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Recurrent languaging activities in World of Warcraft: Skilled linguistic action meets the Common European Framework of Reference

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Abstract

In this study of affordances for second language (L2) learning in World of Warcraft (WoW) group play, we compared three gameplay episodes spanning a semester-long course. Applying multimodal analysis framed by ecological, dialogical and distributed (EDD) views (Zheng and Newgarden, forthcoming), we explored four English as a second language learners' verbalizations and avatar actions. Players learned to take skilled linguistic action as they coordinated recurrent WoW gameplay activities (questing, planning next moves, traveling, learning a skill, etc.). Frequent activities matched Common European Framework of Reference (CEFR) speaking proficiency descriptors, used widely in L2 teaching and learning (L2TL), providing evidence that players engaged in the types of communicative activities interaction-oriented classroom approaches develop. However, in the WoW context, interactions were not planned, but emerged as players dynamically directed the course of play. Furthermore, modalities of avatar-embodiment and conversing over Skype allowed players to flexibly integrate language and actions to co-act toward game goals, discuss non-game topics during play, or demonstrate comprehension with avatar actions alone, an affordance for less verbal players. This research builds on previous work (Zheng, Newgarden & Young, 2012) relating WoW's multiplayer activities and L2 learners' skilled linguistic actions. We refer to Chemero's (2009) model of the animal-environment system to explain how L2 learners develop abilities to take skilled linguistic action by acting on affordances in WoW. The EDD framework presented may enable other researchers to account for more of the complexities involved in L2 learning in multimodal, multiplayer virtual environments.

Keywords: multimodality, multimodal and dialogical analysis, skilled linguistic action, avatar-embodiment, CEFR

1 Introduction

Popular multiplayer games such as World of Warcraft (WoW), currently with 5.5 million subscribers,[1] represent massive online communities of speakers of English, Chinese and Spanish among other languages, in their persistent game worlds, each with a unique narrative and socially-determined ethos. Many massively multiplayer online games (MMOGs) also provide access to second language (L2) communities that exist around play of the game including online fan sites, databases and forums (Thorne, Fischer & Lu, 2012; Ryu, 2013, Chik, 2014). Interacting with other players in an L2 is promoted through the challenges and rewards embedded in the design of MMOGs, which require ongoing problem-solving and coordination as players make progress toward goals such as leveling up their avatar or completing quests. Researchers seeking to immerse L2 learners in real-world problem-solving have investigated how MMOGs support L2 learning in group play. Zheng and Newgarden (forthcoming) reviewed online gaming studies and found two major trends: (1) researchers applied traditional second language acquisition (SLA) constructs to reveal whether interaction in games led to gains in specific linguistic areas such as vocabulary development (Rankin, McNeal, Gooch & Shute, 2008; Rankin, Morrison, McNeal, Gooch & Shute, 2009) or sentence formation fluency, reading skill, or use of informal language (Peterson, 2012); or (2) researchers (Zheng *et al.*, 2012; Newgarden, Zheng & Liu, 2015) applied emerging third-wave cognitive sciences theories such as ecological, dialogical and distributed (EDD) perspectives to overcome the inadequacy of SLA theories and methods to reveal the full potential of MMOG environments. One of the major inadequacies relates to the focus of the current *ReCALL* theme – multimodality – in that 3D virtual worlds, which are richly imbued with manipulable material artifacts, have been simply reduced to linguistic input, while communication mediated by avatar movements, place-based meanings, and voice modalities has been reduced to flattened text data, and participation and complex learning trajectories have been measured as if they were static or linear.[2]

In EDD views, however, contexts define human sense-making and afford actions that realize different arrays of values. Different sets of affordances for L2 learning are made possible by the contexts of different environments, MMOGs, or L2 classrooms. EDD-framed research asks about the agent-driven interactions of L2 learners as they "do" languaging activities together, how they draw on multimodal resources such as embodiment, voice, material artifacts, texts, or more expert others, to enact communicative projects that are constrained by socioculturally defined discourses (Gee, 1990).

One goal of this paper is to advance research from the aforementioned second trend by addressing the question of how L2 learners and native English speakers (NESs) coordinate and make sense with language and actions in the dynamics of play of a digital game. Multimodality as both theory and analytical tool is critical in three ways in this study. First, we conceived of players' L2 verbalizations and avatar actions as *languaging*

[1] Retrieved on 10 January, 2016 from Statista, the Statistics Portal at: http://www.statista.com/statistics/276601/number-of-world-of-warcraft-subscribers-by-quarter/)

[2] As a counterpoint, some researchers exploring second language learning in Second Life have deliberately adopted multimodal approaches, focusing on avatar interactions with virtual artifacts and within virtual spaces (Panichi, 2015) and nonverbal as well as verbal interactions (Wigham, 2012).

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for sense-making, activity that entails dynamic integration of speaking, hearing, movement, and orientation to sociocultural norms of situations. This prioritization of real-time, situated, embodied linguistic activity is a theoretical stance that we take to advance an EDD view of language in which the goal for L2 learners is to be able to take *skilled linguistic action* (Cowley, 2012; Newgarden *et al.*, 2015). L2 learners take skilled linguistic actions when they comply with material and cultural constraints while "linking symbols and patterns of grammar with affect, artifacts and social skills" (Cowley, 2012: 13).

Second, we considered how use of multimodal communication channels, i.e. use of group voice chat (e.g. Skype), avatar-embodied actions and occasionally, text chat, contributed to opportunities for L2 learning. We thereby go beyond the many studies of L2 learning with digital games that have relied solely on players' text chat as the data for uncovering L2 development, defined as a measurable change in proficiency of an individual learner over time. Our aim is not to show examples of L2 development in these terms, and furthermore, our dialogical unit of analysis does not allow it. Instead, we illustrate how and when L2 players demonstrated their abilities through enacting a variety of communicative activities that are inherent and recurrent in group play of a quest-based multiplayer game.

Third, we employed multimodal analysis to explore how players' languaging creates new affordances for L2 learning. As in L2 classrooms, L2 learners in WoW make use of multiple modalities in sense-making including voice, sound effects, texts, and other artifacts in the environment. However, since the contexts for communicative activities in L2 classrooms are often merely imagined, it can easily be argued that the rich and situation-specific information provided in the designed contexts of a virtual world game may be more helpful to making sense in communicative activities. In WoW, a player's embodiment is via an avatar, who can typically gesture, emote, speak, and move about an expansive virtual space

Fig. 1. Annotated screenshot from Week 8 gameplay of WoW

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in a multitude of virtual ways (on foot, on a mount, flying, teleporting, invisibly, in different forms, etc.). In Figure 1, an annotated screenshot of WoW play points out some of the modalities of information available to players.

