

# *Multimodal analysis of language learning in World of Warcraft play: Languaging as Values-realizing*

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## Abstract

Applying Communicative Project theory (Linell, 2009), we identify and distinguish between the different coordination and language activities that emerged during an episode of *World of Warcraft (WoW)* gameplay involving English Language learners (ELLs). We further investigate ELLs' coordinations between killing and caring, self and others, in which language and action arise. Using multimodal analysis, we found: 1) a diverse tapestry of communicative activities unlikely to match what would be found in a classroom environment; 2) that the values realizing involved in killing (a typical action in *WoW*) demonstrates a strong covariate tie with caring; and 3) that players' values realizing is multi-layered, heterarchical and dynamic at a given time and space of situated interaction. We conclude by making suggestions for 1) the design of learning environments based on affordances for coaction and rich communicative activities and 2) the reconceiving of language learning as skilled linguistic action (Cowley, in press) grounded in situated learning and participation in intercultural, technology-mediated L2 networks.

Keywords: English language learning, massively multiplayer online games, affordances, agency, dialogicality, languaging, coaction, values-realizing, skilled linguistic action

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## 1 Introduction

In recent years, there has been an emerging perspective in language sciences that sees language foremost as something people do together. This “doing” involves the

ongoing interaction of our whole physical bodies and the world we experience and act on. Such an action-oriented approach is reflected in the Common European Framework (Council of Europe, 2001) for both formal and informal learning environments; however, our theoretical approach draws largely from research initiated by the Distributed Language Group (DLG). As one of the founders of the DLG, Paul J. Thibault, describes it, “Language, in the distributed view, is a radically heterogeneous phenomenon that is spread across diverse spatiotemporal scales ranging from the neural to the cultural” (Thibault, 2011: 210). Under the open system of distributed language as conceived and expressed in the work of DLG members, the dialogical perspective figures prominently, offering a balanced model for looking at situated and situation-transcending practices (Linell, 2009). In this study, we adopt the DLG perspective because of its potential to soften the boundary between a cognitive brain and a social mind (Hutchins, 1995), and to integrate mind, body and world in making sense of human interaction.

In the context of acknowledging the multiplicity of affairs involved in communication and the multimodality of languaging, we present an analysis of L2 learners engaged in the timescale of a 47-minute gameplay episode sequenced over several different locations in the game world of *World of Warcraft* (*WoW*). We have three primary goals. We first aim to incite discussion in the broader second language communities around the need for a rethinking of language away from current views characterized by the false dichotomies of thinking vs. doing. This is especially important as we begin to consider virtual worlds, including digital games, as environments for L2 learning and development. Zheng and Newgarden (2012) provided a rationale for claiming that mainstream views will not lead instructional designers (a) to tap the full potential of this new medium for engaging learners as active participants in L2 cultures and communities of practice or (b) to design learning environments that guide learners to collectivize around shared goals as they orient to each other in play, creatively accomplishing what they could not accomplish alone. We suggest that language learning can be conceived of as managing multiple perspectives and dynamics in a given moment of action and interaction that is salient “here and now” but is affected by “there and then”; that is, it is a process distributed across scales of time and space (Linell 2009). To illustrate this, we provide rich visualizations of action and interaction patterns in terms of communicative activity sub-types (Linell, 2009), coactions (Wegner & Sparrow, 2007; Zheng, 2012; Zheng & Newgarden, 2012), values-realization (Hodges, 2007a and 2007b, 2009; Zheng, 2012; Zheng & Newgarden, 2012), and instructor support.

Our second aim is to draw attention to the complex fabric of communication that is woven from the varied communicative activities and multiple values realizing that occur within even this short *WoW* gameplay session. The diversity and wealth of communicative activities we identified in a single episode of *WoW* play, distributed through both the violence of killing and the kindness of caring (predominant player actions in the game), can create a unique periodicity of interactional flow that we predict would be very different from what we would see in typical classroom interactions. This difference prompts us to advocate the ecological niche of games such as *WoW* for engaging learners in widely ranging genres of communicative practice. The drama of the killing and caring dynamics along with the social

capital<sup>1</sup> of coactive game play may be critical underlying factors for engagement and collaborative learning. This hypothesis leads to the third purpose of the article, which is to make suggestions for the design of learning environments based on what we identify as the periodicity of engagement patterns (see section 2.3 below). Explicitly, we look at the following research questions:

1. How are communicative activities (CAs) distributed in small group gameplay in *WoW* (as players fall in and out of coaction)?
2. How do L2 learners coordinate in *WoW* gameplay?
3. How does values realizing fluctuate in a communicative project?

## 2 Background and key concepts

### 2.1 Digital games for change

The call for this special issue indicates that the emergence of digital games in education evokes a shift from information-processing and transfer models of learning towards more participatory and dialogical views of interaction. Studies of video games for learning and the serious games movement have gained momentum as learning scientists have exposed the failures of traditional schooling to develop critical thinking and problem solving skills (Prensky, 2001, 2006) while demonstrating how video games can shape new literacies (Gee, 2003) and can situate players as participants in online Communities of Practice (CoPs) that promote, for example, mathematical thinking (Steinkuehler & Williams, 2009) and scientific habits of mind (Steinkuehler & Duncan, 2009).

Interest in video game studies in computer-assisted language learning (CALL) has recently grown. However, we found a scarcity of literature that considered either the affordances of the constellation of resources for L2 development that exist in the virtual worlds of games or the processes by which the ecosocial environments of games extend learning opportunities (Young *et al.*, forthcoming). Thorne (2008) reported that the *WoW* environment is a site for engaging and *meaningful communicative activities*. Players' plurilingual conversations, collaboratively assembled repair sequences, and distributed opportunities for the performance of expert roles, were also reported. Piirainen-Marsh and Tainio (2009) used conversation analysis to study the process whereby games provide multimodal resources for situated language learning and documented how learners become competent players as a result of participation and apprenticeship in the collaborative gaming environment *Final Fantasy*. Additionally, Zheng *et al.* (2009) analyzed empirical data using socio-cultural and ecological psychological perspectives and concluded by identifying a new construct, *negotiation for action*, that can more fully help us understand native

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<sup>1</sup> Players in a MMOG have access to each other in unique ways that create affordances for collaborating with and learning from each other both in gameplay and real life. Mutually rewarding relationships (Author 1 2012; Hodges 2007b) can be established through coaction in gameplay. Significantly for L2 learners, we have observed that social capital earned through networking with L1 and other diverse players can be "spent" to open new affordances for intercultural learning, dynamic language feedback during gameplay, and participation in nested L2 CoPs.

and non-native speaker collaboration in the virtual environment of *Quest Atlantis*. These studies not only whetted our appetite for understanding *what is going on* when language learners are playing these games, but also contributed empirical significance for a promising L2 instructional approach featuring language use in digital vernacular contexts via participation and socialization in online interest communities, 3D virtual environments and online games (Thorne, Black & Sykes, 2009).

