9-2012

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Frederik Cornillie

Steven L. Thorne
Portland State University

Piet Desmet

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Citation Details

ReCALL special issue: Digital games for language learning: challenges and opportunities

Frederik Cornillie, Steven L. Thorne and Piet Desmet

Link to this article: http://journals.cambridge.org/abstract_S0958344012000134

How to cite this article:
Frederik Cornillie, Steven L. Thorne and Piet Desmet (2012). ReCALL special issue: Digital games for language learning: challenges and opportunities. ReCALL, 24, pp 243-256 doi:10.1017/S0958344012000134

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ReCALL special issue: Digital games for language learning: challenges and opportunities

Editorial

Digital games for language learning: from hype to insight?

FREDERIK CORNILLIE

ITEC-IBBT-KU Leuven Kulak (Interdisciplinary Research on Technology, Education and Communication); Franitalco, Research on French, Italian and Comparative Linguistics, KU Leuven, Belgium
(email: frederik.cornillie@kuleuven-kulak.be)

STEVEN L. THORNE

Portland State University, PO Box 751, WLL-NH 491, Portland, OR 97207-0751, USA and University of Groningen, Netherlands
(email: steven.thorne@pdx.edu)

PIET DESMET

ITEC-IBBT-KU Leuven Kulak (Interdisciplinary Research on Technology, Education and Communication); Franitalco, Research on French, Italian and Comparative Linguistics, KU Leuven, Belgium
(email: piet.desmet@kuleuven-kulak.be)

The concept of ludic engagement as a form of developmentally productive activity has likely existed for as long as have formal approaches to teaching and learning. Over the past decade in particular, there has been a mercurial rise in interest in computer games as designed environments. Similarly, the design and use of a diverse array of digital games for the purpose of learning or teaching a second or foreign language (L2), broadly referred to as digital game-based language learning (DGBLL), has also significantly expanded. Evidence of the relevance of games to L2 learning is visible in mainstream media, language teaching circles (Mawer & Stanley, 2011), academic publishing venues such as dedicated volumes (Reinders, 2012), journal articles and book chapters (Cobb & Horst, 2011; Sykes & Holden, 2011; Thomas, 2011; Thorne, 2012), keynotes at recent technology-themed language learning conferences such as EUROCALL (Steven Thorne on massively multiplayer online gaming in 2009, Graham Davies on the history of gaming in CALL in 2010), and the inception of a gaming special interest group at the

annual Computer-Assisted Language Instruction Consortium (CALICO) conference in 2011.

DGBLL research and development has a long history that dates back to the early years of computer-assisted language learning (CALL) (e.g., Sharrock & Watson, 1985; Stevens, 1984; Young, 1988; for a recent review, see Peterson, 2010). Phillips (1987), for example, observed that "the great majority of CALL programs produced at present are written in acceptance of [the gaming model]" (*op. cit.*: 277), viz. a model of language learning that was seen to hinge upon intrinsic motivation (defined as an activity worth pursuing for its own sake), competition (against the computer or against others) and rules.

The digital games industry has gone through major transformations over the past few decades, in part as the result of technological innovations. Malliet and de Meyer (2005) trace the video game medium back to its prehistory (starting 1958) and note that "almost all [game] genres known today already existed in a prototypical form in the early 1980s" (*op. cit.*: 31), ranging from relatively language-intensive and contemplative adventure games to more fast-paced action-oriented games. However, the rise of online PC games beginning in the mid-1990s and the more recent development of massively multiplayer online games (MMOs) have expanded the possibilities for players to interact in and with foreign languages, sometimes involving multiple languages synchronously (e.g., Thorne, 2008).

In addition to technological innovations and development, the medium of digital games has matured in dialectic interaction with its growing popularity and diversification of its customer base. In 2010, a survey commissioned by the European games industry (Gamevision, 2010) revealed that on average 25.4% of Europeans[1] aged above sixteen were 'gamers' (i.e., played games in the preceding six months). Although this survey confirmed the conventional wisdom that younger and male gamers play more often, it also showed that almost 30% of 30–49-year-olds play games, and that the proportional gap between males (one in three are gamers) and females (one in five are gamers) is narrowing. Finally, the report highlights the significance of gaming as a family activity, with 58% of gaming parents reporting that they play with their children, as well as the prevalence of online gaming, with 71% of gamers having played in the preceding three months. In the US, gaming is reported to be even more popular and more demographically equalized than in Europe (ESA, 2011).