A second goal of this paper is to illustrate WoW's affordances for language education through EDD perspectives. We related the EDD constructs of skilled linguistic action and recurrent languaging activities to established English proficiency standards as described in the CEFR. The CEFR, a scale now used widely throughout the world (Cambridge ESOL, 2011) was developed by the Council of Europe over a 20-year period, to provide a common basis for the design of second and foreign language curriculum by educators throughout Europe. The CEFR adopts an action-oriented approach that emphasizes how social contexts give language activities their full meaning. The scale describes speaking, listening, reading, and writing skills at six levels of proficiency, ranging from Basic (A1 to A2), to Independent (B1 to B2) to Proficient (C1 to C2) users. (See Appendix A for CEFR Oral Assessment Scale descriptors for each level). The CEFR approach aligns well with EDD and the construct of skilled linguistic action, which is how L2 learners demonstrate mastery of CEFR goals. This is not accomplished by tasks and imaginary role plays that can take away learners' agency, but with environments (such as WoW) in which players' actions connect to virtually-materialized consequences that matter to them as individuals and members of a community.

The overarching question for this study was: How and when do designed and emergent WoW game world features contribute to L2 learners' abilities to take skilled linguistic action? The question reflects an EDD view that evidence of L2 learning will not be found by asking about the outcomes of gameplay in terms of discrete linguistic measures, but by looking at the dynamics of gameplay languaging. We were particularly interested in how players made use of the multiple modalities of avatar-embodiment and use of voice (via Skype) to take skilled linguistic action. We hoped to build on recent work (Newgarden *et al.*, 2015) to identify characteristic features of skilled linguistic action that are made salient during group WoW play.

2 Literature review

2.1 Multimodality and L2 learning in digital game worlds

As noted by Newgarden *et al*. (2015), few other researchers have considered the affordances of multiple modalities that are common in ditigal games, particularly the affordance for players to interact with voice in real-time during play. With some exceptions, namely Piirainen-Marsh and Tainio (2009); Zheng *et al*. (2012); Newgarden *et al.* (2015); and Reinders & Wattana (2014), few researchers have analyzed players' spoken interactions in gameplay. Findings on linguistic aspects, intersubjectivity, or use of discourse strategies have been based almost exclusively on transcripts of in-game text chat. Yet, analysis of spoken interaction by Zheng *et al*. (2012) of just one 47-minute WoW gameplay episode displayed an extensive range of communicative activities in the L2 (e.g. coordinating, sharing game knowledge, reporting on actions, negotiating meaning, seeking and offering help, expressing need, locating, apologizing).

The contributions of avatar-embodiment to L2 learning in a game world (ability to move in various ways through a 3D space, to change the perspective of view, to display certain emotions, gestures and make avatar-voiced sounds) have been the focus of even fewer studies. From an

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ecological and dialogical analysis that considered players' avatar movement with and without coordination with speaking, Newgarden *et al*. (2015) found statistical evidence that players' multimodal languaging (i.e. when verbalizations and actions of the avatar were coordinated rather than not) impacted the quality of *communicative projects* (see 1.3 for explanation). Specifically, multimodal languaging in collaborative communicative projects during WoW gameplay was one of the predictors for two broad types of human values-realizing: (1) players gained information that allowed them to take their next value-laden actions (wayfinding); and (2) players paid attention to L2 sociocultural practices and cared for others (orienting to we/one). This finding suggests that avatar-embodiment, which entails projecting ourselves as we act through and as our virtual "other self" (Gee, 2008), what we call co-acting with our avatar (Zheng and Newgarden, 2012), contributed to communicative projects that realized life-enriching values of conversing. To elaborate, in ecological psychology, all actions of an animal realize values. Hodges (2009) explained that values both legitimize and constrain actions by defining what the goods of an ecosystem are. He conceptualized conversing as values-realizing activity that allows humans to perceive, to act, and to care for self and others while directing their agency to ecosystem goods. Using Hodges's example, a good conversation is an ecosystem which offers those enacting it the goods of, for example, getting to know someone better or learning something new, when the values of, for example, relating to another person or being clear and comprehensive are realized. Conversing as values-realizing activity is an underlying assumption of an EDD view of language and cognition, and we assume that L2 learners' ongoing values-realizing constrained and defined the ecosystems of each WoW gameplay episode. We argue that EDD can account for more of the complex factors involved in L2 learning in multimodal environments, not only in MMOGs, but also in the more sensorily immersive virtual and augmented reality environments on the near horizon.

2.2 Integrated theories of cognition, language, and learning

Zheng (2012), Zheng, and Newgarden (2012), Zheng *et al*. (2012) and Newgarden *et al*. (2015) have led the charge of calling for an EDD understanding of second language learning, particularly with regard to investigating the affordances of virtual environments. As Zheng and Newgarden (forthcoming) revealed in a comparative discussion of studies of L2 learning and digital games, there has been a tendency for researchers to follow deep-seated linguistics traditions of treating environments as *inputs*, of looking for changes in discrete aspects of learners' *outputs*, or of analyzing discourse while completely ignoring learner movements and actions. In this study, the context of learning and L2 learners' interactions with the material and linguistic resources of the gameplay environment are analyzed with reference to the EDD constructs explained next. We relate L2 learning to Chemero's (2009) animal-environment model, which blends ecological psychology with the enactivist view (Thompson, 2010; Maturana and Varela, 1998) to account for the development and refinement of abilities in a dynamic system.

2.2.1 Languaging. In EDD views, languaging is real-time embodied activity that we engage in as we converse with others for the purpose of solving problems, learning, building relationships, and achieving other results, only some of which are visible. It is "a mode of

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action that integrates patterns that function in different time scales: we integrate how we move and feel, with what we hear 'us' – me and you – saying (and do so against Discourses)" (Cowley, 2012).