Given the evidence provided by the literature combined with our own gaming experiences, we strive to ask more sophisticated questions addressing the processes in which language learners engage, the type of projects they work on, and the genres they adopt and use in gameplay. An orientation towards input, competencies, and cognitive load fails to provide a framework to answer questions relevant to processes. In contrast, distributed, ecological and dialogical perspectives extend internal views to incorporate external representations, material artifacts, and social norms in sense making (Hutchins, 1995; Thibault, 2011). Integrating analysis of current discourses on common practices in virtual world communities as they were reported in *Second Life* language teachers' blogs, Zheng and Newgarden (2012) developed a theoretical explanation for how digital games have challenged us to rethink language learning and described how ecological, dialogical and distributed perspectives can provide the basis for a new learning landscape in which learners, instructors and the environment coexist, co-design and coact. Reconceptualizations of *coaction vs. transfer*, *affordances vs. input*, *learning environments vs. tasks*, *learning to be vs. learning about* were suggested to broaden the repertoire of language learning constructs. Addressing the distributed and ecological nature of virtual world technology, the authors suggested a new 3Cs<sup>2</sup> for classical SLA to consider, namely, *caring*, *coaction* and *community of being/becoming*.

## 2.2 Coaction

Literature on interaction and communication has recently been defined in depth with respect to coordination (De Jaegher & Di Paolo, 2007) and collectivized interaction (Reed, 1996). Coaction refers to coordinations between interacting parties that are seemingly synchronized and collectivized (Cowley, 2011; Wegner & Sparrow, 2007). "Coaction occurs when one agent's full-bodied and linguistic action is influenced by or occurs in the context of another agent's – and together they do something that is not fully attributable to either one alone" (Wegner & Sparrow, 2007: 18). This coupling demands negotiation for meaning and action to coordinate functionally on a task at hand. The process of gradual alignment moving from disruption, collision or communication breakdown to seamless coaction is relevant to the research questions under investigation in the current study. The communicative projects assigned with the keyword "coaction", illustrate the process of alignment. From an ecological psychological standpoint, language is a perception, action and caring system, in which speaking and listening "demand an ongoing commitment to

<sup>2</sup> The 3Cs of *clarifying*, *confirming*, and *checking comprehension* associated with Long's interaction hypothesis (1996), are widely held as being supportive of L2 learner negotiations of meaning with L1 partners.

directing others and being directed by them to alter one's attention and action so that movement from lesser goods (i.e., one's present position, achievement, or goal) to greater goods (i.e., values) is realized" (Hodges, 2007b: 599). Ecologically, talking or doing something together is a form of way-finding as both parties utilize each other's utterances, sounds, syntax, semantics, postures, movements, etc., as affordances to come up with something that is not recognized in either party's individual contribution (Hodges, 2007a). Thus, coaction is not equivalent to paired group activity, in which highly coordinated behavior may not be necessary to accomplish an instructional objective; but rather it is a functionally coordinated process that may have an unexpected outcome. In other words, in coaction, creativity in language and action is promoted. Though coaction is different from Vygotsky's (1978) notion of the ZPD in learning, coaction between newer players and more expert others in the *WoW* CoP is a primary mode for meaning making. We want to emphasize that meaning is constructed through coaction, but construction of meaning does not always involve coaction.

Zheng and Newgarden (2012) synthesized and operationalized coaction in avatar-based virtual worlds as interaction that is collectivized as agents coordinate to pursue shared values, and as the means by which distributed meaning making emerges in languaging. The authors proposed that coaction manifests in two ways in virtual environments: (a) the coaction of player and avatar as together they perceive and act to accomplish virtual and real life goals on multiple timescales, and (b) the coaction of players as they coordinate to kill while caring for others. Coaction has both visible and invisible embodied aspects that depend on alterity, which Linell (2009) describes as other orientation that acknowledges difference and potentially, tensions and contradictions.

### 2.3 *Languaging, agency and values realizing*

The distributed view of language rejects that language is essentially symbolic and denies that brains contain representations of verbal patterns (linguistic forms). "Rather, language is social, individual, and contributes the feeling of thinking. Simply, language is distributed" (Cowley, 2009: 495). In the DLG framework, where language is conceived in terms of first-order (real time conversing) and second-order (symbolic, distanced, conceptual forms of written language) domains (Love, 2004), it is useful to consider first-order dynamics as *languaging*. We trace languaging to Maturana (1988), who suggested it occurs when people coordinate actions recurrently in the praxis of socioculturally established activities of daily life. Linell (2009) adopted the term languaging to refer to linguistic actions and activities in actual communication and thinking. When we language in social situations, we do not encode or decode structural meanings and cultural norms, we use "our senses, to concert activity while orienting to second-order constructs" (*op.cit.*: 499). In ecological terms, agents' languaging behaviors are not caused by stimuli, rather, it is the affordances, which are opportunities for action in the ecosocial environments, that can motivate agents to act (Reed, 1996) and coact (Zheng & Newgarden, 2012; Zheng, 2012). Verbal language may not be required during languaging until there is a need to negotiate for meaning, therefore, languaging encompasses both non-verbal actions and verbal activities.

