

Research on Second Language Acquisition from the Perspective of Sociocultural Theory

Xiaoquan Pan

Xingzhi College, Zhejiang Normal University, Jinhua, China
pxq@zjnu.cn

Abstract: Grounded on sociocultural theory (SCT), this study systematically examines its theoretical foundations and practical significance as a key framework for second language acquisition (SLA) research. By critiquing the limitations of the cognitive paradigm, the study emphasizes that SLA is fundamentally a sociocultural practice. Its core mechanism involves cognitive development and language internalization achieved through mediated interaction using symbolic tools. The study elaborates on three foundational SCT concepts: the theory of mediation, internalization theory, and activity theory. Core topics of investigation focus on: (1) how teacher scaffolding and negotiated interaction within the Zone of Proximal Development (ZPD) foster competence progression; (2) how language activities drive the internalization of cultural awareness; and (3) how emergent technologies are reshaping mediation pathways and learning environments. Concurrently, the study analyzes critical challenges, including: (1) methodological difficulties in researching complex social processes; (2) the indeterminate long-term cognitive effects of technology mediation; and (3) the tension between cultural specificity and standardized practices. Future research necessitates methodological integration, exploration of the efficacy of intelligent embodied mediation, and the design of technology-enhanced reflective practice communities. This will guide SLA research towards new directions characterized deepened integration and situated empowerment.

Keywords—sociocultural theory; second language acquisition; mediation theory; internalization; activity theory

1. INTRODUCTION

Language, as the fundamental medium for expressing human thought, transmitting culture, and enabling social interaction, has consistently presented a challenging yet critically significant research topic within the humanities and social sciences concerning its acquisition mechanisms. Against the contemporary backdrop of deepening global cultural integration and unprecedented frequency of international exchange, proficiency in a second language (L2) has transcended its status as a mere linguistic tool (Meng et al., 2025). It has become an indispensable asset for individuals seeking to participate in global discourse, enhance cultural capital, and achieve self-development. This pivotal role solidifies Second Language Acquisition (SLA) research as a persistent focal point and frontier area commanding the collaborative attention of multiple disciplines, including applied linguistics, psychology, and education.

For an extended period, mainstream SLA research paradigms have been profoundly influenced by cognitive psychology and information-processing models. Their core emphasis has centered on exploring intrapersonal language processing mechanisms, such as the accessibility of Universal Grammar, the Critical Period Hypothesis, and patterns of linguistic information processing, acquisition sequences, and native language transfer guided by theoretical frameworks like the Input Hypothesis (Fernyhough & Borghi, 2023). These inwardly focused studies have significantly advanced our nuanced understanding of the internal cognitive processes underlying language acquisition, contributions that are undeniable. However, this universalist orientation also reveals notable theoretical blind spots and practical limitations:

learners are often abstracted as relatively homogeneous individuals, conceptually extracted from their specific sociocultural contexts and dynamic interpersonal environments for ostensibly “isolated” observation. This approach effectively downplays, and potentially obscures, the foundational roles played by intricate social settings, cultural immersion, historical backgrounds, and diverse interactive practices in the construction of linguistic knowledge/competence and identity formation (Fisher et al., 2020). The reductive nature of such theoretical models struggles to account adequately for the dynamic complexity and individual variation inherent in language ability development within authentic social interactive contexts.

It is precisely this explanatory gap that drives theoretical perspectives towards expansion and paradigm shifts. Within this context, Sociocultural Theory (SCT), originally rooted in the sociohistorical psychology pioneered by the Soviet psycholinguist Lev S. Vygotsky (1978) and subsequently systematically elaborated and applied to SLA research by scholars such as James Lantolf, Merrill Swain, and Vera John-Steiner, has increasingly demonstrated robust explanatory vitality and innovative potential. The core tenet of SCT asserts that uniquely human higher mental functions are not biologically predetermined products residing in the isolated individual mind. Rather, they emerge as outcomes of socially-mediated activities, crucially facilitated through symbolic tools (primarily language) within specific social, cultural, and historical milieus. Within the L2 context, SCT unequivocally posits that language mastery is fundamentally a sociocultural practice. The development of individual cognition, the construction of knowledge, and the emergence of language abilities are profoundly embedded within the networks of the specific sociocultural environments to which the individual

