

RECONCEPTUALIZING L2 WILLINGNESS TO COMMUNICATE: WTC(t) AS A COMPLEX DYNAMIC SYSTEM (ID: 1730)

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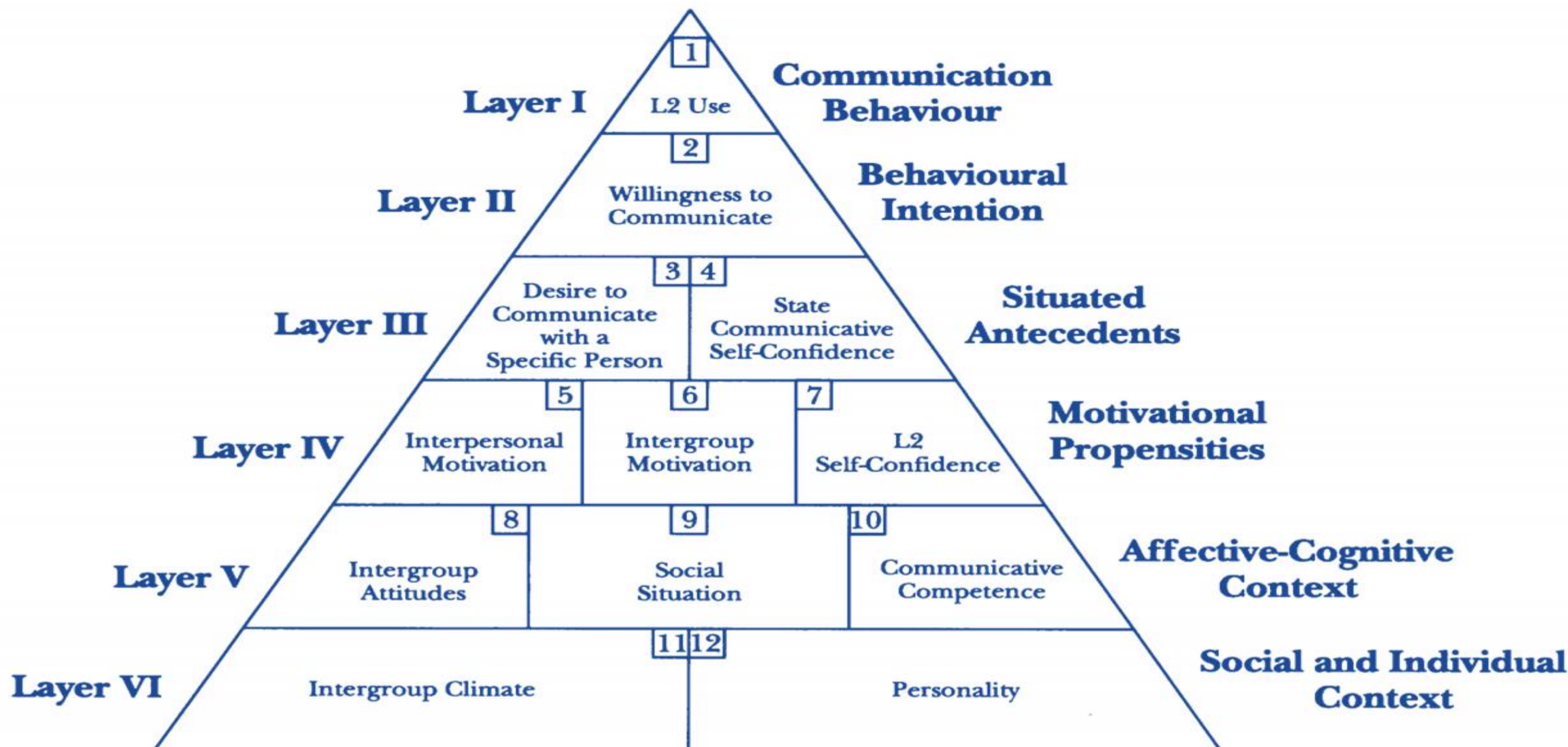
Abstract

Willingness to communicate (WTC) is widely regarded as central to second language acquisition, yet its dynamic nature remains theoretically under-explained. Although recent research documents moment-to-moment fluctuation in WTC, most approaches continue to rely on variable-based, linear models, treating WTC as the outcome of discrete predictors. Even within Complex Dynamic Systems Theory (CDST), dynamicity is often described rather than mechanistically specified. This paper challenges this limitation by reconceptualizing WTC as a time-indexed emergent system state, WTC(t). Instead of viewing WTC as a trait or situational state, it is modeled as the product of recursive, non-linear interactions among task-related, individual-internal, and interactional subsystems. Core CDST principles are operationalized as generative mechanisms, with particular emphasis on feedback-driven system reconfiguration during communication. This shift reframes WTC from a variable to a dynamic process, explaining how fluctuations emerge rather than merely describing them. In doing so, the paper challenges variable-based explanations of L2 communication and advances a process-oriented view in which communicative willingness is understood as continuously emerging rather than statically determined.