In the distributed view of language, languaging is a first-order activity that necessarily precedes the development of a symbol system, which is therefore known as second-order language. Second-order language is historical, emergent from societally and culturally defined practices, while first-order languaging, which is constrained by the symbol system, is metabolic activity (Cowley, 2012). Languaging is a primary activity for L2 learning since, in the ecological view of L2 learning (van Lier, 2004), activity makes linguistic information relevant and available for further action. As an example of a languaging event, imagine two or more kids building with Lego blocks together. As they build, they move a Lego block to present a new thought or express a color or shape preference to each other, they manipulate the Lego to take a perspective, they move their body to interpret the space etc., all of which are necessary actions in the process of languaging. In theoretical terms, they negotiate, coordinate, co-act with gaze, with body, with the Lego (a material artifact), and with language.

2.2.2 Skilled linguistic action and Co-action. Skills with language are traced to experiences of languaging. Zheng *et al.* (2012) argued for skilled linguistic action as a way for L2 practitioners to rethink what L2 learners need to do, pointing to the merits of WoW gameplay as a learning environment. Newgarden *et al.* (2015) explored the construct empirically, considering three cognitive mechanisms that modulate skilled linguistic action from EDD perspectives (i.e. common ground alignment, prospective coordination and co-action). Co-action can be a more advanced achievement of skilled linguistic action, although not all co-action involves languaging. In situations of languaging, people fall into co-action when they are smoothly coordinating their verbalizing and movements to accomplish something jointly that neither could alone. When two or more players team up on a quest in WoW, they may first negotiate their understanding of certain quest wordings, or locating an object, or getting to a certain location in the vast realm of Azeroth. Reaching mutual understanding of certain wordings of the quest, or locating and getting to a place are considered common ground alignment. Making a movement in a promising direction as a result of coordinating is prospective coordination. Through common ground alignment and prospective coordination, co-action can be achieved. Depending on the nature, level of the quest, and prior gameplay experiences, co-action might either be achieved quickly or it might take players longer to accomplish common ground alignment and/or prospective coordination first. Play continuously fluctuates between these types of coordination. From an EDD perspective, recurrent languaging activities such as questing, planning an attack, and traveling as a group, allow players to re-enact contextually similar, but unique pragmatic activities, detecting and picking up the information needed for them to take skilled linguistic actions in similar, yet more complex, situations of play over time.

2.2.3 Communicative Project Theory. We applied Linell's (2009) Communicative Project Theory and Communicative Activity Type (CAT) analysis. Communicative Project Theory focuses on "what is going on" for participants in interaction, such as solving communicative problems, information sharing, or meaning-making (Linell, 2009: 211).

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The dialogical unit of analysis for this study is the communicative project (hereafter, CP). In each CP, conversing and/or action centers on a task that requires the coordination of two or more individuals (Linell, 2009: 178). This perspective defined how transcribed verbal and non-verbal actions were parsed for analysis.

On a more global scale, WoW gameplay was treated as a CAT as in Zheng *et al.* (2012) and Newgarden *et al.* (2015). Following Linell's description, it is "a comprehensive communicative project tied to a social situation type" (Linell, 2009: 201). Further, a CAT has a clear action agenda, which is realized as a sequence, consisting of an opening, a main activity, and a closing. CATs are often a mixture of "transactional and social-relational talk" (Linell, 2009: 211), which is true of WoW group gameplay with voice. During typical game activities, players shift according to the situational demands, between talking about what they are doing in the game and non-game topics, so both types of projects should be recognized as part of a gameplay episode.

CPs were identified and linked as audio/video/transcript clips of gameplay language and action. Each project was explored to identify what was going on and what the main functions of verbalizing and acting were. Then these lower level communication types were grouped under higher-level categories that were called "Communicative Activities" (see Keyword Categories and Descriptions). These were on a more micro scale than Linell's (2009) CATs; however, they are constituents of WoW gameplay as an overarching CAT.

2.2.4 How an animal-environment system learns to take skilled linguistic actions. Chemero (2009) posited a model of a unified animal-environment system (see Figure 2) that offers an explanation of learning compatible with non-representational EDD views of cognition. Chemero's main advance was showing how affordances and abilities are causally interdependent. Over time, interactions between them create changes that allow for cognitive development, which is evident in the way animals perceive and act. In Chemero's (2009) words, the model reflects both short- and long-term timescales:

> Over developmental time an animals' sensorimotor abilities select its niche — the animal will become selectively sensitive to information relevant to the things it is able to do. Also over developmental time, the niche will strongly influence the development of the animal's ability to perceive and act. Over the shorter time scales of behavior, the animal's sensorimotor abilities manifest themselves in embodied action that causes changes in the layout of available affordances, and these affordances will change the way abilities are exercised in action (Chemero, 2009: 151).

This model can explain how L2 learners have certain linguistic abilities that allow them to act on affordances for languaging in different L2 environments. Actions in languaging have perceivable outcomes, some that accomplish goals and others that do not. In either case, information perceived feeds development of new abilities that are directed toward new goals. Applying the model to L2 learning, skilled linguistic actions are taken in the timescale of real-time communicative activities and, over a longer timescale, come to collectively represent the niche of an L2 learners' proficiency for interacting adaptively and effectively in a variety of L2 contexts.

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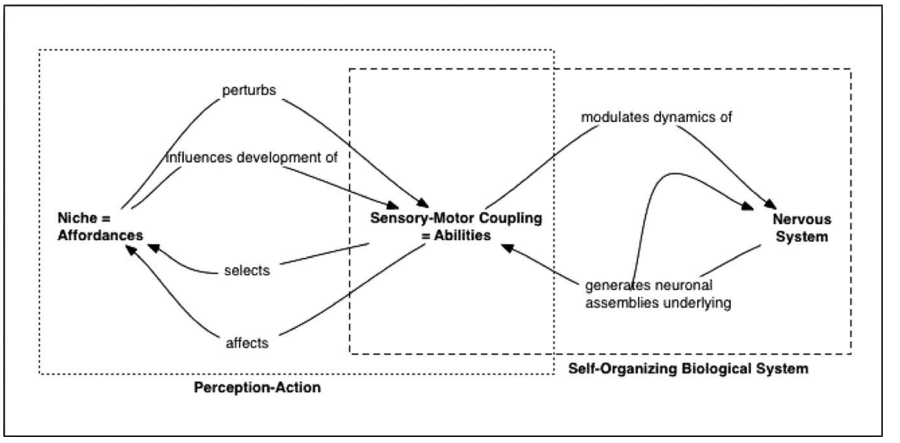

Fig. 2. Chemero's (2009) animal-environment system.[3]

3 Methods

3.1 The data

This study used data from a semester-long university course entitled "World of Warcraft: Is This Who We Are?," which explored social, cultural, and personal values. L2 learners in an intensive English program participated with NES undergraduates. Students were assigned to small groups of two or three NESs and two or three L2 learners with at least one more experienced WoW player in a group. Each group played one hour of WoW per week speaking via Skype conference call with Author 1, who recorded the gameplay and dialog using iShowU software.

