ACT** **P**
2005	de Guerrero, M. C. M. (2005). *Inner speech-L2: Thinking words in a second language*. New York: Springer.	This book is a thorough, although somewhat controversial, synthesis of L2 inner speech research. **De Guerrero** presents a historical overview of writings on inner speech from Plato through Humboldt to Vygotsky and compares L1 and L2 inner speech research. It discusses methodologies for conducting inner speech research and examines differences between the mental rehearsal and regulatory functions of inner speech. Finally, the author considers the pedagogical implications of inner speech processes and offers suggestions for activities that are likely to stimulate inner speech (e.g., shadowing, paraphrasing).	**T** **A** **P** **PS**
2005	Thorne, S. L. (2005). Epistemology, politics, and ethics in sociocultural theory. *The Modern Language Journal* 89, 393–409.	Acknowledging that SCT is clearly a modernist theory, **Thorne** explores the potential consequences of bringing it into contact with late 20th-century and early 21st-century epistemologies. He is particularly interested in links to critical pedagogies and structuration sociology as approaches that share SCT's commitment to transformative activity. He also wonders if and how it might be possible to bring SCT and Conversation Analysis into a close research nexus, given that both approaches make communication the centerpiece of their research agendas. Finally, he raises the awareness of researchers regarding the consequences of their professional activities for bringing change to the world, as is called for by Vygotsky.	**T**

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2006	Johnson, K. E. (2006). The sociocultural turn and its challenges for second language teacher education. *TESOL Quarterly* 40, 235–257.	**Johnson** examines the epistemological underpinnings of the general SCT turn in the human sciences and the impact it has had on understanding L2 teacher cognition and the challenges it poses for L2 teacher education. She articulates four interrelated challenges: theory/practice versus praxis, the legitimacy of teachers' ways of knowing, redrawing the boundaries of professional development and 'located' L2 teacher education.	**T**
2006	Lantolf, J. P. & S. L. Thorne (2006). *The sociogenesis of second language development.* Oxford: Oxford University Press.	This book presents a synthesis of the SCT-informed L2 research carried out from 1985 to the date of publication. It explains the relevant theoretical concepts and then brings these into contact with the SCT L2 research literature. It reflects both of the general themes addressed in the present timeline (i.e., A and P) as well as all the other sub-themes.	**A** **P** **T**
2006	Swain, M. (2006). Verbal protocols: What does it mean for research to use speaking as a data collection tool? In M. Chaloub-Deville, C. A. Chapelle & P. Duff (eds.), *Inference and generalizability in applied linguistics: Multiple research perspectives*. Amsterdam: John Benjamins, 97–113.	In SCT, language not only fulfills a social communicative function but also serves as a psychological tool for thinking. Given this integrationist view of language and thought, **Swain** argues and demonstrates empirically that use of think aloud and stimulated recall protocols as data collection procedures in applied linguistics research are problematic. This is so because through the process of speaking, individuals often come to affect the very processes that think alouds and stimulated recalls are designed to elicit.	**T** **PS** **G**
2007	Lantolf, J. P. (2007). Conceptual knowledge and instructed second language learning: A sociocultural perspective. In S. Fotos & H. Nassaji (eds.), *Form focused instruction and teacher education: Studies in honour of Rod Ellis*. Oxford: Oxford University Press, 35–54.	In accordance with SCT principles of developmental education, and following the work of Negueruela (2003), **Lantolf** argues that systematic conceptual knowledge must be the unit of instruction in language classrooms. He shows how this knowledge differs from explicit knowledge formulated as 'rules-of-thumb', which are highly contextualized and therefore restricted to specific empirical contexts. Instruction must also connect conceptual knowledge with appropriate communicative activities.	**T** **P**

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2007	Poehner, M. E. (2007). Beyond the test: L2 dynamic assessment and the transcendence of mediated learning. *The Modern Language Journal* 91, 323–340.	Interacting with advanced university learners of L2 French, **Poehner** highlights one of the most powerful features of dynamic assessment-its capacity to capture development in flight. Within SCT there are two important indicators of development: changes in the quantity and quality of mediation needed to help learners perform appropriately, and a learner's ability to transfer what has been appropriated through mediated interaction to new circumstances. He documents both processes and shows how DA can reveal developmental differences between learners even if their overt performance appears similar.	**P** **DA** **ZPD** **I**
2007	Smith, H. (2007). The social and private worlds of speech: Speech for inter- and intra-mental activity. *The Modern Language Journal* 91, 341–356.	**Smith**'s empirically rich study of private speech in an ESL classroom supports the argument that PS provides a glimpse into the mental processing of learners. Consequently, PS provides teachers with access to what learners already know, what they are struggling to learn and how they are attempting to learn it. The author encourages teachers to pay attention to all utterances that learners produce even if they at first seem irrelevant to learning activities.	**A** **PS** **I**
2008	Choi, S. & J. P. Lantolf (2008). Representation and embodiment of meaning in L2 communication: Motion events in the speech and gesture of advanced L2 Korean and L2 English speakers. *Studies in Second Language Acquisition* 30, 191–224.	Based on McNeill's (2005)[5] notion of growth point (the unity of imagistic and verbal meaning), which is an expansion of Vygotsky's concept of inner speech, **Choi & Lantolf** examine the performance of advanced speakers of L2 English and Korean with regard to how they describe motions events. Each of the two languages expresses motion in very different ways. English encodes manner of motion in verbs (e.g., *slithers*, *tumbles*, etc.) and expresses path of motion in satellites, such as prepositional phrases (e.g., *down the hill*). Korean encodes path in the verb and if it expresses manner of motion at all, it is primarily through gestures. The L2 speakers of each language were unable to express motion in accordance with L1 preferences, indicating that their thinking about the events described was carried out through the L1 rather than the L2.	**PS** **R**