Massively multiplayer online role playing games (MMORPGs) comprise a specific variety of *commercial off-the-shelf* (COTS) games (Van Eck, 2009) that have received considerable attention in the applied linguistics literature (e.g., Peterson, 2010; Reinders, 2012; Sykes, Reinhardt, & Thorne, 2010; Thorne, 2012). In January 2012, the most popular MMORPG, *World of Warcraft*, reached 10.2 million subscribers worldwide, with servers (called 'realms') located in the US, Europe, China, and Korea, which support a number of major world languages. In Europe, for example, *World of Warcraft* comprises 263 realms in total, 87 of which are officially designated as

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[1] Based on data from the five largest European territories (UK, France, Italy, Germany and Spain), and data from Sweden, The Netherlands and Poland.

German speaking, with 37 for French, 11 for Spanish, 19 for Russian, and 109 for English, with the English realms typically also including large player populations speaking other European languages such as Dutch, Italian, Swedish, and Finnish, among others (see http://www.wowwiki.com/Realm). As these numbers and the aforementioned surveys make evident, *World of Warcraft*, as well as other MMORPGs, are game worlds that are populated by individuals representing increasingly diverse social strata, ages, and linguistic backgrounds.

Alongside the evolution of games within the commercial entertainment industry, digital gaming environments have become increasingly used for purposes that are not commonly associated with recreation and entertainment. One specific illustration of this 'serious game' movement is the work of game designer Jane McGonigal (2011), who harnesses the motivational elements of game mechanics in order to create experiences intended to raise awareness of, and critical thinking about, humanitarian, ecological, and societal issues. In similar work, Ian Bogost (2007, 2011) has described the use of games for documenting historical and cultural events, as designed experiences that heighten humans' capacity for empathy, and as spaces for artistic and political engagement (among many other things). In scientific research communities, games like *Phylo* are showing that when good game mechanics are coupled with actual DNA research data, human gamer-analysts can contribute to solving difficult problems such as multiple sequence alignment and biomolecule design (as reported in *Nature*, March 12, 2012[2] and January 22, 2012[3] respectively). Serious games are also emerging in museums, advertising and management training, and somewhat more slowly, in formal educational settings. In this sense, games are evoking a shift away from models of learning based on information delivery toward theories of human development rooted in experiential problem solving and complex and spatially distributed forms of collaboration. It is also relevant to note that educational gaming projects are supported by increasingly powerful game engines, rendering and modelling technologies, and computational and networking capacities.

In light of these technological and societal evolutions, this special issue was conceived as a forum for research that advances empirical investigation into the merits of digital games for language learning. In a recent review of research on computer games in instructed settings, Tobias, Fletcher, Dai and Wind (2011) conclude that games hold promise, but they also note outstanding methodological issues as well a tendency for game-related research to display "more enthusiasm for describing the affordance of games and their motivating properties than for conducting research to demonstrate that these affordances are used to attain instructional aims, or to resolve problems found in prior research" (*op. cit.*: 206). The same may be claimed for CALL gaming research; there clearly is strong pedagogical and research interest in gaming, but relatively few empirically supported studies have emerged that relate gaming experience to, for instance, gains on standard proficiency measures of L2 development. Additionally, it

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[2] "Gamers outdo computers at matching up disease genes: Computer game crowdsources DNA sequence alignment across different species." *Nature*, doi:10.1038/nature.2012.10203

[3] "Victory for crowdsourced biomolecule design: Players of the online game Foldit guide researchers to a better enzyme." Nature, doi:10.1038/nature.2012.9872

may be argued that two somewhat limiting factors have remained surprisingly stable over the years, namely the conceptual fuzziness of the term 'digital game for language learning', and secondly, the reasons for why games have attracted researchers and practitioners in CALL in the first place. In the following sections, we will address these issues, while highlighting general trends in the research over the past three decades. Lastly, we will position the contributions to this special issue in this respect.