The ecological psychological concept of affordance expands cognition to both perception and action, that is, agents engage in both meaning-making and values-realizing activities in goal-seeking behaviors (Gibson, 1979; Reed, 1996). Meaning-making only partially explains languaging activities, in that agents take effort to pursue information and knowledge. To complete needs and move forward with goals, that is, to accomplish “way-finding” (Hodges, 2007b), agents also realize values, which according to Reed (1996), is what organizes an action system. In this article, we are particularly interested in how *WoW* players deploy their agency in organizing their actions and interactions in game play. Adopting values-realizing theory, which concerns how agents make a conscious choice among multiple values at play in any given moment of action and interaction, enables us to reveal a dynamic pattern of languaging across timescales. This dynamic pattern is called *periodicity* in Baldry and Thibault’s multimodal terms (2006), referring to “structures that repeat themselves in a patterned way and that allow variation within a fixed framework” (*op. cit.*: 26). We further explain this concept in the methods section.

For second language learners immersed in the L2 culture, the values-realizing process is integrated with learning to take *skilled linguistic action*, which as Cowley (forthcoming) explains is “...concerting activity under material and cultural constraints. As they (L2 learners) do so, they link linguistic patterns (including ones shown in grammars and dictionaries) with affect, artifacts and social skills.” This is accomplished as learners increasingly orient to situation transcending practices (Linell, 2009), the sociocultural histories of individuals and languages that constrain and shape local dialogical interactions. Analytically, there are two aspects of situation transcending practices in dialogue: (1) participants’ past knowledge, thinking and experiences are connected; (2) participants orient to framings of genres and sociocultural and institutional traditions. Therefore, the saliency of values realized within each interaction is dependent on the ongoing dialogical relationship development between participants and environmental constraints, which leads to the selection of certain values from among the heterarchical array of potential values available.

Languaging is a useful construct to understand action-oriented approaches to language learning as, for example, is illustrated by the Common European Framework. By emphasizing the biological, embodied, dialogical, and socioculturally defined and situated nature of language, which we rely on to realize values and enact our lives as we coordinate with others, the term languaging captures the multidimensionality of linguistic interactions and integrates language, thought and actions.

In sum, the distributed language approach we employ stresses the “centrality of coacting agents who extend their worlds and their own agency through embodied, embedded processes of languaging behavior rather than uses of an abstract language system” (Thibault, 2011: 211). Agency and co-agency involve caring and enkinesthetic (reciprocal affective neuro-muscular flow felt between agents in dialogical relations) coordination among coacting agents (Stuart, 2011), which is deeply values-realizing and dialogical (Hodges, 2009). We provide a rationale in the Methods section for using multimodal analysis to illustrate the complexity of a sequence of gaming activities in which players engage in first-order languaging to coordinate their verbal interactions and actions (Reed, 1996), by orienting to second-order

forms and artifacts such as game texts, computer-generated non-player characters (NPCs), maps, or inventory items. We also explain why we use Communicative Activity Types (CAT) to frame our analysis and to describe how the *WoW* environment affords a rich, diverse, and agentic ecological niche that is different from classroom environments.

### 3 Methods

#### 3.1 Communicative Activity Type (CAT)

We frame this 47-minute episode of gameplay as a Communicative Activity Type (CAT) (Linell, 2009) that, broadly described, involves *WoW* gamers playing together in a guild, or organized social meet-up, with the goal of leveling up their characters, i.e., advancing the level of their avatars toward the end goal of level 85. CATs belong to Communicative Projects Theory; a CAT is a comprehensive communicative project (CP) that is associated with a certain type of social situation or encounter (we further define CPs in 3.4). Prototypical examples of CATs are court trials, doctor-patient encounters, job interviews, focus group discussions, classroom lessons, or 5-player boss raids in *WoW*, but CATs can also include the patterned dynamics appearing in ‘ordinary conversations’. While CPs are specified by what local verbal actions and interactions are about (e.g., helping other players locate a game quest), CATs specify the kind of social situation that overarches and constrains the interaction (e.g., *WoW* players completing a group quest). Participants in a CAT orient to the social frame of the situation and the expectations that are tied to the activity type and may use a specific type of discourse (Linell, 2009). CATs can involve nonverbal activities, but a minimum of communication must occur, even if it is less important than the nonverbal component. CATs are not static, each instantiation may vary, can change over time and sometimes constitutes a sub CA. Each CAT is “temporally contiguous and involves (at least partly) the same primary participants” (*op. cit.*: 203). Conceptualizing the episode in this way, we consider the CAs afforded by this CAT of players in a guild leveling up in terms of coaction and values realizing. Ultimately, we can contrast these CAs with proto-typically common language-learning CAs in an L2 classroom.

This episode of play is also framed by the context of the game-external circumstances surrounding it, which in part make possible the interactional accomplishment of the CAT. The three L2 learners in this episode were taking a course offered jointly to intermediate/advanced students in an Intensive English Program and first year undergraduates at the same institution. Entitled “*WoW*: Is This Who We Are?”, the design brought together English learners and native English speakers to pursue common course-driven goals that centered on exploration of social and cultural values through play within the massively multiplayer online game *WoW*.

This 47 minute-long episode takes place in what are considered low level playing areas of *WoW*. Players cannot survive alone in areas where the challenges are too far beyond their current level. The first 29 minutes centered on completion of a quest in Westfall, a desolate area of mostly abandoned farmsteads that has been overtaken by



Fig. 1. Westfall.

the Defias brotherhood, a clan of thieves (Figure 1). Hungry coyotes, vultures and dust-devils roam the lands. The quest is referred to here as the Hops quest because players needed to accumulate a certain number of hops by killing and looting the corpses of Harvest Reapers and vultures.

Following completion of the Hops quest, the students decided to join the instructor in traveling to Darkshire, a town in a nearby area. The journey along the dark road to Darkshire takes approximately the next nine minutes of play. On this route, the students were vulnerable to the much higher-level beasts (wolves and spiders) they encountered and had to depend on each other's help in fighting off attacks in order to survive. The final 6–7 minutes take place starting in Darkshire, a typical *WoW* town, where the main activities are finding armor repair using the game's mini-map feature and discovering a flight path that allows players to fly to other regions on a gryphon.

To facilitate communication and nurture coaction for building a community, all course participants were required to join the same guild, a common type of membership in *WoW* that allows players to affiliate with each other to earn reputation and achievements, communicate through a group chat channel, and share virtual goods through a guild bank account. Use of Skype conference-calling during group gameplay enabled real-time interaction with voice, and just-in-time instructor support and feedback.