belongs. This process involves ongoing dialectical interaction with people, objects, norms, and symbolic systems within those environments. Learners co-constructing solutions to problems and jointly negotiating meaning with social interlocutors achieve cognitive leaps and linguistic advancement through the mediating role of language, tools, and other cultural artifacts. Crucially, language is not merely the object of learning but constitutes the primary cognitive and communicative tool enabling transformation of thought and creation of knowledge (Fedorenko et al., 2024). This process vividly reveals the dialectically constitutive and dynamically transformative relationship between individual cognition and sociocultural structures. Core concepts, including Zone of Proximal Development (ZPD), Mediation, Internalization, Activity Theory, and Dynamic Assessment, provide SCT with a powerful analytical framework for confronting the complexities of SLA. They refocus research attention onto the profound significations of language as cultural practice and social cognition, thereby opening compelling new avenues for understanding the dynamic nature of language acquisition.

2. THEORETICAL FOUNDATIONS

2.1 Mediation Theory

Sociocultural Theory (SCT) is grounded in the pioneering research of the eminent Soviet psychologist Lev S. Vygotsky (1978) and scholars such as A. N. Leont'ev (1978). Its core proposition posits that higher mental functions in humans are fundamentally social, cultural, and historical products, rather than stemming from isolated individual cognitive processes. Mediation theory, serving as the cornerstone of SCT, profoundly illuminates the central mechanism through which individuals interact with their surrounding world and achieve development. This theory asserts that human mental activity cannot engage directly with the objective world; it is necessarily mediated and transformed by cultural artifacts or symbolic tools. These mediational means play an indispensable bridging role in individual-social interaction, transforming external activities into internal mental processes (internalization), thereby constituting the fundamental driving force of cognitive development.

In Vygotsky's seminal conception, "mediation" encompasses two inextricably intertwined dimensions (Karpov & Haywood, 1998). (1) Instrumental Mediation. This dimension focuses on the use of physical or symbolic tools (e.g., language, mathematical systems, technology, or even specific learning methods) to modify the material world or solve problems. Precisely these tools shape human modes of thinking. (2) Social Mediation. This emphasizes that the acquisition of knowledge, skills, and cultural meanings occurs on the interpersonal plane through socially collaborative interaction and dialogic engagement with others. Within this interaction, language (encompassing both the native language and the target language) functions as the paramount mediational tool. This interaction not only transmits information but also guides and supports the transformation of the learner's mental functions in ways aligned with their Zone

of Proximal Development (ZPD), ultimately fostering internalization and its conversion into foundational inner capabilities on the intrapersonal plane.

Scholars of the neo-Vygotskian school, with James P. Lantolf as a preeminent exemplar, have systematically extended, refined, and applied mediation theory to the field of Second Language Acquisition (SLA) research (Lantolf & Thorne, 2006), infusing it with renewed vitality. Within the SLA context, mediational activity possesses multifaceted connotations. (1) Language as Both Tool and Object. Language itself is the primary target object of learning, simultaneously serving as the essential mediational tool indispensable for learners' thinking, collaboration, and cognitive restructuring. (2) Expanded Repertoire of Symbolic Tools. The scope of symbolic tools used for mediation has been significantly broadened. Beyond the target language system itself, it now extensively encompasses discourse genres, culturally specific scripts of particular communities, learning strategies, multimedia resources, and increasingly pervasive digital symbolic tools. (3) Dynamic and Collaborative Mediation. Recent research reveals that mediation is a dynamic process of "intersubjectively coordinated co-construction". Learners are not passive recipients of mediation; rather, they actively and agentively engage with accessible symbolic tools within interactions with others to jointly negotiate meaning, deconstruct tasks, and solve problems (Lantolf & Poehner, 2014).

