Chapter 34
The Epistemology of Skill and Knowledge Development to Teach Portuguese in a Virtual Learning Environment

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ABSTRACT

This article explores the underlying processes involved as two experienced Portuguese as a foreign language instructors, who are novices to 3D technologies, became immersed in the epistemology of teaching in a 3D context. The two instructors undertook a challenging initiative to develop and deliver two sections of oral Portuguese in a 3D environment. Through the contingent support of a European community of practitioners, the two instructors explored how the game-based elements and other semiotic resources of SL could be used to enact affordances for the development of goal-oriented tasks, collaborative activities, and interactions in order to guide students in building their oral proficiency in Portuguese. The skill and knowledge development were examined with the trajectories of Compton's framework and epistemological theory where teaching in virtual contexts is contingent upon the construction of technological, pedagogical, and evaluation skills.

INTRODUCTION

The relentlessly accelerating technological change has catalyzed the social, cultural, and economic trajectories often raising questions on whether teachers also possess the required technological knowledge to deal with these constantly emerging and demanding technologies. Most importantly, serious concerns are often raised on whether second or foreign language teachers can undertake initiatives to integrate technologically-demanding tools and applications in their teaching practice. Despite this technological paradigm shift, investment in the development, nurturing, and integration of digital skills in almost all levels, in second and foreign language education is still limited (see Hubbard & Levy, 2006; Kessler,

2006; Young, Ducate & Arnold, 2011; Sykes & Holden, 2011; Lord & Lomicka, 2011). What is more concerning though is that there are still even fewer institutional initiatives to guide teachers in integrating or adapting these digital technologies and tools in actual online teaching contexts. As Kessler (2006) notes, "training continues to predominantly be acquired in an informal or ad hoc manner through conference workshops, in-services, personal reading and other forms of self-edification" (p. 23). Torsani (2016) addressed the emerging pedagogical value of technology and the need to become acquainted with the available technological tools, but at the same time to ground the integration of technological tools in a pedagogy-oriented approach. In the case of experienced second or foreign language teachers, institutional support, the provision of core technological infrastructure and guidance, education, and training, often inhibited by policy decisions, financial constraints, legislative agendas, and social and cultural expectations for "fact-driven" curricula (see Dewey, 1916; Shaffer, Squire, Halverson, & Gee, 2005). Educators all across Europe and the United States have undertaken collaborative initiatives to guide second or foreign language teachers in building or advancing their technological and pedagogical knowledge through hands-on training sessions, virtual seminars, conferences, talks, discussion sessions, and MOOCs. Consider, for instance, some European initiatives and funded projects, such as AVALON, Euroversity, NIFLAIR and PETALL. These transnational projects have helped build extended European communities of practice (Lave & Wegner, 1991) where through technologically-mediated, task-oriented activities, social practices, and knowledge, second or foreign language teachers were often guided in becoming immersed in a new *epistemology* (see Shaffer et al., 2005; Rubel, 2006; Scardamalia & Bereiter, 2006; Hadjistassou & Danielsen, 2016; Lopes, 2016). In Shaffer et al.'s (2005) terminology, the "way of thinking – the epistemology – of a practice" emerges from such pan-European endeavors which determine how this community of second or foreign language practitioners can develop a shared path on how to leverage the pedagogical and technological affordances of certain tools and applications. At the same time, practitioners need to overcome cultural contradictions in order to enhance their teaching practices and students' learning experiences through epistemic game-oriented tasks in 3D learning environments (p.107).

EPISTEMOLOGICAL THEORY AND BUILDING SKILLS TO TEACH IN 3D VIRTUAL LEARNING ENVIRONMENTS

One of the philosophical assumptions of epistemological theory is built on the premise that "knowledge results from the building of simplified mental models of reality in order to solve problems. The 'validity' of a model (or knowledge) emanates from its utility in problem solving" (Rubel, 2006, p. 109). To be more precise, one of epistemological theory's central precepts is that knowledge is built as a practical response to human endeavors to confront emerging social challenges. Within the trajectories of this epistemological framework, this newly built knowledge generates new affordances and contradictions that, in return, can generate new or enhanced knowledge and contradictions (see Scardamalia & Bereiter, 2003; 2006; Sterenly, 2005). For instance, new software advances can contradict with institutional curricula and at the same time create opportunities for harnessing the semiotic resources of virtual learning environments to enact immersive learning experiences for second and foreign language students. Shaffer et al. (2005) summed up knowledge-building in a powerful and succinct statement, "We learn by doing – not just by doing any old thing, but by doing something as part of a larger community of people who share common goals and ways of achieving these goals…" (p. 107). From a situated learning-informed

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