### 3.2 Data collection and selection

The data was drawn from a larger set collected during the semester-long course. IShowU software recorded game video and audio and the Skype conference call. This gameplay was recorded during the first week of the 15-week course and was selected for further analysis based on the researcher/instructor's experience of it as balanced with fun and learning, while providing evidence of coordinated action, languaging and co-agency. Initial coding revealed an array of communicative projects, and the episode met the criteria of demonstrating a strong perceptual



saliency in the recurrence of the features mentioned above in comparison to other class gameplay sessions recorded throughout the course (Baldry & Thibault, 2006).

### 3.3 Participants

The players in this episode were college age ELL students from Turkey, China and Saudi Arabia. Author 2, also the instructor of the course, is a native English speaker from the US who had been playing *WoW* for about one month and appears in the transcript as Jil (a rogue). The male students, who appear in the transcript as Gwo (a warrior) and Lovol (a priest), both had limited experience playing *WoW* in other contexts, while the female student, who appears as Sev (a warrior), was completely new to the game.

### 3.4 Unit of analysis

We adopt Linell's (2009) Communicative Projects (CPs) as a unit of analysis, giving consideration to the sociocultural factors that are present. CPs deal with topics and actions that participants are concerned with at least for the moment and/or due to situational factors.<sup>3</sup> The concept of CP implies a specification of what verbal actions and interactions, especially the local ones, are about. CPs can be analyzed by parsing large ones into nested and sub-nested projects (see Linell, 2009; Zheng, 2012, for other examples of the theory of CPs in use). In this article we consider how values realizing fluctuated within the range, distribution and periodicity of CAs we identified, and within an instance of a CP.

### 3.5 Multimodal and CAT analysis

As described above, our unit of analysis requires a more dynamic approach than coding all of the data into themes as in inductive approaches (Braun & Clark, 2006). We adopted Peirce's (1955) approach of abduction to derive the themes and keywords. The underlying assumption of abduction is that data analysis begins with observations that give rise to certain assumptions which relate to the general framework of the research project (see sections 2.2, 2.3 and 3.1). Thus, the process of generating themes (CAs) and formulating and assigning keywords to the CAs involves correlating and integrating data (verbal and action) with wider contexts that underscore the concepts of coaction, languaging, agency and values-realizing. In terms of internal consistency, we relied on contextual judgments and alignment with the conceptual framework to ensure that keywords were assigned systematically across CAs. This abductive process is highly contextual, and it sometimes requires the researchers' (co-authors in this case study) negotiation

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<sup>3</sup> Linell (2009) further explains that CPs need not be consciously planned; it is often unclear how far ahead communicative projects are projected. A conversation takes place in the course of a communicative interaction and flows according to the attention, concerns and commitments of the participants; however, their involvement is often asymmetrical.

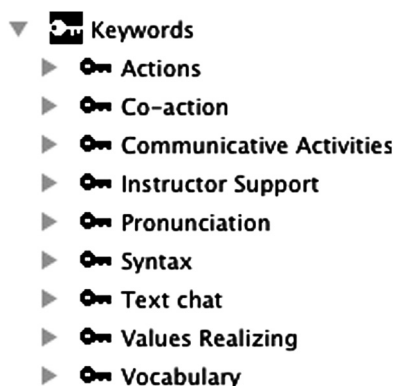


Fig. 2. Main keyword groups.

and communal agreement to re-assign CAs and keywords to CPs or collapse CA or keyword categories.

Our primary approach to making sense of how players coordinate their action in language relies on multimodal analysis (Baldry & Thibault, 2006). We transcribed avatar actions instead of real life body gestures. Avatar embodied action and interactions are situated in the virtual space of *WoW*. This 3D technology provides a unique opportunity for us to investigate how players' meaning making and values realizing are relevant to time, location, and movements. "The analyst of multimodal texts is thus interested in how perceptually salient features in such events contribute to the meaning-making process of that event" (Baldry & Thibault, 2006: 183). Perceptual salience is captured by the principle of periodicity. We are interested in the perceptual salience that is contributed by multiple factors over a play episode: players, instructor support, unpredicted events, etc. We are also interested in the processes of players' coordination within a CP. At this micro level, we rely on another multimodal analytic technique, scalar levels (the hierarchical structure of any discourse event)<sup>4</sup> to tease out the situation transcending practices (STPs). The systemic notion of discourse scalar levels is similar to one aspect of STPs in which situations are temporarily transcended into other texts, then after some "detours", dialogue partners return to the main goals of conversation.

Using Transana video transcription and analysis software, we segmented the verbal and action transcription into CPs and assigned keywords to each of the fifty CPs. Both verbal language and action were coded for values realizing and CAs. Figure 2 shows the main keyword categories. In the Analysis section, relevant keywords are evident in the figures. Keywords that fall under *Coaction*, *Communicative Activities*, and *Values Realizing* are based on the theoretical perspectives explained in the previous sections; keywords within *Instructor Support* are descriptions of instructor's actions; keywords in *Actions*, *Syntax* and *Vocabulary* are basic descriptions and comments on learner language.

<sup>4</sup> Baldry and Thibault (2006) further point out that organizing a discourse event into a system of scalar levels does not presume a hierarchy "in which larger-scale units contain smaller-scale ones", rather "larger-scalar units provide integrating contexts for smaller-scale ones; and the different levels mutually interact with and constrain each other; they are not for this reason completely separable" (*op. cit.*: 144).

CA's	%
<b>Coordinating</b>	15.2
<b>Gameplay knowledge distributing</b>	14.7
<b>Reporting on actions</b>	13.7
<b>Negotiation of meaning</b>	12
<b>Seeking other's perspective</b>	10.2
<b>Seeking help</b>	8.2
<b>Expressing need</b>	7.4
<b>Offering help</b>	6.5
<b>Learning to use technology</b>	4.9
<b>Locating</b>	2.9
<b>Apologizing for an action</b>	2.8
<b>Non-game topic</b>	1
<b>Greetings</b>	0.4

Fig. 3. Communicative Activities (CAs) from Most to Least Frequent

## 4 Analysis and findings

### 4.1 WoW communicative activities

Within this episode, thirteen communicative activity sub-types were identified. Using Transana's keyword percentage map, we ordered the CAs in range from most to least frequent (Figure 3). The first three most frequent CAs among these are *Coordinating*, *Gameplay knowledge distributing* and *Reporting on actions*, which together account for nearly half of all CAs. Dynamic languaging is largely for figuring out what to do and how to do it together (*Coordinating*), sharing information about the game in order to help others play better (*Gameplay knowledge distributing*), and informing others about what has taken place when players are acting independently but still oriented toward some shared goal (*Reporting on actions*). It is likely that the next two most frequent CAs, *Negotiation of meaning* and *Understanding other's perspective*, are in support of the first three predominant CAs mentioned above, but in this episode they are primarily involved with learning the L2 by taking skilled linguistic action in *WoW* play.