3.1.1 Data selection. Author 1 explored the full data set of video recordings of gameplay for four groups. There were six to ten recordings for each group with 28 total recordings, each about one hour in length. The goal was to identify three episodes that were roughly equivalent in length from early, mid and late weeks of the semester, and included all group members (L2 learners and NESs) across all three episodes. Many recordings were incomplete or flawed due to either recording errors, breakdowns in the Skype call, or absence of one or more players in a group, leaving the set of gameplay recordings for one group as the best available set. Members of the group selected included three L2 learners and two NESs and the instructor (Author 1). The selected episodes were from Week 1, Week 8 and Week 10. These were out of a total of six episodes of play from Weeks 1, 2, 8, 9, 10, and 12 of the course. Week 12 was the final week of gameplay, but only two players were present, so it was not analyzed, and Weeks 2 and 9 had gaps in either audio or video due to technical problems. The Week 1 episode had been used to provide data for two previous unique analyses (Zheng *et al.*, 2012; Newgarden *et al.*, 2015).

3.1.2 Participants. Two L2 learners, Gwo and Lov, played in all three of the group gameplay episodes selected. The group also included one other L2 learner, Danja, one NES

[3] From *Radical Embodied Cognitive Science* (p. 153), by A. Chemero, 2009, Cambridge: MIT Press. Copyright 2009 by Massachusetts Institute of Technology. Reprinted with permission.

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Table 1 *Summary of WoW player information*

Player (avatar type) and Experience with WoW or Video Games	Country	Native language	L2 proficiency level/(CEFR) or Native English Speaker (NES)	Group Z member	Status in course
Gwo (dwarf warrior) Previous gamer	Saudi Arabia	Arabic	Advanced/C1	Yes	Undergrad and IEP alum
Lov (dwarf priest) Played WoW on Chinese server	China	Chinese	Low intermediate/B1	Yes	IEP student
Danja (human warlock) No experience	Spain	Spanish	High intermediate/B1+	Yes	IEP student
Sev (human warrior) No experience	Turkey	Turkish	Advanced/B2	No	IEP student
Zeus(dwarf warrior) aka Phailboat (human priest) Expert WoW player	USA	English	NES	Yes	Undergrad
Jil (dwarf rogue) New WoW player	USA	English	NES	Yes	Instructor

freshman, Zeus (who also played as Phailboat, or Phail for short), and Author 1, Jil, the instructor of the course. Table 1 summarizes player information.

3.2 Multimodal transcription and coding

Each gameplay episode was transcribed for both spoken language and players' avatar actions using Transana (Woods & Fassnacht, 2012) video analysis software. Applying dialogical principles (Linell, 2009), the transcripts were parsed (broken into units) in terms of CPs. Each CP, the unit of analysis for this study, was named for its action focus and consisted of a video/audio clip with an associated language transcript and avatar action transcript. Through open coding, general gameplay activities and various types of communicative activities (CAs) were identified. Gameplay activities found to recur in all three episodes were identified as *Recurrent Languaging Activities* (see panel), which became the keyword category I. *Communicative Activities,* category II, includes the three main types of CAs found: meaning-making, facilitating gameplay, and taking care of others' needs, one of which was assigned to each CP. Category III, *Languaging Modes*, includes four possibilities for the relationship of players' verbalizing and acting within a CP. Finally, category IV, *Initiation/Response* was based loosely on Linell's (2009) Initiation/Response analysis. Individual players' utterances were coded as initiations of CPs or responses to others (one or more times) within a CP. Following initial coding by Author 1, Author 2 coded 10% of clips and reached intercoder agreement of 80%. After each episode was keyword coded, keyword visualizations were developed using Transana software and used to compare patterns of gameplay languaging across episodes.

4 Analysis and findings

4.1 Patterns of recurrent languaging activities across three times of play

Prototypical WoW gameplay activities which recurred across the three episodes analyzed were grouped under the keyword category Recurrent Languaging Activities (RLAs). The nine types (see panel) included what Zheng *et al.* (2012) previously referred to as location-based activities, such as city activities, traveling, and questing. Several activities, such as learning a skill or planning next moves, have to do with becoming better at the game, which means becoming more useful to others in group play. Playing around and talking about past and future play are activities that reflect relationship-building in WoW. Figure 3 is a triplet of stacked Transana keyword maps for Weeks 1, 8, and 10 showing different patterns of RLAs over time across episodes of play.

In Week 1, single RLAs stretched on without interruption as new players focused on one activity at a time, reflecting players' limited abilities to seek and enact the full affordances of WoW. This contrasts with Week 8 when RLAs were diverse and completed more quickly as players gained more sophisticated skills. In Week 10, more skilled (higher-level) players completed more advanced quests requiring higher-level cognitive and linguistic skills. An RLA that became more salient was planning next moves, which required knowledge of the WoW environment, knowledge of ones' skills and importantly, predicational language (Reed, 1996). The prominence of planning next moves in Week 10 is evidence that the ability to take this type of skilled linguistic action became more important as play level advanced.