2.2 Theory of Internalization

The theory of Internalization originates from foundational insights within Vygotsky's Sociocultural Theory (SCT). Its core tenet emphasizes that the dialectical unity of individual and social interaction constitutes the essential mechanism for the development of higher mental functions. As Vygotsky posited, human psychological functioning possesses a distinctive social origin; its formation and development are not the result of isolated individual operations but are rooted in interactive processes within the sociocultural environment. Internalization specifically refers to the complex process whereby individuals, through socially mediated activity, progressively transform and assimilate symbols, knowledge, skills, and even modes of thinking that initially exist at the social or interpersonal level into internal psychological processes (Wu et al., 2025). This process is far from a passive acceptance or simple replication of external input. Instead, it manifests as a creative reconstruction of "social being" and a unique psychological adaptation, fundamentally mediated by sociocultural symbols (especially language) as mediational tools and actively shaped by the agentive participation of the subject.

Mediation is an indispensable core concept and operational mechanism of the internalization process. The fundamental distinction between human cognitive activity and animal-level responses lies in the systematic use of cultural artifacts as tools (Jardat & Lansade, 2022). Symbolic systems, such as language, numerical systems, diagrams, algorithms, norms,

and even modern computer code, serve as core regulatory devices for cognitive processes. In the context of second language acquisition (SLA), learners engage with and manipulate the culturally embedded symbolic systems of the target language through social interaction (Xia & Wang, 2025). These symbols initially function as tools for social mediation on the interpsychological plane, guiding and restructuring thought processes. Subsequently, through repeated and structured joint participation, individuals gradually master the operational logic of these mediational tools. Ultimately, they successfully transform these tools into internal psychological tools, enabling the independent control and self-regulation of their own cognitive processes. This process of internalization profoundly alters the structure and organization of human mental operations.

Vygotsky further elucidated the distinctive nature of internalization in the dimension of conceptual development, proposing a model of binary transformation between “spontaneous concepts” and “scientific concepts”. In the second language classroom, learners’ concrete, typically everyday spontaneous concepts derived from lived experience need to be integrated with theoretical, organized, and logically interconnected scientific concepts acquired through systematic instruction (Poehner & Infante, 2019). These two types of concepts do not develop in isolation. Rather, they form a “ladder of concepts” through continuous and dynamic interplay: scientific concepts provide a structuring framework from the top down, while spontaneous concepts contribute concrete empirical support from the bottom up. Engaging in mutual interaction and fusion, they continuously deepen and reconstruct each other, ultimately forming a hierarchical and systematically integrated schema of knowledge and cognition within the individual. Internalization, in this dimension, reflects the complex knowledge construction entailed in the migration and solidification of a conceptual system from the interpersonal to the individual plane.

Scholars such as Gal’perin (1992) further developed Vygotsky’s ideas on internalization, proposing the “Theory of the Stage-by-Stage Formation of Mental Actions”. This theory meticulously details a phased model of internalization: from externally practiced, object-oriented material actions, through communication and cooperation at the level of overt socialized speech, to the eventual condensation into fully internalized mental operations via the mechanism of inner speech. This framework provides a detailed, stepwise explanation of how learners might transform explicit knowledge, through conscious processing, into automated implicit language competence at different stages of SLA. Contemporary research vigorously expands the scope of mediational tools. It moves beyond focusing solely on traditional linguistic symbols (vocabulary, grammar) to deeply examine how multimodal semiotic resources, digital platforms, and even artificial intelligence-assisted tools are reshaping contemporary pathways of internalization in SLA. This work emphasizes the significant value of synergistic multimodal semiotic systems

in facilitating the transformation of linguistic knowledge and the expansion of cognitive modes.