### 4.2 Periodicity of communicative activities (CAs) across time and space

In terms of the periodicity of CAs, there are different frequencies across the major locations of play (Figure 4). The patterns of CAs in Westfall (Hops Quest) (Figure 4, Area 1), where players spent 65% of the episode, are not as strong. In fact, there is lower frequency in all keyword categories (*CAs*, *Coaction*, *Instructor Support* and *Values Realizing*), with the exception of the category *Actions*, which were similarly

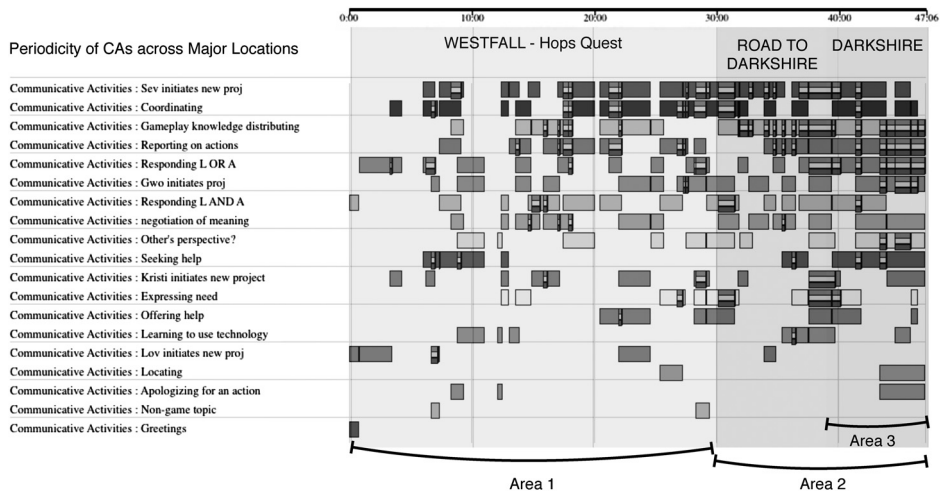


Fig. 4. Communicative Activities across locations.

distributed across all locations. This can be explained in part by the technical adjustments affecting the Skype call that occurred at the beginning of gameplay.<sup>5</sup> Although technical problems will arise, we view them as adding another type of communicative project to the languaging dynamics.

From the start of the final 17 minutes of this episode, the players embarked together on a new adventure, beginning with the communicative projects that make up the collection called “The Dark Road to Darkshire” and concluding with CPs that occur in the town of Darkshire. It is clear that certain of the most frequent overall CAs became even more dense during this journey along a dark, deeply wooded road. *Gameplay knowledge distributing*, *Reporting on actions*, and *Responding with language or action* occur more closely together beginning with the group’s travel on the road to Darkshire. *Gameplay knowledge distributing* occurred just 10 times during the Hops quest, but 18 times within the final 17 minutes of play (Figure 4, Area 2). CAs in this portion of play allowed players to share previous game experiences (of being attacked and killed), to learn how to use features of the game interface (camera perspective, and the mini-map) and to locate and use Non-Player Characters (NPCs) for armor repair and flight to other locations. In the final location, the city of Darkshire (Figure 4, Area 3), there is a concentration of these CAs: *Coordinating*, *Expressing need*, *Distributing gameplay knowledge*, *Understanding others’ perspective*, *Reporting on actions*, *Seeking help*, and *Responding with language and/or action*.

<sup>5</sup> For the first five minutes of the recording, no one was using Skype with voice. The three students had been playing together and were in the midst of a quest. Text chat was used to communicate in a basic way for greetings and coordinating moves for the quest (e.g., “Come”, “Go”, “This way”). After the Skype conference call was established, the player Gwo became distracted by trying to set up a voice feature built into the *WoW* game interface. He accidentally muted the Skype call from 10:50 to 12:08. This detail is meant to confirm that there certainly are challenges in adopting a digital game as a learning environment.

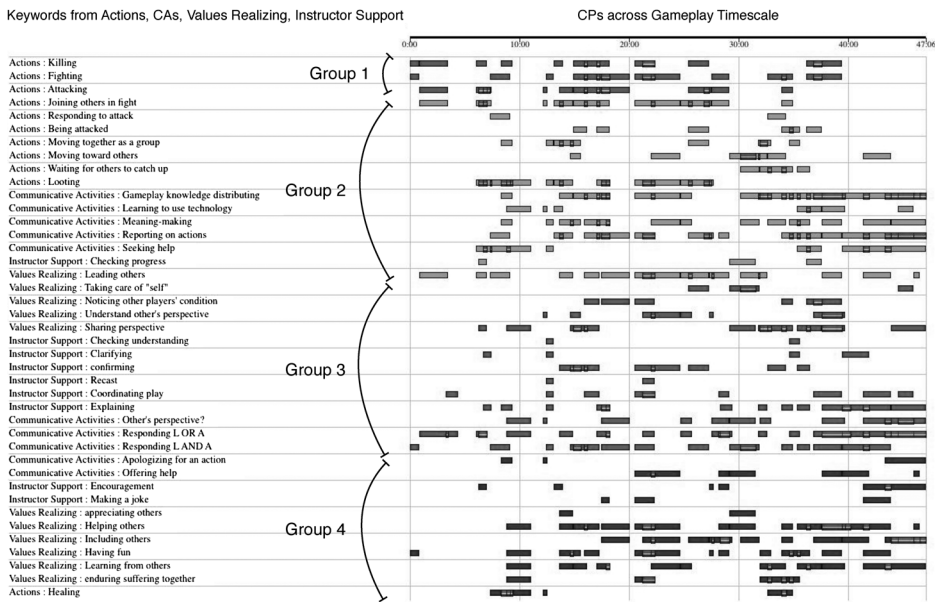


Fig. 5. Communicative Activities across locations.