Introduction & Research Gap

- Willingness to communicate (WTC) is central to L2 acquisition, yet its dynamic nature remains theoretically under-explained (Nematizadeh, 2022; Wang, 2019).
- Research documents moment-to-moment fluctuation in WTC, but most models remain variable-based and linear, treating WTC as the outcome of discrete predictors (anxiety, motivation, task type).
- Even within Complex Dynamic Systems Theory (CDST), dynamicity is often described rather than mechanistically specified.

Gap: the field lacks an explanatory architecture for how WTC fluctuation is generated — not merely how it is observed.



Heuristic model of variables influencing WTC (Adopted from McIntyre et al., 1998)

Aim of the Paper

To reconceptualize WTC as a time-indexed emergent system state, WTC(t), modeled as the outcome of recursive, non-linear interaction among task-related, individual-internal, and interactional subsystems—shifting the field from identifying predictors to explaining how dynamic change is produced.

Three Interdependent Subsystems

Task-related: Structural constraints shaping the communicative space: task type, complexity, repetition, topic familiarity, visual support, feedback timing.

Individual-internal: Dynamic regulators of readiness: anxiety, enjoyment, cognitive load, lexical retrieval difficulty, L2 proficiency.

Interactional: Real-time perturbations from interlocutor & context: supportiveness, responsiveness, familiarity, peer influence, turn-taking.

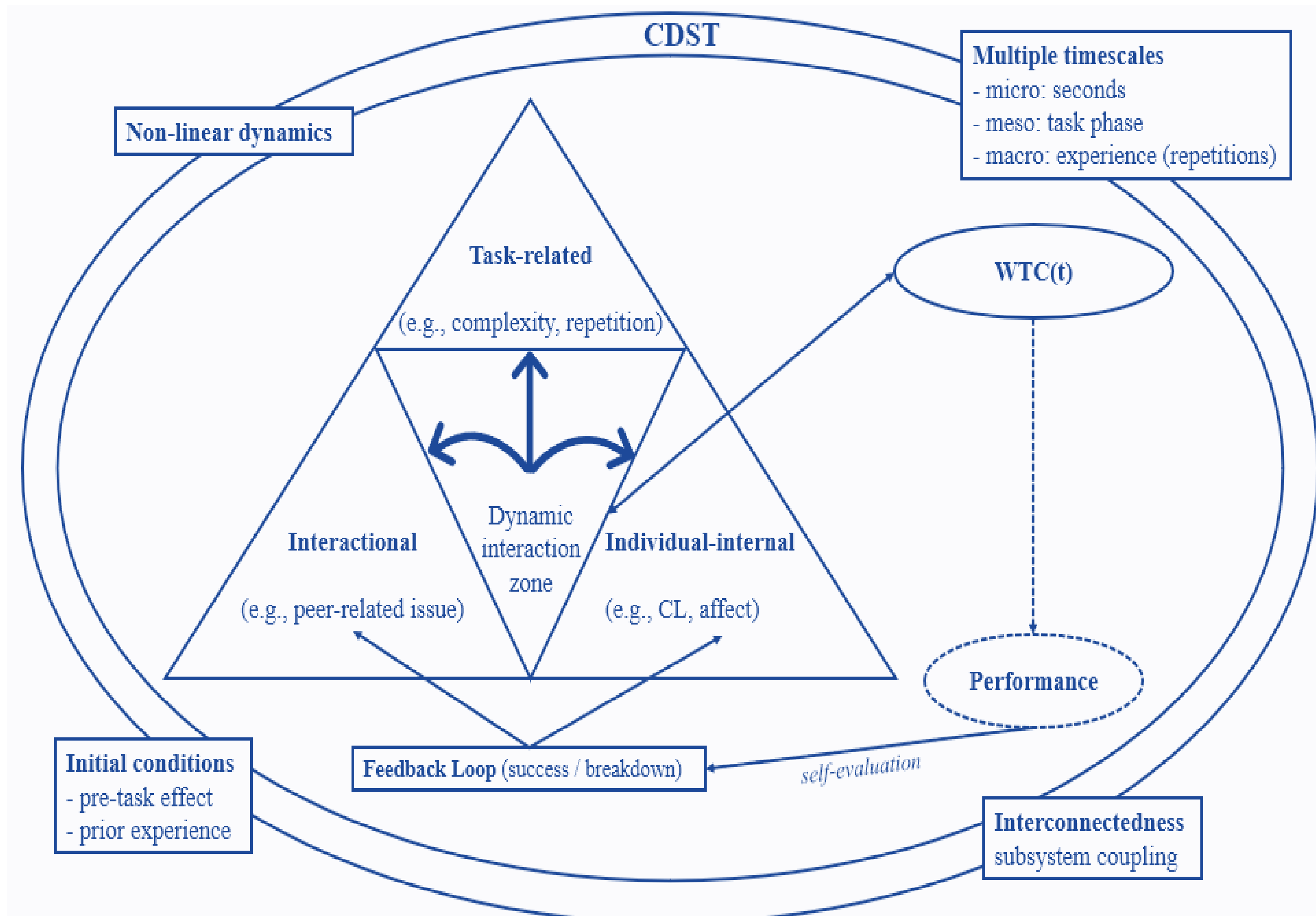
Key Generative Mechanisms of WTC(t)