1 Defining 'digital game-based language learning' (DGBLL)

In the game design literature, many approaches have been undertaken to determine the essence of a game, a synthesis of which is provided by Salen and Zimmerman (2004: 80): "[a] game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome." In the CALL literature, the term 'game' has been used as an umbrella rubric to refer to a wide and heterogeneous range of environments and user (or player) activity types. Hubbard (1991) writes that "[w]ithin the field of language teaching, *game* seems to be one of those 'intuitive' concepts which remains undefined even in works specifically devoted to it" (*op. cit.*: 221; emphasis in original). Early definitions in the CALL literature emphasized that games are self-referential systems, lacking any attempt to represent the 'real' world (Crookall & Oxford, 1990; Hubbard, 1991; Phillips, 1987). Hence, as "a real-world system in its own right" (Crookall & Oxford, 1990: 18), a game can be set apart from "authentic communicative activities, which relate to the real world, [and] formal language practice, which relates to the world of the classroom" (Hubbard, 1991: 221). Similarly, games can also be distinguished from simulations. Although the precise relationship between games and simulations remains a debated issue, an essential difference is often that the former emphasize figured social worlds and immersive storylines while the latter focus on discrete and bounded scenarios and tasks (Tobias & Fletcher, 2011).

A broad but cardinal distinction *within* DGBLL is one that frames games either as specifically designed for L2 learning and teaching purposes, in recent years aptly labelled *synthetic immersive environments* (or SIEs, see Sykes, Oskoz, & Thorne, 2008), or as not specifically tailored to L2 learning and teaching, coined *commercial off-the-shelf* (COTS) *games* in the general game-based learning literature (Van Eck, 2009), such as commercially designed MMORPGs (see Thorne, Black, & Sykes, 2009). SIEs borrow insights from COTS games, namely by providing goal-directed and (often) collaborative forms of play, while emphasizing targeted learning outcomes that pertain to specific domains of communicative competence (e.g., Spanish language pragmatics, see Sykes, 2009).

From the perspective of conventionally used CALL categories, SIEs can be seen as a form of tutorial CALL, a term popularized by Levy's tutor-tool distinction (1997) in which tutorial CALL, with explicit instructional objectives built into an application, is differentiated from CALL that relies on the computer as medium for composition and/or communication (e.g., word-processing or computer-mediated communication). To clarify the tutor-tool distinction in the context of online games, we define *tutorial CALL games* as "the implementation of computer [games] that include an identifiable teaching presence specifically for improving some aspect of

Table 1 *framework for discussing 'game-like' environments*

		+/− designed learning objectives	
		tutor	tool/environment
+/− designed 'gaming' goals	game	tutorial CALL games (synthetic immersive environments)	COTS games
	toy	tutorial simulations, such as L2 conversation simulators	non-tutorial simulation games; virtual worlds

language proficiency'' (Hubbard & Bradin Siskin, 2004: 457), which is evident in the in-game presence of designed learning objectives and assessment strategies. In this sense, commercial off-the-shelf (COTS) games may function more as environments that may incidentally support language-specific learning, but typically COTS games are not explicitly tutorial in nature (at least in regard to language learning).

The broad distinction between tutorial CALL games and COTS games involves the presence or absence of design elements that cater specifically to language learning. However, it is relevant to note that there is substantial anecdotal evidence and numerous self-reports by players of COTS games, especially of the massively multiplayer genre, that describe high levels of L2 learning as a result of their game-based interactions (see De Grove, Van Looy, Mechant, & Decock, in preparation; and Thorne, 2010; Thorne & Fischer, 2012, for discussions). While we acknowledge the perceived and reported claims of L2 learning through gaming, we also wish to note that full empirical corroboration of these claims will require continued investigation.