### 4.3 Coordination of killing and caring

Looking at a range of keywords from categories of *Actions*, *CAs*, *Instructor Support* and *Values Realizing*, ordered according to their association with either *Killing* at one end of the spectrum and/or *Caring* along the other end (Figure 5), it is clear that there were far more “neutral to caring” things happening in this episode, arguably a typical episode in this regard, than there were “violent” acts or even intentions.

In fact, the Group 1 keywords, all *Actions* keywords, are the only overtly violent activities; Group 2 represent more individualistic activities, while Group 3 denote activities that are more other-oriented and Group 4 are activities that directly involve caring for others. In terms of values flux, the Killing and Caring map (Figure 5) reveals that over the timeline of the episode, whenever killing was occurring, there were synchronously ongoing language and actions that were of the everyday sort, that afforded multiple values realizing, that could be supported by an L2 instructor, and that frequently involved shifts of perspective and caring acts. This is definitely not what many non-gamers would imagine happens in an ostensibly “violent” role-playing adventure video game like *WoW*.

### 4.4 Multi-scalar values realization

We next look in detail at a single CP that involves both *Killing* and *Caring*. This is one of the typical CPs that demonstrated players’ strong heterarchical values realizing across overlapping timescales. We look at each of four nested projects and discuss how players engage in languaging to coordinate during a 67.5 second period of play. Figure 6 demonstrates all the keywords assigned to this CP. Using the

Clip Keywords
Actions : Discovering
Actions : Dying
Actions : Fighting
Actions : Joining others in fight
Actions : Killing
Actions : Looting
Co-action : coaction quest w/o language
Co-action : coaction quest-language
Co-action : Player/avatar
Communicative Activities : Coordinating
Communicative Activities : Gameplay knowledge distrib
Communicative Activities : Offering help
Communicative Activities : Reporting on actions
Communicative Activities : Responding L AND A
Communicative Activities : Sev initiates new proj
Instructor Support : confirming
Instructor Support : Coordinating play
Instructor Support : Making a joke
Syntax : ungrammatical construction
Values Realizing : enduring suffering together
Values Realizing : Having fun
Values Realizing : Helping others
Values Realizing : Leading others
Values Realizing : Noticing other players' condition

Fig. 6. Keywords assigned to CP illustrated in Figures 7A-H.

analytic concept of nested CPs and sub-nested CPs, and the concept of situation transcending practice (STP), we will reveal how the action agendas of killing and caring were accomplished.

This CP (Figures 7A–H) was initiated by the player Gwo’s report of his imminent death as a Harvest Reaper overcame him. On the timescale of the episode CAT (of players in a guild leveling their avatars), both Gwo and Sev realized the value of *Helping others*. In the first nested CP (Figures 7A–C), Gwo reported in Line 1: *OK, I’m dying here almost*. After letting others know his fate, realizing the value of *Taking care of self*, he chose to wait quietly during almost the entire remaining part of the project (0:21:05.9—0:22:03.5), allowing the others to continue with the Hops quest, thereby coacting without language for a brief time.

The other players Sev, Lovol and Jil, the instructor, all oriented to Gwo’s report of death, responding in different ways to realize the caring value of *Noticing others’ condition*. Sev sought to confirm whether Gwo actually died, since she apparently didn’t see the corpse of his avatar at first (see Figure 7A in Nested CP1). Lovol, who had been killed himself by Defias bandits just seconds earlier, responded to Gwo with language (Lines 6, 9) and action (Line 10) in rapid sequence to realize the overarching value of *Helping others*. Lovol assured and informed the less experienced players, Jil and Sev, that he could revive Gwo (because he was a priest/healer, a character class with the ability to bring fallen players back to life) (Line 6). This CA of *Distributing gameplay knowledge* serves as a sub-nested project, and also as an STP that supports the main CP of Lovol helping Gwo.

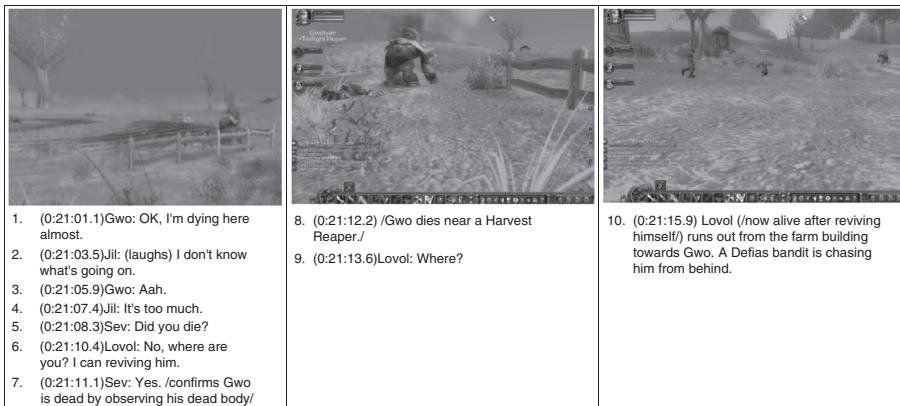


Fig. 7. (A–C) Nested CP1 of Lovol Responding to Gwo's Reporting of his Death.

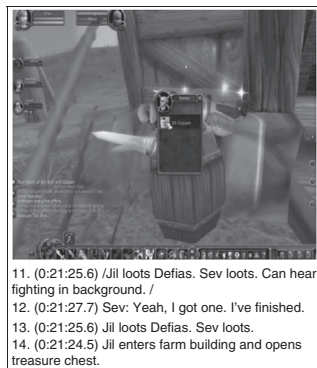


Fig. 7. (D) Nested CP2 of Jil and Sev's Individual Action in Questing.

After reviving himself (*Taking care of self*), Lovol ran to Gwo, ignoring that he aggravated a Harvest Reaper as he did so (Figure 7C and Line 10). Lovol's choice of avatar, player role as a healer, and name (the palindrome pronounced as "Love All"), initiated certain trajectories for participation in game play that opened up affordances for helping others in very specific ways, requiring specific game knowledge, skills and languaging that are perceptually salient in this nested CP and evident across the timescale of this episode as well as throughout the 15-week academic course.