- 1. Non-Linearity:** WTC shifts through abrupt state transitions when critical thresholds are crossed—not gradual change.
- 2. Feedback Loops:** A recursive performance → evaluation → reconfiguration loop continuously updates WTC(t).
- 3. Interconnectedness:** Subsystems are mutually coupled; identical factors can yield different outcomes depending on configuration.
- 4. Initial Conditions:** Early readiness and anxiety disproportionately shape the trajectory (path dependence).
- 5. Multi-Timescale Interaction:** Momentary states, task-level conditions, and longer-term dispositions jointly constrain fluctuation.

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Theoretical Framework: The WTC(t) Model



CDST-informed model of WTC(t): task-related, individual-internal, and interactional subsystems interact recursively within a dynamic interaction zone, generating WTC(t) through feedback-driven reconfiguration

Illustrative WTC(t) Trajectory

- t1 — Onset:** Moderately high WTC; favorable initial conditions (topic familiarity, low anxiety) stabilize a high-WTC state.
- t2 — Perturbation:** Cognitive load from lexical retrieval difficulty triggers a slight decline, partly offset by supportive interlocutor behavior.
- t3 — Phase Shift:** Communicative breakdown pushes the system across a threshold — a sharp, non-linear drop in WTC.
- t4 — Recovery:** Interactional scaffolding enables partial recovery, though the trajectory remains path-dependent.

Positioning WTC(t) Relative to Prior Perspectives

Trait: Stable, personality-based predisposition—cannot explain within-person variability (McCroskey & Richmond, 1987).

Situated: Context-dependent, but treats context as an external, one-way trigger—reactive, not relational (Kang, 2005).

Dynamic (CDST-descriptive): Recognizes continuous evolution, but dynamicity remains an observation, not an explanatory mechanism (MacIntyre & Legatto, 2011).

WTC(t) — this paper

Time-indexed emergent state generated by recursive, non-linear, feedback-driven subsystem coupling—dynamicity is mechanistically specified.

Key Conceptual Contributions

- Reconceptualizes WTC as a moment-dependent construct capturing its real-time evolution during communication.
- Operationalizes core CDST principles as generative mechanisms underlying WTC dynamics.
- Proposes a recursive interactional architecture in which performance and feedback continuously reorganize the system, giving rise to emergent WTC trajectories.

Implications

Theoretical: Repositions WTC from an individual property to a system-level state emerging through interaction—shifting the field toward process-oriented modeling.

Methodological: Calls for temporally sensitive designs (e.g., idiodynamic methods) integrated with dynamic modeling of feedback, thresholds, and subsystem coupling.

Pedagogical: Instruction should shape interactional conditions that support positive feedback cycles, rather than targeting isolated variables.

Conclusion

This paper reconceptualizes WTC as a time-indexed emergent system state, WTC(t), moving beyond variable-based explanation toward a process-oriented account grounded in Complex Dynamic Systems Theory.

Understanding L2 communication is not about identifying causes, but about modeling how it comes into being.