In the CALL literature, COTS games are often felt to be closely related to, but distinct from, more open-ended and/or predominantly socially-oriented virtual worlds such as *Second Life* (Thorne, Black & Sykes, 2009), 'simulation games' such as *Sim Copter* (e.g., Coleman, 2002), and more explicitly tutorial-like conversation simulation environments for L2 learning (e.g. Zacharski, 2003). Game designer and critic Prensky (2001) distinguishes games from ''goal-less simulations'' and states that ''if your game doesn't have a goal but is something that can be just played with in many ways depending on your whim, you have … a toy'' (*op.cit.*: 120). Toys, in other words, are seen to lack explicitly present designed gaming goals and usually offer a less overtly structured environment.

Table 1 summarizes a two-way bifurcation in which game-like environments may either include or omit designed learning objectives and designed 'gaming' goals. However, in the absence of well-agreed-upon definitions of terms such as 'gaming', 'simulation', and 'tool', the point is not to offer a clear-cut taxonomy for determining whether specific CALL environments may or may not qualify as games, but rather to present a rough outline of a framework for subsequently discussing 'game-like' CALL environments in more detail. In CALL, such agnostic frameworks (i.e., agnostic of any SLA theory) have proven useful, as they ''help comprehend the many approaches being taken'' (Levy, 1997: 178).

In the CALL literature, the many proposals for defining DGBLL include a number of typologies that focus on game genres, game elements and learning principles, and learners' perceptions. In the next section, these approaches will be addressed in turn, and their relevance for CALL research and practice will be discussed.

1.1 Typologies of DGBLL

Various authors have discussed DGBLL in terms of game genres (e.g. deHaan, 2005; Jordan, 1992; Mawer & Stanley, 2011; Purushotma, Thorne, & Wheatley, 2009). This research takes a thematic approach and categorizes games on the basis of types of play that are possible (for example, action, role playing, adventure, fighting, sports or strategy; see Prensky, 2001: 129–131), the actions a player needs to carry out, and the attendant opportunities for language learning (receiving meaningful input, reading and exposure to language, producing language in interaction with others, etc.). Taking the perspective of courseware designers, Wylin and Desmet (2005) argue that it is useful to consider the different functions gaming may have in the overall development of educational software applications. In addition to complete and immersive games as stand-alone environments, examples include the use of game mechanics for navigation between parts of an application, a game-based competition component to an otherwise non-game-like application, game-based dynamics used for the delivery of content (e.g., interactive graphical simulations for practising two-way prepositions in German), and game-like reward or incentivization structures. This research suggests that game elements may be usefully considered within the broader ecology of courseware design and development.

A focus on game elements in the CALL literature aims to identify and define the formal constituents of games. In a commentary on *interactive participatory dramas* (IPDs), a type of game with a history that stretches back to CALL experiments with interactive videodiscs, Hubbard (2002) argued that the majority of research in this area focused "on demonstrating the validity of the general approach rather than specific elements of its implementation" and that considerations in the design process (such as dramatic qualities, kind of response/linguistic production expected from the learner, and psycholinguistic considerations) should be taken as the starting point of "a methodology specific to CALL in its tutorial function" (*op. cit.*: 211–212). We argue that the same applies to CALL game research (including research on COTS games) and that the consideration of "specific elements of implementation" is highly relevant to the continued development of an experimental research paradigm. The 'game element' approach also ties in with the research tradition in CALL that evaluates attributes of multimedia environments in the light of SLA hypotheses (e.g., Chapelle, 1998; see also deHaan, 2005, for a stimulating discussion of game genres from a cognitive-oriented SLA perspective).

A careful selection and evaluation of game elements/attributes provides an empirical lens through which to gauge the effectiveness of specific environmental characteristics as they relate to L2 development, learners' behavioural patterns, and issues of cognition and motivation. In a systematic review of the literature on game-based learning, Vandercruysse, Vandewaetere and Clarebout (2012) identified seven such 'game elements' with their presupposed benefits (see table 2).