In Nested CP2 (Figure 7D) Jil and Sev continued to pursue game goals of the overarching CA of leveling and the more immediate timescale of the ongoing Hops quest. After hearing that Lovol would revive Gwo, Jil and Sev's actions were directed toward looting the kill. Sev looted a Harvest Reaper and found the last hops she needed, *Reporting her actions* to the others to let them know she had finished the quest and simultaneously *Coordinating* actions in anticipation of making the next group move.

In Nested CP3 (Figures 7E–F), Sev assisted Lovol in fighting off another Defias bandit. Telling Lovol to run away to save himself, she realized the values of

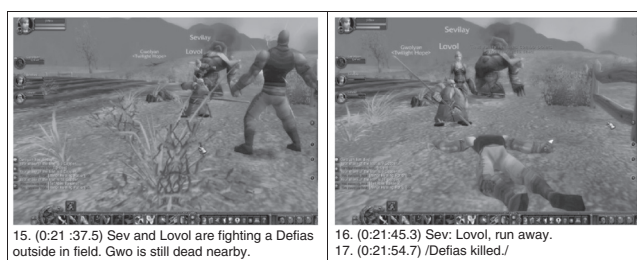


Fig. 7. (E–F) Nested CP3 of Lovol and Sev came to rescue Gwo by fighting the Harvest Reaper.

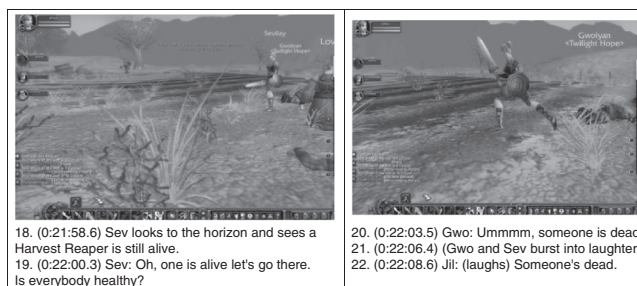


Fig. 7. (G–H) Nested CP4 on Laughing Away Death

*Noticing others' condition* and *Helping others*, while communicating with her language and actions that she was confident that she could finish the enemy off on her own. Even in this short exchange, Sev's engagement with many of the game's core values (achieving goals, working together, being a strong player) is clear. She also demonstrated her alignment with the values of collaborative group play and community that underpinned the *WoW* course, and across multiple scalar levels, she realized the value of leadership (as defined by *Leading others*) through languaging in a way that honored the conventions of L2 discourse while effectively putting herself in an agentic position. She did not merely follow linguistic rules and patterns, she acted pragmatically in order to coordinate others while indicating concern for their well-being.

In the final CP (Figures 7G–H), Sev's initial CA of asking about the other players' health in Line 19, "Oh, one is alive let's go there. Is everybody healthy?" (*Noticing other players' condition*) was a move toward assessing the group's readiness to go on together while perpetuating her role of *Leading others*. At this moment, Gwo enacted the value of *Having fun* by choosing to remind the group, in an amusing way, that they seemed to have forgotten about his lifeless state, "Ummmm, someone is dead" (Line 20). The laughter that ensued reveals a unique affordance in *WoW* for players in coaction that we identified as realizing the value of *Enduring suffering together*. Even in a situation as grim as death, coaction created a sense of sharing in that fate together, and being able to laugh in the face of suffering was a welcome affordance for community building. Telling a joke in the context of an L2 situation requires skilled linguistic action, and Gwo accomplished this in an embodied and memorable way that relied on his orienting to the other players and being in coaction with them.



## 5. Discussion

### ***5.1. How are communicative activities (CAs) distributed in small group gameplay of WoW?***

The variety of CAs is important to consider in terms of understanding the action agenda that can arise in the course of unplanned *WoW* play by a teacher and students as they work together to complete a quest or travel as a group from one location to another (see also, Zheng, 2012). The frequency of CAs reveals how players integrated language and action to pursue a variety of individual and collective goals (such as being good at the game, doing well in the course, or building social capital with friends) both in the context of their current gameplay and within other overarching timescales. Multimodal data analysis and visualization allowed us to tease out what kinds of speech functions (e.g., soliciting of help, providing directions, reprimanding and apologizing, sharing of information and strategy, introductions/greeting and leave-taking rituals) occurred in the multiplayer gaming environments. These serve as examples of bridging activities, linking in-class activity and digital-vernacular experiences, that Thorne and Reinhardt (2008: 565) invited CALL researchers to investigate.

### ***5.2 How do L2 learners coordinate in WoW gameplay (via coaction and values realizing)?***

One of the findings from the analysis of this episode was an overall pattern of more action than language during the 29 minutes of the Hops quest versus more language than action during the non-quest play along the road and in the town of Darkshire. Language is central to planning for action, coordinating group action, and for reflecting on (debriefing) and learning from action, but during intense action, individual play, such as “rotation” (sequencing of the use of spells and abilities) and observation (getting feedback on play from game features) takes precedence. During the fights with Harvest Reapers for hops, individual players were acting on self-preservation goals, but during travel to Darkshire, they were free to act on shared goals for reflecting and planning. Knowledge of the periodicity of languaging over the course of gameplay locations and various activities can allow designers and educators to craft and embed activities that are more likely to afford certain kinds of language dynamics. The rhythmic flow of action with minimal verbal language, and more personal, reflective conversing with low action activity, as we found when players moved through the virtual environment pursuing an array of values, displayed diverse types of engagement. We suggest that learners’ values-realizing trajectories, made visible through their languaging activities, provide a means to trace patterns of L2 development.

### ***5.3 How does values realizing fluctuate in communicative projects?***

In identifying values realizing within CPs, we looked at how relationships (with others, with our ecology) were shaped in some significant way through communicative projects. Exploring values realizing flux, we looked at action patterns of

*Killing and Caring* on the timescale of the entire episode. What is interesting is how these seemingly paradoxical activities are interdependent. Through collectivized effort and motivation (Zheng, 2012), and often only in this way, players can overcome threatening beasts, demons, enemy players and ‘bosses.’ On the level of orienting to sociocultural values, killing is usually a morally-framed activity in *WoW*. When players accept quests, they agree to help to accomplish some mission that is important to their people, their race or their allies. Players orient to the narrative backstory and align with those they agree to help. The point here is that killing, which is undeniably a major activity and focus of gameplay, is justified based on its association with caring for, helping, protecting, or working with others.