In summary, the theory of internalization profoundly reveals that SLA transcends mere mechanical memorization of linguistic forms. Centrally, it involves the continuous, agentic transformation and psychological internalization-reshaping of the target language’s symbolic system through socially situated participatory practices. This process entails profound transformations in the learner’s cognitive architecture, modes of verbal thinking, and even cultural identity awareness. Its ultimate aim is the reconstruction of thought patterns and the expansion of cognitive capacity and agency within multicultural spaces, achieved through mastery of language, which is a key sociocultural mediational tool.

2.3 Activity Theory

Activity Theory (AT), a major branch of Sociocultural Theory, was systematized by the Soviet psychologist A. N. Leont’ev, building upon L. S. Vygotsky’s Mediation Theory. It was later expanded by Y. Engeström (1987) into a third-generation model, establishing itself as a theoretical framework for analyzing human socio-practical activity. This theory situates human cognitive development within concrete socio-cultural activities, positing that activity is a holistic unit integrating the social, collective nature, and goal-directedness, representing the core mechanism through which humans adapt to and transform their environment. From an AT perspective, learning is not an isolated cognitive process occurring in a vacuum. Rather, it is conceptualized as an ongoing, situated practice embedded within specific socio-cultural contexts, driven by goals, and mediated by mediational tools (e.g., signs, artifacts).

The core unit of analysis in AT is the “activity system”. Its structural model comprises six interconnected elements: Subject, Object, Tools, Rules, Community, and Division of Labor. The dynamic interactions among these six components shape the structure and meaning of the activity. Crucially, internal contradictions within the system are posited as the fundamental driving forces for the development of the activity and the transformation of the subject’s capabilities. Within Second Language Acquisition (SLA) research, AT emphasizes that language learning is a situated cognitive activity realized through participation in cultural practices within the target language community. The learner (subject) engages in learning through linguistic interaction, aiming to master linguistic competence (object), within a community (e.g., classroom, social media platforms, workplace). This process is mediated by symbolic tools (e.g., textbooks, dictionaries, digital platforms) and deeply regulated by specific socio-normative structures: Rules (e.g., classroom discipline, pragmatic conventions) and Division of Labor (e.g., teacher-student roles, collaborative task responsibilities within groups). For instance, a learner participating in academic writing activity does not merely utilize grammatical tools (linguistic symbols); they must also internalize the norms (rules) of the academic discourse community and define their

responsibilities (division of labor) within collaborative tasks, ultimately achieving mastery of discipline-specific language proficiency.

The value of Activity Theory lies in its holistic and dynamic character. On the one hand, it eschews the isolative focus on individual psychological processes characteristic of traditional cognitivism, instead encompassing cognition, social structures, and cultural resources within a unified system. On the other hand, its critical analysis of the “dynamics of contradictions” reveals the underlying causes of issues prevalent in SLA, such as motivational deficits and identity negotiation obstacles, thereby providing a theoretical foundation for designing pedagogical interventions. Introducing an AT perspective into the second language classroom enables the reconceptualization of teacher/learner roles and interaction patterns. Consequently, language learning can be truly reconstituted as a goal-oriented collective construction process integrally embedded within socio-cultural contexts.

3. CORE ISSUES OF SOCIOCULTURAL THEORY IN SECOND LANGUAGE ACQUISITION

3.1 Learning Interaction and Teacher Scaffolding

Sociocultural Theory (SCT) conceptualizes Second Language Acquisition (SLA) as a socially mediated process, wherein learning interaction and teacher scaffolding constitute its core practical dimensions. This perspective is rooted in Vygotsky’s (1978) Zone of Proximal Development (ZPD) theory, emphasizing that cognitive development occurs through social interaction. The teacher, as an experienced participant, plays a pivotal role by providing learners with structured support.

Teacher scaffolding refers to the dynamic adjustment of assistance to enable learners to accomplish linguistic tasks beyond their current independent capabilities (Wood et al., 1976). Its implementation in the L2 classroom is characterized by three salient features: contingency, gradual withdrawal, and goal-directedness. Scaffolding typically employs three strategies: modeling, guided questioning, and feedback restructuring. This facilitates the learner’s internalization of external linguistic knowledge into personal psychological tools through collaborative dialogue (Lantolf & Thorne, 2006).