Table 2 *game elements (from Vandercruysse et al., 2012)*

Game elements	Presupposed benefits
fun or enjoyability	enjoyment, pleasure, motivation
rules	structure
goals and objectives	motivation, stimulation
interactive/interaction	being active, interacting with others
outcomes and feedback	learning, informing about progress
problem solving/competition/challenge	adrenaline, excitement, creativity
representation/story/fantasy/context	emotion (enthusiasm), stimulation

However, with the game element approach, researchers need to be cautious of two things. First, many elements, "such as a problem to solve, competition, timing, and scoring can help to make an activity more game-like, but they are also elements of tests, so they do not, by themselves, lead to cooperative engagement [in educational gaming]" (Hubbard, 1991: 221). Hence, the game element approach critically requires a researcher's detailed understanding of the elements involved in the design of games (e.g., Björk & Holopainen, 2005), or perhaps training in game design or close collaboration with professional game developers. Second, the game element approach requires precise, and perhaps confining and non-holistic, definitions of the design elements under consideration, which may result in an overly positivistic view of discrete game elements and a corresponding lack of attention to the broader ecology and 'alchemy' of professional game design and player experiences (Cook, 2007). More optimistically, an approach to designing and assessing game elements that aligns closely with SLA research is to examine what Gee (2007) has described as learning principles. In a series of texts, Gee (e.g., 2007) closely analyzes successful and widely played COTS games to identify forms of play activity that support learning. Included among his assessment of how well-designed video games educate players, he notes the following: a focus on well-ordered problems, provision of suitable resources for solving complex problems, a reduction in the cost of 'failure' and reciprocally, support for risk taking and seeking alternative solutions, an emphasis on performance over competence, and copious and continual feedback (among other elements; see Gee, 2012).

1.2 Learners' perceptions of DGBLL

A complementary approach to defining DGBLL is to focus on the learner-player experience, a view that was early endorsed by Hubbard:

> A good rule of thumb for determining the degree to which a CALL activity is a game, then, is the degree to which students want to play it for the pleasure it brings rather than for some external reason. What a teacher or courseware designer calls an activity is not important; it is how the learner views it that will determine whether it is used as one (Hubbard, 1991: 221).

This position stresses the critical factor of learners' perceptions in DGBLL, with specific attention to the intrinsic pleasure inherent in play. Learners' perceptions

include their perceptions of the learning environment (i.e., the game) as well as perceptions about themselves.

As to learners' perceptions about the learning environment, it is noteworthy that gaming environments are often associated with task-based language teaching (TBLT) approaches (Baltra, 1990; García-Carbonell, Rising, Montero, & Watts, 2001; Purushotma *et al.*, 2009). In L2 pedagogy, a widely accepted definition of 'task' is an activity that involves primarily meaning-focused language use (as opposed to form-focused *exercises*) that results in some (essentially non-linguistic) *outcome* and which is intended to result in the completion of some specified *language aim* (Ellis, 2003). Tasks, in other words, have both non-linguistic and linguistic goals. In DGBLL, outcomes constitute the goal-directed behaviour that learners engage in and may include finding the solution to a mystery or seeing one's name in a list with high scores; language aims are specified by the (instructional) designer of a tutorial game or integrated by a teacher who uses a COTS game. TBLT researchers argue that whereas, ultimately, the attainment of language aims inherent in tasks is most important, an essential task condition needs to be met first: during the task learners must value outcomes most, "[o]therwise, there is a danger that the learners will subvert the aim of the task by displaying rather than [meaningfully] using language" (Ellis, 2003: 8). Such an outcomes-oriented focus is presumed to involve linguistic-cognitive processes more favourable for realizing language aims. Hence, for psycholinguistic reasons, learners' perceptions of the goals inherent in DGBLL tasks are significant.

It stands to reason that the kind of outcomes and goals that learners value are highly individual and may depend strongly on learners' perceptions of themselves, i.e., their motivation and sense of self-efficacy. In the educational psychology literature, learners' goal orientation is seen to involve *mastery goals* (aimed at the development of competence), *performance goals* (focused on displaying competence), or a combination of both these (Elliot, 1999). Whereas mastery-approach goals have been consistently shown to be associated with more favourable learning outcomes, the results for performance goals are less clear. Gaming environments, MMOs in particular, seem to present useful sites for investigating whether learners are oriented towards outperforming themselves and/or others, whether they are driven by mastery goals, and with which learning patterns these goals are associated. This is an area of research that warrants additional and continued investigation.