[5] McNeill, D. (2005). *Gesture and thought*. Chicago: University of Chicago Press.

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YEAR	REFERENCES	ANNOTATIONS	THEME/CONCEPT
2008	Lantolf, J. P. & M. E. Poehner (eds.) (2008). *Sociocultural theory and the teaching of second languages*. London: Equinox.	This volume aims to present pedagogical studies that implemented principles of developmental education. With one exception, all of the chapters document longitudinal research that analyzes the outcome of, and processes involved in, instructional programs designed in accordance with SCT principles. The research addresses the following topics: grammatical development, listening comprehension, pragmatics, writing, intonation, service learning, teacher education, and US national standards.	**T** **P** **ZPD** **DA** **PS** **I** **G**
2008	Lee, J. (2008). Gesture and private speech in second language acquisition. *Studies in Second Language Acquisition* 30, 169–190.	**Lee** focuses on advanced Korean L1 speakers of L2 English enrolled in biology classes at a North American university. It documents their use of private speech and accompanying gestures as they attempted to learn scientific terminology in English. It was found that they produced private dialogic speech that appeared to be social in form (e.g., asking and answering questions) even though they were alone at the time. This speech was carried out in their L1. However, they also used L2 English private speech when rehearsing a new scientific term. The private speech was accompanied by gestures that mediated the speakers' learning of the target language terminology.	**PS** **R**
2008	McCafferty, S. G. (2008). Material foundations for second language acquisition: Gesture, metaphor, and internalization. In S. G. McCaffery & G. Stam (eds.), *Gesture: Second language acquisition and classroom research*. New York: Routledge, 47–65.	**McCafferty** examines the production of metaphoric gestures (see McCafferty & Ahmed 2000) employed by an adult L2 learner in relation to a discussion on the topic of ideal marriage. Findings show that the participant's discourse is overwhelmingly formed through the use of a series of three repeating metaphoric gestures grounded on the materiality of her experience because of her limited L2 verbal proficiency. From a sociocultural-theoretic viewpoint, the findings show that speech and gesture can be viewed as a flexible, yet functional, configuration that reveals the speakers internal thinking.	**PS**

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2008	Negueruela, E. (2008). Revolutionary pedagogies: Learning that leads (to) second language development. In J. P. Lantolf & M. E. Poehner (eds.), *Sociocultural theory and the teaching of second languages*. London: Equinox, 190–227.	**Negueruela** makes a theoretical and empirical argument for a praxis-based approach to language teaching. He argues that L2 development must be seen as the formation of 'new semiotic tools for orientation in concrete communicative activity' (p. 223). The basis of this development is systematic conceptual understanding of the features of the new language, including morphosyntax, semantics, pragmatics and lexical knowledge. Pedagogy is revolutionary if it begins with an understanding of concepts rather than linguistic forms. Concepts must be explicitly taught and internalized through processes of visualization, verbalization and communication.	**P** **T**
2008	Poehner, M. E. (2008). *Dynamic assessment: A Vygotskian approach to understanding and promoting L2 development*. Berlin: Springer.	**Poehner** reports on an extensive longitudinal study of the implementation of dynamic assessment with advanced university L2 learners of French. He discusses the theoretical foundation of DA as it is grounded in the ZPD and provides an overview of general research on DA. He shows how DA can be implemented as a diagnostic tool that provides a more fine-grained analysis of learner ability and a more accurate prediction of future development than traditional assessments.	**T** **P** **DA** **ZPD** **I**
2009	Swain, M., S. Lapkin, I. Knouzzi, W. Suzuki & L. Brooks (2009). Languaging: University students learn the grammatical concept of voice in French. *The Modern Language Journal* 93, 5–27.	The study builds on two important notions of SCT: speaking regulates cognitive functioning and systematic concepts form the proper unit of instruction. The researchers demonstrate through a pre-test/post-test design that the quantity and quality of self-directed speech (i.e., languaging) focused on the concept of voice in L2 French results in enhanced internalization of the concept.	**P** **PS** **R** **I**