The essence of learning interaction lies in the symbolically mediated co-construction of meaning. Within the sociocultural framework, interaction encompasses not only linguistic accuracy but, crucially, the cognitive restructuring achieved through regulated discourse in authentic communicative settings. For instance, within teacher-student “instructional conversations”, teachers guide learners to cross cognitive thresholds and progressively enhance their awareness of linguistic rules (consciousness-raising) by manipulating task complexity, providing semantic cues, or breaking down problem-solving steps. Crucially, the effectiveness of scaffolding is highly dependent on the bidirectional adaptability of interaction: teachers must astutely diagnose

learners’ developmental needs, while learners need to respond through active participation and metalinguistic reflection (Van Lier, 2004).

Peer interaction also possesses scaffolding value. It activates cognitive conflicts within the ZPD through symmetric negotiation (e.g., information gap tasks) and asymmetric collaboration (e.g., expert-novice pairings), prompting learners to restructure their mediational systems through verbalization. Empirical studies demonstrate that peer collaboration in lexical searches and grammatical revisions often generates problem-solving outcomes that surpass individual capabilities.

It is crucial to emphasize that the sociocultural perspective rejects viewing scaffolding as a static intervention, instead advocating for its dynamic nature as an interactive praxis. Teachers must guard against over-scaffolding, which can impede learner autonomy. The ultimate objective is the fading of scaffolding, ensuring learners develop into independent, self-regulating language users. This constitutes a fundamental rationale distinguishing sociocultural theory from traditional pedagogical models.

3.2 Language Activities and Cultural Awareness

Within the framework of Sociocultural Theory (SCT), language activities are conceptualized as fundamental mediational tools for the development of cultural awareness and linguistic competence. Vygotsky’s theory of mediation emphasizes the crucial role of symbolic tools, particularly language, in regulating individual psychological functioning and social interaction. For second language (L2) learners, engaging in authentic and meaningful language activities constitutes not merely a process of acquiring linguistic forms, but the core pathway for immersion within the target culture’s system and the internalization of its cognitive patterns and value systems. Such activities, typically manifesting as “collaborative dialogues”, “teacher-guided interactions”, or within “communities of practice”, provide learners with mediated spaces to practice linguistic symbols. Through collaborative participation with more advanced agents (e.g., teachers, native speakers, or peers) situated within cultural contexts, learners perceive, comprehend, and progressively reconstruct cultural connotations, forging connections between linguistic forms and actual cultural scenarios. This process ultimately facilitates negotiation of meaning within social situations and the internalization of cultural symbols.

Language activities are, in essence, a form of “cultural practice”, as their enactment is intrinsically embedded within specific socio-historical contexts and shared symbolic systems. Within this framework, cultural awareness is not an independent add-on to language acquisition but rather an ongoing construction ingrained throughout the language practice process. For instance, in comprehending politeness strategies or conversational norms within speech acts, learners must grasp the underlying power relations and conventional norms reflected in language use.

When mastering linguistic phenomena like metaphors and idioms, learners must understand the culturally embedded psychological structures and collective experiences they convey. During code-switching or style selection, learners must recognize the mechanisms of identity formation and cultural affiliation underpinning language choices. This process of cognitive deepening transcends mere linguistic skill training, compelling learners not only to understand how to express something but also the cultural-historical roots why it is expressed in a particular manner.