In this section, we have outlined approaches in the CALL literature for defining DGBLL and have pointed to its relevance with respect to research, design and practice/pedagogy. In the following section, we will briefly summarize the existing trajectories of DGBLL research that have emerged in the CALL literature.

## 2 Research on digital games for language learning: an emergent field

To gain a clearer understanding of the general nature of game-related CALL research, in April 2010 we conducted a database search in *ERIC*, *PsycINFO*, *Web of Science*, and additionally, the *Proquest dissertations and theses* database. The keywords included game*, gaming, MMOG*, MMORPG*, or MOO and MUD in combination with "second language learning" or "second language acquisition". Virtual worlds, which are sometimes associated with digital gaming but which we considered outside

our scope (see above in section 1), were not included in our results. MOOs (Multi-User Dungeons Object Oriented), however, were included, as they are considered game-like environments as well as the historical predecessors of MMORPGs that require a player to use language (typed text) in order to navigate through the game world and pursue quests (Peterson, 2010; Thorne *et al.*, 2009). This general search was then expanded to include the databases of five main journals for CALL (*ReCALL, CALL Journal, CALICO Journal, Language Learning & Technology, System*) using the same game-related keywords, and additionally, we included a search on the terms "language learning" in the dedicated journal *Simulation & Gaming*, excluding all studies that did not have game-related terms in the abstract or title (in order to exclude simulations). All search results were then compiled in a database so that double records could be filtered out on the basis of title and authors. This resulted in a list of 775 unique studies.

Subsequently, following qualitative selection on the basis of the titles and abstracts, studies were only included that focused on second or foreign language acquisition, digital games, and 'goal-directed' games (as opposed to more free-form virtual environments). Candidate articles were then further assessed for the presence of explicit theoretical or empirical foci. Studies were excluded in which digital games only received peripheral attention (e.g., as only one of a host of instructional formats). Finally, from the list of dissertations and theses, only studies in pursuit of a PhD were retained.

This resulted in a shortlist of 82 studies. These were subsequently classified into five research types, based on an adaptation of Levy and Stockwell's (2006) 'dimensions' deemed constitutive of CALL as an academic field: theory, non-experimental and experimental research (i.e., empirical studies), design, and pedagogy. In the 'theory' category, we included articles that present a theoretical rationale for CALL gaming on the basis of existing theories of SLA (García-Carbonell *et al.*, 2001; Sykes, Oskoz, & Thorne, 2008; Thorne *et al.*, 2009), publications that discuss gaming from the perspective of CALL theory formation (Phillips, 1987), and review papers that outline the findings of empirical research in view of theory within and outside of SLA (Peterson, 2010; Schwienhorst, 2002). Within the 'non-experimental and experimental research' category, we further distinguished between studies that adopted an experimental paradigm, using between- or within-subjects designs for comparing treatments (with or without random assignment, e.g., deHaan, Reed, & Kuwada, 2010; Zheng, Young, Brewer & Wagner, 2009), and non-experimental studies, which observed only one group or individual (e.g., Piirainen-Marsh & Tainio, 2009; Sykes, 2009; Thorne, 2008). We classified studies as 'design' if they reported on the conceptual design, development, or technological evaluation of a specific instance or type of game-based language learning environment (e.g., Hubbard, 2002; Sanders & Sanders, 1995). The body of publications which we identified as 'pedagogy' (corresponding to Levy and Stockwell's notion of 'practice') takes a teacher-centred perspective and reflects the evaluation or implementation of games in the context of classroom language learning (e.g., Hubbard, 1991; Jordan, 1992; Purushotma, 2005; Thorne & Reinhardt, 2008). As stands to reason, some studies were found to focus on multiple dimensions, in which case the predominant research type was chosen as the classifying element.

Table 3 shows the proportional relations between these research types arranged by time period. From this quantitative comparison, three observations can be gleaned.