Table 2 summarizes information about each episode including players' presence or absence, avatar level, group membership, and language status (native or non-native English

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Keyword Categories and Definitions

I. Recurrent Languaging Activities: Each CP was coded with none, one or more.
City Activities: Taking care of self (repairing gear), or taking care of business (turning in a quest, finding a flightpath, buying or selling items) in a WoW town or city
Learning a skill: Combining language and action to learn about and improve with some game skill (e.g., First Aid, using Add ons, using game interface features, etc.)
Planning next moves: Talking about what players should do next in terms of a quest, another game activity, or a move to another location
Playing around: Deliberately being humorous and playful with language and/or toons (avatars)
Questing: Coordinating to complete the objectives (killing, acquiring some items, talking to an NPC, etc.) of a quest, whether shared by all players or not.
Random fighting: Non-quest fighting as a group
Talking about a past gaming experience: Telling others about something that happened during gameplay at an earlier time
Talking about future play: Making plans for a future session of play (e.g., a quest that is not yet available to players because of their levels.)
Traveling: Moving from one location to another as a group

II. Communicative Activities: Coded for each CP with name of player who initiated the CP and one or more of the three broad types below.
(Ex: Danja – Facilitating, Others' needs)

1. Attending to others' needs (or Others' needs)
– greeting or taking leave
– checking others' progress
– checking others' health
– apologizing
– expressing disappointment
– making a joke
– giving support
– warning others

2. Facilitating gameplay
– suggesting a move
– directing others
– reporting on status
– reporting on loot
– asking for help

3. Meaning-making
– sharing about a game experience
– explaining how to do something
– asking about meaning
– explaining the meaning of something
– clarifying
– confirming
– asking about game strategy or rules
– explaining game strategy or rules
– pointing out things in the environment

III. Languaging Modes: Each CP was coded for one of the following four types:
Movement only (no verbalizing, just avatar movement)
Verbalizing only (verbalizing with no avatar movement)
Verbalizing and Movement coordinated (verbalizing and movement are toward same goal)
Multitasking (verbalizing and movement are toward different goals

IV. Initiation/Response: Each CP coded with name of initiating player, and with names of players who responded within the CP
(one response per player only in each CP was coded)
Example of coding of a CP:
CP#1: (Initiation: Gwo, Response: Jil, Response: Danja, Response: Lov, Response: Gwo)

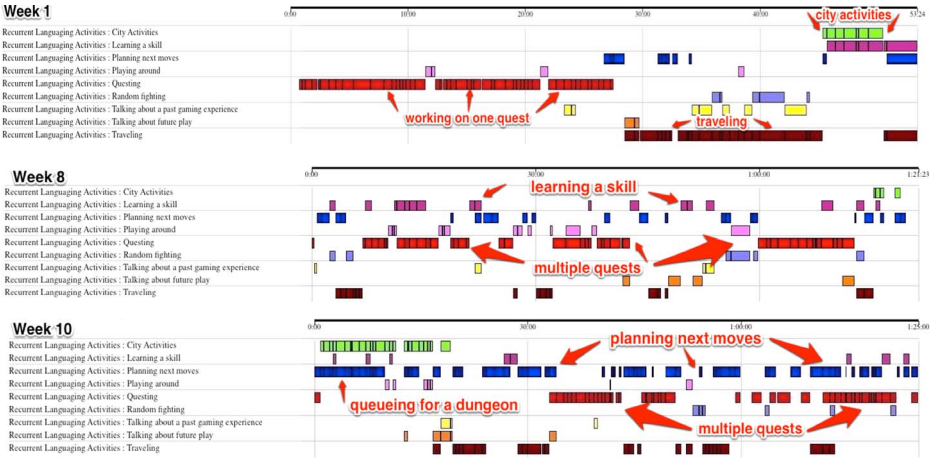

Fig. 3. Comparison of RLAs for Weeks 1, 8, and 10

Table 2 *Summary of WoW gameplay episode details*

Player	Week 1 avatar level	Week 8 avatar level	Week 10 avatar level	Group Z member	NES or NNES
Gwo (dwarf warrior)	15	44	49	X	NNES
Lov (dwarf priest)	15	30	34	X	NNES
Danja (human warlock)		11	12	X	NNES
Sev (human warrior)	14		60*		NNES
Zeus(dwarf warrior) aka Phail (human priest)		12 (Phail)	43 (Zeus)	X	NES
Jil (dwarf rogue)	24	42	45	X	NES

*Sev did not play, but was present briefly in the audio

speaker (NNES)) and serves as a reference for noting how RLAs and CAs relate to players' progression in the game. Levels of players avatars ranging from 1 (starting level) to 60 (the highest level of WoW at the time) indicate their progress in the game over time.

In the next section in Figures 4a, 4b, and 4c, we point out at a finer-grained level the distinct features of each of the three episodes, foregrounding questing as a major activity for illustrating the relationship between RLAs and certain types of CAs.

4.2 Coupling of RLAs and CAs

4.2.1 Week 1: Facilitating gameplay (Figure 4a). In Week 1, players enacted more CAs for facilitating gameplay compared to other types while questing, shifting to meaning-making CAs during the traveling and city activities period.

A total of 86 CPs were coded for 47 minutes of play. The episode was unscheduled play by group members Gwo and Lov, plus Sev, an L2 learner classmate, and Jil, the course instructor. Linear compared to other episodes, gameplay consisted of 30 minutes of questing (coordinating with language and actions to kill foe and collect required quest items) followed

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Fig. 4a. Week 1: Facilitating gameplay during questing

by ten minutes of traveling on a dark road while fighting off predators. After reaching a city, players spent ten minutes talking about how to use a game interface tool to locate a non-player character (NPC) who could repair their damaged gear (armor and weapons). Play ended when Sev accidentally learned how to fly on a gryphon, departing to another area.

Looking at the activities involved in facilitating gameplay in the panel above i.e. suggesting a move, reporting on status, reporting on loot, and asking for help, it is apparent that the major projects in group questing, a very goal-directed activity, promoted opportunities for coordination. Although talking together during traveling promoted meaning-making, verbalizations and actions were not necessarily coordinated, so they were not considered as languaging per se.

4.2.2 Week 8: CA diversity (Figure 4b). In the Week 8 episode, when numerous quests were completed in rapid succession with bursts of planning and playing around scattered between, there was more diversity to CAs with more CAs concerning others' needs compared to the other two episodes.

A total of 97 CPs were coded for 1 hour 14 minutes of play. This was a scheduled play session including Gwo, Lov, Danja, Phailboat, and Jil. Play centered on grouping to complete several of Danja's low-level quests, which involved killing a large number of human NPCs known as the Defias Brotherhood, a band of smugglers controlling the farms in the area. The group coordinated to defeat two camps of Defias (see Figure 1) and then took back control of a town by defeating 30+ more. Gameplay activities alternated rapidly between group planning of next moves, questing, turning in, and picking up new quests.

