Chapter 20
A Methodological Approach to Analyzing Digital Game-Based FL Use and Learning:
The Diamond Reconstruction Model

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ABSTRACT

The potential of digital gaming to facilitate foreign language (FL) learning has been established in many empirical investigations; however, the pedagogical implications of these investigations remain rather limited. A potential reason for this limitation is that the FL learning potential of digital games is embedded in the gaming ecology and shaped by different forces in that ecology. However, to date most empirical studies in the field have focused primarily on the linguistic behavior of gamers rather than the gaming ecology. A potential reason for this is the lack of a robust methodological approach to examining game-based language use as an ecological, multidimensional activity. To address this research gap, this chapter proposes the diamond reconstruction model, a dynamic, multidimensional, and ecology-sensitive approach to de- and re-constructing game-based FL use. Grounded in theories of gameplay, and informed by a conceptual model of game-based FL use, the model reconstructs gameplay episodes by gathering detail-rich data on social, cognitive, and virtual dimensions.

INTRODUCTION

In the last decade a growing body of research of research has examined the FL learning potential of digital games. Some of the reported benefits of digital gaming for FL learning include (a) extramural FL learning (e.g. Jensen, 2017), (b) exposure to FL discourse (e.g. Ryu, 2013), (c) FL vocabulary learning (e.g. Hitosugi, Schmidt, & Hayashi, 2014), and (d) immersive collaborative interaction with native speakers (e.g. Newgarden & Zheng, 2016). However promising these findings, to date the growing literature on game-based FL use and learning remains limited in terms of its pedagogical impact and

DOI: 10.4018/978-1-5225-5140-9.ch020

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practical applications. In other words, despite the large quantity of studies exploring game-based FL use and learning and the promising findings of these studies, the field has not had a substantial impact on pedagogical application and practical integration of digital games in FL learning and teaching contexts.

A potential cause of this problem is that to-date most of the empirical studies in the field have been exploratory in nature, and as a result, these studies have shed light on the general potentials of a given gaming genre or a form of game-based FL use to support FL learning, but they have not offered clear, specific, and practical guidelines that can inform pedagogical adoption of game-based FL learning on a wide scale. To elaborate, FL learning potential is not an inherent quality of digital gaming or a consistent outcome of gameplay (e.g. Ibrahim, 2017; Zhao, 2016; Chik, 2011; deHaan, Reed, & Kuwada, 2010), rather it is the outcome of the interaction of specific factors that are conducive to FL learning in the gaming ecology. Therefore, for research on game-based FL learning to inform pedagogical applications, research should examine the fine-grained dynamics of game-based FL use and shed light on the dynamics of gameplay and factors in the gaming ecology that can facilitate game-based L2 learning. To achieve this level of depth, game-based FL use should be examined in the context of the gaming ecology and as an integral component of gameplay. Investigating the fine-grained dynamics of game-based FL learning in the context of gameplay, and examining the effects of different elements and dynamics in the gaming ecology on the FL learning potential of game-based FL use should produce specific and clear descriptions of the specific gameplay dynamics, game design qualities, and gameplay configurations that are conducive of FL learning. Such clear and specific accounts of game-based FL use and learning that relate the FL learning potential of digital gaming to specific dynamics of gameplay, game design qualities, and/or gameplay configuration can inform the design of educational games, and/or guide the selection and adaptation of commercial games for FL teaching and learning. However, to date most of the empirical studies in the literature have examined generic possibilities of the FL learning potentials of game-based FL use, and have not offered an ecology-sensitive, specific, and find-grained account of gameplay dynamics and/or design qualities that can actualize these possibilities and inform pedagogical integration of digital games in FL learning and teaching contexts. For instance, many empirical studies in the field (e.g. Newgarden & Zheng, 2016) have demonstrated that collaborative interaction between FL learners and native speakers in multiplayer online games to achieve team-play goals can promote active FL use and practice. However, these studies have focused primarily on observed linguistic behavior, and little is known about how different factors in the gaming ecology can affect game-based FL use and learning. For instance, it is not clear (a) how learners' FL proficiency, gaming experience, and gameplay strategies could affect the FL learning potential of player-player interaction; (b) whether or not FL discourse used in unrealistic mythical games could benefit FL learners in interpersonal communication in the real world; (c) whether gameplay promotes attention to FL discourse used in gameplay or distracts learners from noticing these discourse; (d) whether or not native speaker players would have the patience to interact with FL learners whose FL communicative skills are limited or slow; or (e) whether the complexity of a game challenge, narrative, or level of interactivity could promote or restrict interpersonal interaction between FL learners and native-speakers to coordinate team play.

A potential cause of this research problem is the lack of a methodological framework for investigating game-based FL use and learning as an integrative component of gameplay and an ecological process embedded in the gaming ecology (Zhao, 2016). That is most of the methodological approaches used to examine game-based FL use and learning are grounded in theories of FL learning or general learning theories, and consequently, they manage to analyze observable linguistic behavior in gameplay, but fall short of examining the full breadth of the complex, dynamic, and multifaceted ecology of gameplay that

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