Table 3 *Number of studies arranged by time period and research type*
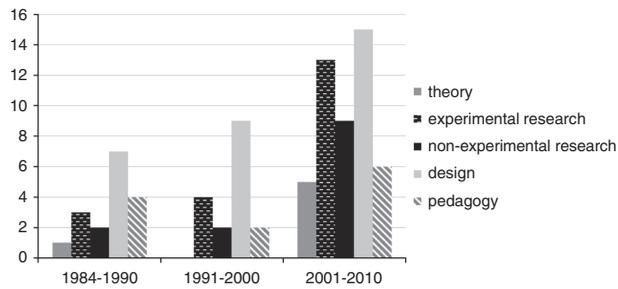
First, the number of publications has soared in the last decade, though we note that this trend would benefit from being contextualized against the total number of CALL publications for each time period. Second, we note that CALL research on games has always been proportionally focused on design issues. In consideration of the effort and cost required for DGBLL development and the observation that interest in tutorial CALL has waned (Hubbard & Bradin Siskin, 2004), the proportionally high number of design-based studies suggests that there may be fertile ground for the advancement of tutorial CALL tools as embedded elements within gaming environments (see Cobb & Horst, 2011).

   A third visible trend is that empirical studies, both experimental and non-experimental, have proliferated in the past decade. It is this emphasis on the empirical investigation of gaming environments that we have encouraged with the planning and organization of this special issue, the contents of which are described below.

3 Composition of the special issue

The call for papers for this special issue was designed to advance knowledge in the area of DGBLL, with particular attention to two issues: (1) the recent emergence of digital gaming as a substantive and diverse context for intercultural expression; (2) the pedagogical shift that most games illustrate, from models of learning based on information presentation and toward theories of human development that emphasize engaged problem solving, collaboration, and social interaction. Each contribution to this special issue focuses on various of these themes, introduces empirical data and analyses, and in some cases proposes innovative theoretical frameworks novel to CALL and SLA, all of which push forward our understanding of game-enabled processes and phenomena that obtain relevance to the project of designed settings for language development.

   In the first contribution, Cornillie, Clarebout, and Desmet emphasize the need to consider participants' perceptions in games designed for language learning purposes, with particular attention to language-focused corrective feedback. The authors present evidence from a mixed-method study which shows that learners have generally favourable perceptions of corrective feedback as a design element in an immersive role playing game. The next article, by Thorne, Fischer, and Lu, provides detailed

linguistic complexity analyses of the English language version of the commercial MMORPG *World of Warcraft* (*WoW*) and its attendant online discourse communities and strategy/informational websites. Their research illustrates that the complex semiotic ecology of this popular game constitutes a linguistically and cognitively rich environment for language learners. The following paper, by Sylvén and Sundqvist, presents evidence that recreational gaming by young EFL learners is positively related to their L2 proficiency levels. They note the need for additional research in order to explore whether game playing itself, rather than other factors, might explain this relationship. The final three contributions explore, and critically analyze, discourse-based and action-oriented participation in L2 MMORPG settings. Rama, Black, van Es, and Warschauer contrast the experiences of an expert gamer but beginning learner of L2 Spanish with those of an advanced Spanish language learner who is a novice gamer. Through analyses of journal excerpts and chat logs, among other qualitative data, the authors show that players' engagement in the collaborative space of *WoW* provides numerous affordances for L2 learning. The contribution by Zheng, Newgarden, and Young opens by introducing a distributed language and values-realizing framework as the theoretical foundation for a multimodal analysis of EFL learners' game play in *WoW*. They document, among other things, communicative activities unlikely to be encountered in L2 classrooms, as well as a co-occurrence of killing actions and caring for other players that constitute quotidian forms of play in this setting. In the article that concludes this special issue, Peterson analyzes the discourse of Japanese learners of EFL in a manga-styled MMORPG and documents interactional features that have been associated with the development of sociocultural competence.

We would like to thank the contributors to this special issue for their careful empirical and theoretical research, which pushes forward our understanding of online games as sites for language learning and the development of intercultural communicative competence.

Acknowledgements

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