The diversity of RLAs and CAs in this episode can be traced to the results of players' recurrent actions, which led to changes in the layout of affordances (Chemero, 2009) in the game. Once these changes were perceived and acted on, they became new affordances for developing abilities, for example, for L2 players to participate in CAs such as planning next moves, which were critical for coordinating co-action under more challenging circumstances. When players were able to handle quests more efficiently (an example of a change in the layout of affordances), they were also able to act on affordances for playing around between quests.

4.2.3 Week 10: Facilitating higher-level play (Figure 4c). In the Week 10 episode, the RLA planning next moves, associated with City Activities and Questing, was coupled with a particular type of CA, facilitating gameplay.

A total of 109 CPs were coded for 1 hour 13 minutes of play. After ten weeks, L2 learners Lov and Gwo had become more familiar with WoW and were interested in

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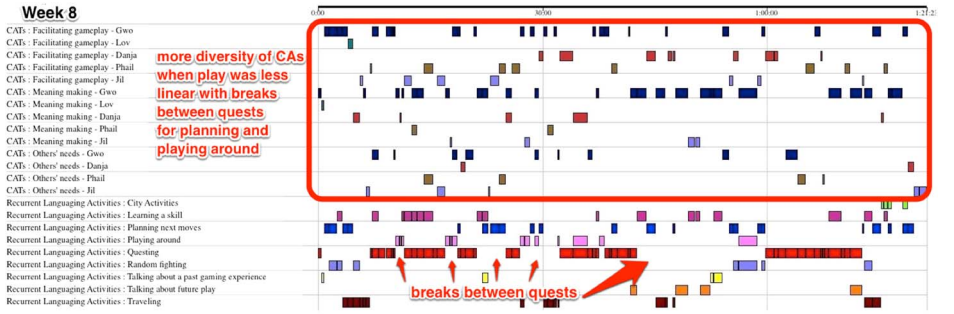

Fig. 4b. Week 8: CA diversity

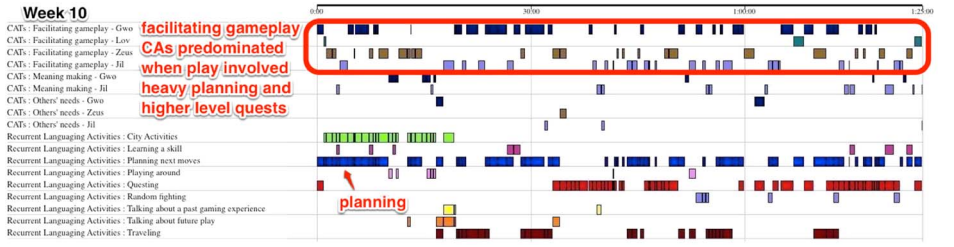

Fig. 4c. Week 10: Facilitating higher-level play

pursuing higher-level play. Four players (Gwo, Lov, Zeus and Jil) were able to coordinate more complex play when the lowest-level member, Danja, was not playing. CAs that facilitated gameplay were prominent. Few CAs focused on meaning-making or paying attention to other's needs. This demonstrates the coordinated behavior of co-action, which is sustained skilled linguistic action. Stated simply, players became synced and efficient in their co-play. They reached a state of flow and little negotiation of meaning or relationship-building was needed. Although this shift in CA types is likely to occur when players become good at doing a recurrent activity in WoW, it does not necessarily imply that more coordinated play at a higher level provides fewer opportunities for languaging or L2 learning. Since players continuously create new goals and have less need to talk about what they are doing in gameplay, they may have more opportunities to talk about other things.

4.3 Participation in CAs and players' abilities to take skilled linguistic action

While RLAs entailed various CAs according to players' pursuit of different game goals, analysis also revealed how players picked up on affordances to initiate and respond in these activities in relation to their different language abilities. In terms of players' overall initiation of CPs, Gwo dominated across all three episodes. See Table 3 for a comparison of CP initiation over Weeks 1, 8, and 10 by both L2 learners and NESs (Zeus/Phail and Jil). Players' responsiveness in CPs was also compared across the three episodes. Although a player may have responded several times within a CP, just one response per CP was counted as participation. Lov's responsiveness, which was much higher than his initiation of CPs,

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Table 3 *Comparison of players' initiation and response in CPs as a percentage of total CPs over three WoW episodes (Weeks 1, 8 and 10)*

	Week 1		Week 8		Week 10	
Player name	Initiation	Response	Initiation	Response	Initiation	Response
Gwo (NNES)	33%*	43%*	55%*	25%	41%*	32%
Lov (NNES)	8%	15%	2%	16%	3%	27%
Danja (NNES)	–	–	15	27	–	–
Sev (NNES)	33%*	37%	–	–	–	–
Zeus/Phail (NES)	–	–	11%	38%*	20%	48%*
Jil (NES)	22%	40%	15%	37%	35%	35%

*Indicates highest percentage of initiation or response in a given week

was greatest in Week 10 (he participated in almost a third of all CPs), the week when four of five players in the group worked on more difficult quests. Gwo was least responsive in Week 8 when both NESs, Jil and Zeus/Phail, were each highly responsive.

In spite of Gwo's dominance in initiating CPs, all players (both L2s and NESs) did initiate CAs of all three types, i.e. facilitating gameplay, meaning-making and taking care of others' needs. Facilitating gameplay was the most common type of CA over all three episodes, followed by meaning-making and taking care of others' needs. The quantity and diversity of CAs initiated by L2 learners appears to reflect speaking proficiency level (i.e. evidence of learners' ability to take skilled linguistic action). Lov initiated few CAs, of which 75% were of one type, facilitating gameplay, while Gwo initiated facilitating and meaning-making CAs almost equally in Weeks 1 and 8 and the most CAs concerned with others' needs in Week 8. For NESs, the quantity and diversity of CA initiation appears to reflect the changing roles of Jil and Zeus/Phail, who acted in Weeks 1 and 8 as "guides on the side" rather than leading conversation or play, but then pursued their own individual player goals in Week 10 when participating L2 players needed little guidance. See Figure 5 below for a comparison of players' initiation of different CA types.

4.4 CAs and CEFR descriptors

Looking at the CAs that made up each of the three main categories, it became clear that many of them resembled descriptors of linguistic actions that speakers of an L2 are able to take at different levels of proficiency, such as those found in the CEFR (Council of Europe, 2001).