On the more micro-scale of the CP analyzed in 4.4, there was an ongoing flux between players’ collective and individual values realizing as they enacted a new exciting, dangerous, yet unifying and rewarding experience through coacting as their virtual and real-world selves. Selecting *WoW* avatar roles associated with damage dealing allowed two players (Sev and Jil) to prioritize group game goals (quest completion, fighting off attackers) throughout the CP, while selecting the role of healer allowed another player (Lovol) to prioritize helping others through language and action. For Gwo, the circumstance of his in-game death became a prominent affordance for values realizing in both pragmatic (his coaction for the Hops quest), and relationship-building (his making a joke out of being dead) ways. Which values were acted on in this CP depended on what the situation afforded in terms of gameplay events and environments, the L2 language and culture, players’ intentional dynamics, identities, diverse sociocultural histories, and shared histories as students, instructor, and players of *WoW*. These myriad factors created a complex set of affordances that enabled the CPs and CAs within this gameplay episode to occur.

## 6. Implications

### 6.1 Game affordances for coaction and multiple values realizing

Quests are among the most valuable *WoW* affordances to exploit when we consider adopting this or similar games as L2 learning environments, because questing can promote in group play an immediate sense of “we”, a need for coordinated effort, communication and coaction. Quests are motivating because they reward the player with experience points, useable items and gold in the game, and the social capital generated by helping friends and other players. They are also important in engaging players with the backstory of the game, and giving players reasons to take various roles and venture into new and unknown areas. In the process of orienting to quest missions and tasks in reading and carrying out quest assignments, players create a shared history, form future goals, become participants in the culture of *WoW*, and extend their friendships with players they know in their real lives.

Are the types of CPs and CAs that are required and routinely practiced in *WoW* relevant to L2 learners’ needs and values-realizing outside of *WoW*? In fact, many of the same action-oriented dialogs are likely to be found in ESL textbooks, presented and practiced in the form of task-based activities, i.e., initiating or responding to questions, seeking help, negotiating meaning of unfamiliar words, expressing need,

asking for or providing locative information, apologizing, and greeting and leave taking forms of talk. In *WoW* gameplay, however, these languaging activities arise organically, in the natural course and contexts of questing and virtual world exploration. Unlike most task-based activities in classrooms, gameplay activities have determinate game-changing outcomes and recalcitrant characteristics of reality (materiality of game artifacts and settings) that invite realistic participation and attitude in comparison to make-believe role-plays (Velleman, 2008). Combined with the mobility of the avatar, these afford both exploratory and performatory actions (Reed, 1996), which further develop players' ability to anticipate and act adaptively in future situations (Zheng, 2012).

On the other hand, certain CPs involve collectivized effort that is tied to game objectives or a quest, for example, *coordinating*, *reporting on actions*, *distributing (gameplay) knowledge*, and *asking about others' perspective*. Some of these CPs and CAs may be less likely to be found in classroom practice or texts; however, we argue that they are essential languaging skills for coaction. Moreover, they are essential skills for participating in diverse settings where collaboration, information sharing and multiple perspective taking are valued, that is, in most academic, professional, and/or multicultural CoPs.

## 6.2 Affordances for languaging and agency

Player/avatar coaction in *WoW* provides a new arena for languaging, one that can be less threatening and in which different aspects of identity can be explored and created. *WoW*'s open-ended design allows players to define their own trajectories for learning, achievement, and participation; this is experienced as the co-agency of the player and avatar. This benefits language development because of the empowerment of authorship (Wegner & Sparrow, 2007) and because these experiences are likely to be more personally meaningful than those in which a learner has no sense of influence or control. The co-transformation of player and avatar through gameplay is a complex, creative process in which language plays a central role.

## 6.3 Designing affordances for participation in L2 networks

Recognizing the variety of affordances for language pick-up through coaction available in *WoW* and other digital games has implications for both instruction and design of learning environments. We propose that L2 instruction should go beyond a learner-centered approach to leverage the affordances for values realizing through learner participation in L2 social networks that can be linked to MMOG play. Collaborative play that engages coaction in-game also builds social capital among players in the real world. Playfulness, certainly a social value in the game, affords experimentation in language and action that is relatively risk-free. Gameplay can be thought of in terms of cultural immersion that includes picking up the native discourse of game language. Instruction should support L2 learners in engaging and cooperating with diverse others. The instructor's role is to manage the dynamics of gameplay and languaging, promote meaning-making and coaction by tuning attention to distributed resources, multiple perspectives and shared goals, and

helping learners recognize how gameplay experiences reflect and transform real-life languaging practices, learning, and values realizing as they participate in new and extended L2 communities.

## 7 Conclusion

*WoW* and other MMOGs adopted as learning environments bring narrative structure, interactional constraints, drama, fun and challenge that may be critical factors in engagement and learning. We stress that multiple values-realizing opportunities in *WoW* play included real-time, real life problem-solving, in situations which would be difficult to create in classroom environments. These are nevertheless important to L2 learners who do not need to ‘have language’, but rather need to learn to use language adaptively and to ‘live in it’ (van Lier, 2000). As they create islands in *Second Life* or activities in *Quest Atlantis*, designers of virtual environments can be guided by the concept of affording multiple values-realizing activities and by understanding the contribution of the periodicity of diverse CPs and CAs to sense making.

Using multimodal analytic tools and systematically applying ecological and dialogical concepts such as affordances, coaction, co-agency, languaging and values realizing, we revealed a rich tapestry of languaging activities that reflects the dialogical and distributed processes of language learning. We invite fellow SLA researchers to join us in reconsidering language learning as skilled linguistic action that relies on first order dynamics to invoke second order language. We also hope our adoption of ecological and dialogical concepts for analysis of gameplay will shed new light on CALL research, so that CALL continues to be a wellspring of innovation and a catalyst for advancing research in second language studies.

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