A Method and Model for De- and Reconstructing Player-Game Interaction: The Case of the Arabic Simulation-Management Game *Baalty*

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**ABSTRACT**

The potential of player-game interaction to facilitate L2 learning in stand-alone digital games has been established in many empirical investigations (e.g., Miller & Hegelheimer, 2006; Hitosugi, Schmidt, & Hayashi, 2014; Sundqvist & Sylvén, 2012); however, the fine-grained dynamics that comprise it are still largely underexplored. A potential reason for this gap is that, to date, there is a lack of refined methodologies for conceptualizing and analyzing the various processes that occur during gameplay between a learner-player and the game. The present study proposes an ecology-sensitive, multidimensional approach to de- and re-constructing player-game interaction dynamics through analysis of thick detail-rich play data from a variety of sources and levels: cognitive, virtual, and sociocultural. Using a model of player-game interaction detailing how activities interrelate and/or interact across different levels, it reconstructs player-game interaction as a holistic activity. To this end, it utilizes a variety of qualitative data sources that offer empirical information about different facets and dimensions of player-game interaction, including think-aloud protocol, gaming journals, walkthroughs, and debriefing interviews. To illustrate the approach, this paper will apply it to interpretation of player-game interactions of one learner of Arabic as a foreign language in the Egyptian Arabic simulation-management game *Baalty* (PPIC-Work, 2004). Findings include the observation that the L2 learner-player played their game in her L2 by decoding in-game discourses and using in-game semiotic resources. The paper will include discussion of theoretical background, research implications, and potential applications of this approach.

**KEYWORDS**

Digital Games’ Analysis, Game-Based Language Learning, Game-Mediated L2 Interactions, Player-Game Interaction

**INTRODUCTION**

The potential of digital games to promote/facilitate L2 development has been underlined recently in various special journal issues (e.g., Cornillie, Thorne, & Desmet, 2012; Reinhardt & Sykes, 2014), edited volumes (e.g., Reinders, 2012), and monographs (e.g., Sykes & Reinhardt, 2012; Peterson, 2013). Several empirical studies reported that player-game interaction offers opportunities for (1) autonomous L2 learning (e.g., Chik, 2011, 2012), (2) exposure to complex linguistic content (e.g.,
Thorne, Fischer & Lu, 2012), (3) L2 literacy development (e.g., Benson & Chik, 2010), and (4) L2 vocabulary development (e.g. Miller & Hegelhimer, 2006).

However, promising these findings, the fine-grained dynamics of player-game interaction that facilitate and afford L2 learning are still largely underexplored. A main reason for that gap in the literature is a lack of refined methodologies for conceptualizing and analyzing the various processes that occur during play between a learner-player and the game. To elaborate, most of the research methods used to analyze player-game interaction in the field have been exploratory in nature; and thus, they fell short of examining the full breadth of the complex, dynamic, and multifaceted processes that comprise player-game interaction. Also, most of these approaches are generic and are not grounded in a theoretical account of player-game interactions. Therefore, a robust approach to game-based L2 use and learning analysis should take into consideration the peculiar qualities of digital games as a medium and should be grounded in sound conceptualization of player-game interaction. That is examining game-based L2 use and learning should use a research approach sensitive to the dynamic and fluid nature of gameplay.

The present study addresses this gap in the literature by proposing a dynamic multidimensional approach to de- and re-constructing player-game interaction that conceptualizes game-based L2 use and learning in the context of gameplay, and accounts for the effects of different forces in the gaming ecology on learner-player engagement with L2 discourses in the game. Informed by a model of player-game interaction that conceptualizes this interaction as the dynamic outcome of learner-player engagement in L2 gaming on cognitive, sociocultural, and virtual levels, and describes the intricate relations and dynamics that hold between these levels of engagement, the proposed approach reconstructs player-game interaction through the analysis and consolidation of thick detail-rich data about learner-player engagement in L2 gaming on cognitive, sociocultural, and virtual levels. To this end, it utilizes a variety of ethnographic data sources that offer empirical information about different facets and dimensions of player-game interaction, including thinkaloud protocol, gaming walkthroughs, field notes, and debriefing interviews. To illustrate the approach, this paper will apply it to interpretation of the player-game interactions of one learner of Arabic as a foreign language in the Egyptian Arabic simulation-management game Baalty (PPIC-Work, 2004). Even though this paper focuses primarily on player-game interaction in single-player gaming, player-game interaction and gameplay would be used interchangeably in this paper.

The paper will start with a brief critical discussion of the methods of ethnographic studies that examined player-game interaction. After that, the diamond reconstruction model will be discussed shedding light on player-game interaction conceptualization, the underlying rationale of the model, and its implications for data collection. Next, the potential of the model to offer ecology-sensitive accounts of player-game interaction will be illustrated by applying the model in a case study. Finally, research implications and potential applications of the model will be discussed.

LITERATURE REVIEW

Methods of Examining Player-Game Interaction in Ethnographic Studies

A few ethnographic studies examined the potential of player-game interaction to facilitate L2 learning (deHaan, 2005; Rankin, Gold, & Gooch, 2006; Lacasa, Martínez, & Méndez, 2008; Chik, 2011). These studies used various combinations of self-reported and observed data collection tools including personal interview, questionnaires, and observations to shed light on the implications of player-game interaction for L2 learning. In a case study, de Haan (2005) examined L2 vocabulary learning potential of a Japanese baseball video game and the effect of interactivity-induced cognitive load on
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