

## Chapter 2

# Beyond Determinism and Instrumentalism: Re-Conceptualizing Technology for CALL

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### ABSTRACT

*The primary goal of this chapter is to review two dominant theories of technology and propose a new direction of theory and practice for teaching and learning of English as an additional language. I describe this new direction as a cultural theory of technological mediation. The chapter is divided into three sections. In the first section, I review some dominant theoretical approaches in the literature on CALL. In the second section, I discuss two theories of technology: technological determinism and technological instrumentalism. In the third section, I argue that both determinism and instrumentalism have remained as dominant theoretical approaches in the field of CALL. I discuss why both of these approaches are problematic. Then I propose an alternative to these theoretical approaches. I conclude the chapter by providing three pedagogical principles and a set of heuristic questions that may be helpful for language teachers and language-education researchers.*

### INTRODUCTION

The field of Computer Assisted Language Learning (CALL) has attracted criticism for its alleged lack of a robust theoretical foundation (Chapelle, 1997; Wang & Vásquez, 2012). Huh and Hu (2005) claimed that many CALL studies did not “include rich theoretical support” (p. 10). Similarly, Lomicka and Lord (2009) lamented the lack of “a solid base of well-grounded research investigating Web 2.0 tools in language learning from theoretical and empirical perspectives” (p. 5). However, in recent years, we have seen that a growing number of studies have paid greater attention to theory. Yet, they focus exclusively on sociocultural and cognitive theories related to second language acquisition (SLA), and there is an absence of a clear focus on the theories of technology.

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### ***Beyond Determinism and Instrumentalism***

Among others, Chapelle (1997) was concerned about the lack of a theoretical foundation in the CALL literature. She argued strongly for the need to ground CALL research in the theories of instructed SLA. In a similar vein, Wang and Vásquez (2012) reviewed 43 empirical studies and found that 24 of the studies “either did not clearly state their theoretical framework or did not appear to have an obvious theoretical foundation” (p. 419). However, compared to the research conducted in the 1980s and 1990s, there has been a much more sustained focus on theory in the studies conducted in recent years. This focus on theory is perhaps a response to Chapelle’s (1997) call for a theoretically grounded CALL field.

With regard to Wang and Vásquez’s (2012) findings, I am interested more in the studies that clearly stated their theoretical frameworks than in those that did not. So, what are the theories that have been taken up in recent CALL studies? Wang and Vásquez found the following theoretical frameworks used in the empirical studies included in their review:

- Sociocultural Approach
- Activity Theory
- Socio-constructivist Approach
- Community of Practice
- Social Cognitive Theory
- A Framework for Autonomy
- Interactionist Model
- Critical Language Learning
- Speech Act
- Self-determination Theory
- Diffusion of Innovation
- Vygotsky’s Notion of Double Stimulation

Summarizing their findings, Wang and Vásquez (2012) write that most “research was framed along sociocultural and sociocognitive dimensions such as sociocultural theory, activity theory, socio-constructivism, community of practice, social cognitive theory, etc.” (p. 420). While the theoretical base of CALL has certainly enlarged, I argue that the focus has remained disproportionately on various theories of instructed SLA, mainly in the sociocultural and interactionist traditions. However, there has been very little attention to theories of technology that shed light on the nature of technology and on the interconnection between technology and human activity in various contexts of technology use.

The field of SLA is built upon a rich variety of theoretical foundations. Similarly, CALL also needs to embrace the theoretical richness that exists in the broader literature of educational studies. It should not narrow its focus and investigate crucial pedagogical issues only through the sociocultural and psychocognitive theories of instructed SLA. As Kern (2006) warns us:

*Given the complexity and diversity of goals, contexts, and problems in CALL research, a one size fits all approach will not work. Rather, on the micro level of the individual study researchers should rigorously work within the SLA paradigm that most adequately suits their particular research questions, and on the macro level they should look to the synergy of multiple perspectives and paradigms to best inform their understanding and future research. (pp. 187-188)*

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