It is evident that common communicative activities in group play of WoW with voice reflected a range of linguistic actions that describe basic to advanced levels of L2 proficiency in English (from A2 to C1). These are the basis of syllabi and curriculum in L2 classrooms. To illustrate this finding more precisely, CAs observed across multiple WoW play episodes were mapped to CEFR descriptors for several categories of speaking and proficiency levels. The categories found to be most relevant to WoW activities included conversation, information exchange, goal-oriented cooperation, transactions to obtain goods and services, coherence, asking for clarification, describing experience, putting (making) a case, and propositional precision. A table matching

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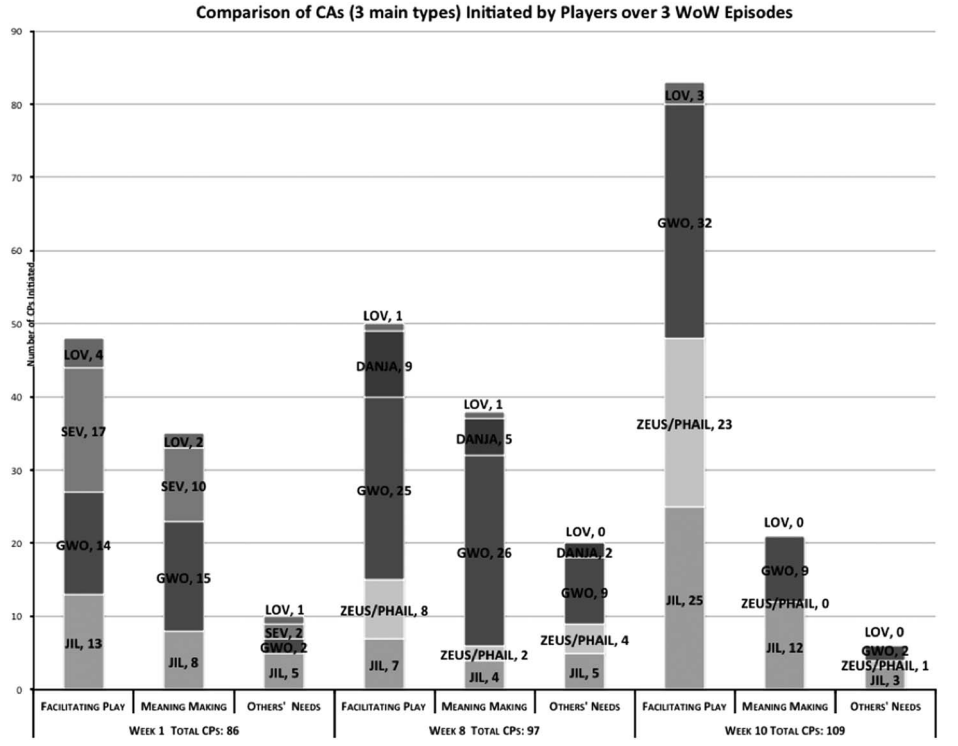

Fig. 5. Comparison of CAs initiated by players over three WoW episodes (Weeks 1, 8, and 10)

WoW CAs with CEFR descriptors is included as Appendix B. In Appendix C, three examples of communicative projects from the WoW play transcripts are provided to illustrate each of the three main types of CAs (Attending to Others' Needs, Facilitating Gameplay and Meaning-making). Both language and action transcripts are included. RLAs are identified along with matching CEFR descriptors, with the category and level for each. These two tables should help readers see how languaging activities in WoW resemble those in contexts of daily life.

4.5 Multimodalities of voice and 3D avatar

Multimodalities of WoW play with use of Skype included player and/or avatar voices, the ambient sounds of the WoW game world, the visual information on players' computer screens (game interface, texts and text chat, online WoW community websites) and avatar movements and actions. Of the four modes of languaging coded (verbalizing only, movement of avatar only, coordinated verbalizing and movement, and multitasking), coordinated verbalizing and movement and multitasking were most prominent across all three episodes. Multitasking and coordinated verbalizing and movement were each enacted in conjunction with every type of recurrent languaging activity: questing, traveling, city activities, planning next moves, etc. Players were overall most frequently engaged in play that entailed both

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verbalizing and synchronizing their avatar's movements and actions, which is an important part of taking skilled linguistic action.

Talking about a past gaming experience or future play co-occurred with traveling, a less demanding RLA compared to questing, that allowed for sharing of stories about adventures in WoW and establishing shared future goals. Co-action, highly coordinated multiplayer interaction, co-occurred most often with questing and city activities.

Group voice chat afforded Lov, a less verbal and less proficient L2 speaker, with a way to participate in CPs, namely by acting in accordance with group plans, often a matter of coordinating who went where and did what. Lov repeatedly demonstrated comprehension with his avatar actions. Avatar-embodiment further allowed him to realize values of caring for group members by allowing him to enact the role of a priest, expected in WoW to heal and bring other players back to life.

5 Discussion

5.1 Skilled linguistic action in contrast with proficiency

WoW gameplay is a CAT (Linell, 2009) with socioculturally established interactive routines that are learned with experience over time. The RLAs (questing, planning next moves, traveling, learning a skill, etc.) that constitute WoW gameplay afforded richly contextualized and varied practice with a variety of CAs for L2 learners with varying levels of English proficiency.

Initiation and responsiveness reflected L2 learners' abilities to take skilled linguistic actions. L2 learners' speaking proficiency levels in terms of the CEFR scale were reflected by the quantity and breadth of their participation in CAs in WoW. Multimodality allowed less proficient speakers to demonstrate skilled linguistic action by coordinating their actions with group goals, even if they were not verbal.

Most of the communicative activities observed in these WoW episodes, when generalized to other types of coordination besides gameplay, can be considered as skilled linguistic actions that L2 learners should be able to take as independent speakers of English. 'Independent' is a CEFR level that represents intermediate to high intermediate proficiency (B1 to B2). High intermediate (B2) is considered the minimum level needed for academic work at the college level.

Standards are important and have a place in L2 teaching and learning (L2TL), but as van Lier (2004) emphasized, standards should be harmonized with quality learning experiences. Citing Vygotsky, he asserted that learning "should be based on raising 'intrinsic needs' in a context in which the educational activities are 'necessary and relevant for life'" (2004:19). The fantastical, world-at-war environment of WoW casts it as an unlikely place for L2 learners to participate in communicative activities that mirror those they need to engage in outside the game. However, the results of this study show clearly that they do so. The CAs afforded by WoW were identified as critical activities for coordinating with others, for making meaning, and for caring for self and others, categories that are essential for human values-realizing in the contexts of school, work, and daily living. Because languaging activities in WoW group play (and presumably other MMOGs) are recurrent, associated CAs are recurrent, yet they are also subtly different in each re-enactment, allowing L2 learners to detect patterns/invariances in wordings, actions, use of certain artifacts, etc., providing an environment for learning that is not easily orchestrated in an L2 classroom setting.