The interweaving of language activities and cultural awareness is further evident in the dynamic realization of the Zone of Proximal Development (ZPD). When learners engage in culturally situated communicative tasks, their actual performance boundaries are expanded through expert guidance or peer collaboration. Such interaction not only enhances linguistic accuracy but also promotes the restructuring of cultural schemata and a fusion of perspectives, fostering the development of necessary “conceptual mediators” for a deep understanding of the logic underlying a different culture. The semiotic construction theory corroborates this view, positing that language acquisition itself is a process of decoding and re-encoding the cultural codes embedded within a symbol system (Stephan & Akyuz, 2022). Cultural awareness, mediated by language, achieves an elevation from a perception of form to a reconstruction of meaning. Consequently, L2 classroom design from an SCT perspective must transcend isolated linguistic drills. It is essential to construct situated language activities that stimulate cultural immersion, critical dialogue, and cultural experiences, thereby positioning learners as active participants in meaning production. This approach aims to realize the theoretical vision of the concurrent, synergistic evolution of linguistic and cultural competence.

3.3 The Mediating Role in Technology-Enhanced Environments

A core tenet of Sociocultural Theory is the emphasis on the mediating role of cultural artifacts in cognitive development. Within emerging technological contexts, digital tools are fundamentally reconfiguring the mediation mechanisms in second language acquisition (SLA). These technologies act not merely as substitutes for traditional physical tools (e.g., textbooks, blackboards), but, through their interactivity, immersiveness, and intelligence, create novel, diversified fields for mediated learning activity.

Firstly, technological mediation expands the diversity of semiotic resources. Whereas traditional classroom mediation primarily relies on linguistic symbols, new technologies integrate multimodal semiotics, such as video, interactive graphs, dynamic visual input, and voice recognition feedback. These resources provide learners with multidimensional channels for meaning-making, catering to differentiated cognitive needs. For instance, online collaborative writing platforms empower learners to utilize tools like real-time annotation, shared digital whiteboards, and asynchronous

discussion threads, facilitating higher-order distributed cognition and mediating/optimizing the peer negotiation of meaning process (Kern et al., 2015).

Secondly, human-computer collaboration reconfigures the mediator’s role. Intelligent Tutoring Systems are beginning to assume some of the regulatory functions previously carried out by teachers or more capable peers (Thorne & Tasker, 2011). Such systems provide immediate scaffolding via algorithm-driven personalized feedback (e.g., grammar correction, lexical suggestions, pronunciation coaching). Crucially, the effectiveness of this mediation highly depends on the theoretical alignment of the technological design: tools focused on superficial correction while divorced from the sociocultural context can potentially diminish learner agency; conversely, context-aware tools can foster deeper conceptual mediation.

Thirdly, the techno-environment reshapes the situatedness of mediation. Learning Management Systems (LMS), social media, and Massively Multiplayer Online Games (MMOGs) dismantle the spatial-temporal boundaries of the traditional classroom, fostering trans-spatiotemporal communities of practice. Within such spaces, learners engage in the co-participation and transformation of target language resources (e.g., editing wiki entries, cross-cultural collaborative projects), enabling the mediated transformation from social interaction to the internalization of individual discourse (Lantolf & Thorne, 2006). This process exemplifies how technology-enhanced environments both perpetuate and expand the cultural-historical trajectory for developing higher mental functions in the Vygotskian framework.

Notwithstanding, technological mediation also presents challenges: the digital divide may lead to unequal allocation of cognitive resources; automated feedback risks oversimplifying the complexities of language aptitude; and excessive tool dependence can potentially erode learners’ metacognitive regulation capacities. Consequently, the integration of technology into L2 pedagogy requires a critical lens, positioning it within the broader network of sociocultural practices to maximally empower cognitive development.

4. REAL-WORLD CHALLENGES AND FUTURE DIRECTIONS

The ongoing process of deepening Sociocultural Theory’s (SCT) guidance in Second Language Acquisition (SLA) research reveals increasingly salient real-world challenges. Particularly pressing is its methodological conundrum. Rooted in hermeneutic traditions, SCT inherently advocates for an in-depth understanding of individual learners’ dynamic and complex interactive processes within specific sociocultural contexts. This presents a fundamental tension with the predominant quantitative research paradigm’s pursuit of variable control and broad generalizability (Lantolf et al., 2018). For instance, quantitative methodologies often encounter significant difficulty in comprehensively capturing the subtle mechanisms of “mediation” and the operation of the

Zone of Proximal Development (ZPD) within learner collaborative dialogue.

Secondly, the form and efficacy of mediation are undergoing profound transformations within rapidly evolving digital technology environments. Traditional instrumental and interpersonal mediation is increasingly intertwined with technologically-mediated artifacts enabled by artificial intelligence (e.g., intelligent writing assistants, online real-time translation systems). This substantially reshapes modes of meaning-making and the practices of communities. The long-term impact of this deeply integrated “hybridized mediation” landscape on cognitive-linguistic processes demands systematic exploration and deeper theoretical elucidation (Thorne & Hellermann, 2015). Furthermore, the high specificity of cultural contexts presents challenges for application. SCT’s foundational emphasis on the fundamental role of cultural-historical settings is often overlooked in the standardized scaling of globalized educational products and practices (e.g., textbook design, online course dissemination). This neglect of rich local variations in needs risks creating potential disjunctures between learners’ actual experiences and the intended theoretical pathways.

Looking ahead, discernible directions combining breakthrough solutions and deepened research are clear. (1) There is an urgent need to develop integrated multimodal, multi-timescale analytical pathways. Combining conversation analysis and learning analytics can bridge the methodological gap between rich micro-interactive data and longitudinal language development, thereby elucidating cognitive mechanisms emerging from the interplay of technological and social elements. This will foster the establishment of robust scientific connections between sociocultural processes and language development (Wang & Yeh, 2024). (2) Exploring and designing intelligently-mediated tools possessing high cultural adaptability and cognitive effectiveness constitutes a critical task. Future research should move beyond purely functional technical testing to deeply investigate how these tools can better realize their potential for “guidance” and “collaborative cognition” across diverse cultural and learning contexts (Kukulska-Hulme & Viberg, 2018), thereby providing cognitive science foundations for designing more effective multimodal interaction interfaces. (3) Reimagining technology-supported “reflective communities of practice” is essential. This involves leveraging the interactive affordances of technological platforms to cultivate learners’ participatory capacity for continuous reflection on their own “mediational tool use” and “collaborative cognition” practices with others. Transforming their participation in digital activities into effective pathways for “legitimate peripheral participation” and identity construction will enable technology to genuinely serve the goals of cultural appropriation and social connection through enhanced participation.

Future research must confront the complexity of technological mediation, remain grounded in the diversity of cultural fabrics, and engage in bold methodological

innovation. Only then can the field of SLA, guided by SCT, advance towards a new era characterized by profound integration and meaning-oriented empowerment.

5. CONCLUSION

Drawing upon the core framework of Vygotsky’s Sociocultural Theory (SCT), this study systematically argues that Second Language Acquisition (SLA) is fundamentally a semiotically mediated sociocultural practice. The study reveals that the development of linguistic competence and the transformation of mental functions are critically dependent on mediated interactions within specific sociocultural contexts. The internalization of cultural capacity is subsequently achieved through the dynamic interplay of rules, communities, and division of labour within the Activity System.

Empirical analyses demonstrate that learners, supported by collaborative assistance within the Zone of Proximal Development (ZPD), integrate the target language’s “scientific concepts” and “spontaneous concepts” into hierarchical cognitive schemata. Furthermore, novel technological environments have reconfigured the mediational pathways through multimodal semiotic tools such as intelligent platforms and VR scenarios.

Nevertheless, the situated specificity of cultural contexts and the disembedding effect inherent in digital mediation remain significant theoretical and practical bottlenecks requiring resolution. Future research should integrate multimodal analysis techniques to further investigate the cultural adaptability of intelligent tools and the cognitive mechanisms underpinning hybrid mediation. This direction is essential for propelling SLA beyond individual-cognitive paradigms and facilitating its profound transformation towards sociocultural empowerment paradigms.

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