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5.2 Contributions of modalities of voice and avatar-embodiment

Text chat is a powerful affordance for communicating during gameplay and researchers have pointed to its advantages as data for gameplay analysis. It is easy to record and transcription is avoided (Palmer, 2010). But others (Peterson, 2013) have found that learning texting registers and keeping up with large quantities of scrolling text was stressful for L2 learners. In contrast, in this study, the use of voice over Skype afforded complexity in the way L2 players were able to multitask, pursuing game goals with their avatar while for example, getting to know fellow players better.

Bodies and avatars and their abilities have a lot to do with what is perceived and acted upon. MMOGs like WoW are a category of game that afford what Gee (2008) calls "action- and goal-directed simulations of embodied experience" (Gee, 2008: 254) which, similar to writing, let us "externalize some of the functions of the mind" (Gee, 2008: 254). One way we can do this is by doing something with avatars that Gee claims we do all the time as part of cognition, which is taking a "projective stance" (Gee, 208: 260). We perceive and act in the world by continually meshing our goals, both who we are and who we wish to be, with what the world affords. When we play WoW, for example, as a stealthy dwarf rogue or a spell-casting human warlock, we take the same kind of projective stance, creating a dialog between our own identity and the inherited identity of our avatar.

The co-action of player and avatar in WoW gameplay that Zheng and Newgarden (2012) described is a dialogical relationship that demonstrates alterity. Developing and drawing on alterity is critical to sociocultural learning (Linell, 2009), to caring in conversations (Zheng, 2012) and therefore, to taking skilled linguistic action in the L2. Affordances of avatar-embodiment for L2 learning deserve further exploration and we encourage fellow researchers to consider them in situated accounts.

6 Implications and conclusions

In the best L2 classrooms, ongoing effort is made to create authentic contexts for engaging interactions that incorporate content that is meaningful to learners. Syllabi are carefully constructed to facilitate student learning outcomes that reflect L2 proficiency descriptors such as those presented in the CEFR. The findings of this study suggest that playing WoW together accomplished similar aims. Moreover, learners could perceive the visible outcomes of enacting CAs.

The identification of RLAs in WoW has significance for L2 learning "in the wild" of game worlds as well as for L2TL pedagogies and the design of immersive virtual reality games and environments for L2 learning. First, it suggests that WoW is a context for learning to take skilled linguistic actions, ranging from basic to proficient on the vertical CEFR scale, for learners who may not have the means or time to travel to a country where the L2 is spoken in order to experience so-called "immersion." Play in a group, preferably a guild with L2 speakers, and use of voice via some type of internet connection, are recommended to maximize affordances for recurrent languaging activities and the communicative activities they entail. The fact that typical CAs developed in WoW gameplay could be mapped to CEFR proficiency descriptors can provide a justification for employing WoW as an L2TL environment. The table in Appendix B (CAs in WoW mapped to CEFR descriptors) could serve as a curriculum resource or assessment tool for teachers or

learners engaged in self-guided study. An A2- or B1-level player might note which communicative activities in WoW are associated with speaking activities described by higher-level CEFR descriptors and pay attention to her language and actions as she participates in these. A teacher playing WoW with mixed-level learners might note which CAs come up during play and use the matching CEFR descriptors to assess proficiency or to scaffold learners to carry out actions beyond their current abilities.

The multimodal affordances of digital games should be studied further. It is likely that other MMOGs provide a similar range of communicative activities when played similarly and we assume that players of other MMOGs pick up the affordances of multimodality we identified in these WoW gameplay episodes. To reiterate, we showed that embodying avatars while verbalizing in real-time allowed L2 learners to flexibly integrate actions and words or differentiate them as the demands of coordinating actions allowed. Less verbal L2 learners could participate in CAs through acting in attunement with group goals. An understanding of learning as embodied activity can support future research in the sensory-experienced virtual environments and game worlds that are emerging. The EDD framework and methods of analysis employed in this study can advance study of embodied real-time linguistic interactions and L2 learners' development.

That RLAs in WoW gameplay supported a wide range of communicative activities is promising and may inspire other L2 practitioners to bring students into the exciting, unpredictable world of the game, which could lead to further discoveries of WoW's affordances for L2TL. However, it is important to be clear that RLAs are a product of players persistently playing WoW (or other games) with each other over time; they are activities that WoW affords for players who join forces to cooperate and co-act toward shared goals. Therefore, L2 practitioners need to create the necessary conditions for their emergence. They can further support players in developing the habits of good language learners, i.e. setting goals, noticing patterns and consequences, attending to pragmatics and sociocultural norms, anticipating, reflecting on experience, experimenting, and taking risks.

It is hoped that the EDD explanation of L2 languaging will resonate with others in the field who want to have a clear rationale for adopting technologies to facilitate L2 learning. The analysis provided here has demonstrated that skilled linguistic action is a valuable construct for rethinking L2 proficiency, which is not described as output or as a result of an instructional intervention such as gameplay, but as competence demonstrated in the embodied dynamics of play and other languaging activities of L2 learners. A game world such as WoW is an environment for values-realizing in situated sense-making activities. L2 learners are agents with abilities, intentions, and bodies that enable them to perceive and act as part of dialogical, distributed, complex ecosystems. In co-action with others, they have the power to bring a virtual world to life and to exploit the creative potential of living.

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Appendix A

Common European Framework of Reference Oral Assessment Criteria

	Range	Accuracy	Fluency	Interaction	Coherence
C2	Shows great flexibility reformulating ideas in differing linguistic forms to convey finer shades of meaning precisely, to give emphasis, to differentiate and to eliminate ambiguity. Also has a good command of idiomatic expressions and colloquialisms.	Maintains consistent grammatical control of complex language, even while attention is otherwise engaged (e.g in forward planning, in monitoring others' reactions).	Can express him/herself spontaneously at length with a natural colloquial flow, avoiding or backtracking around any difficulty so smoothly that the interlocutor is hardly aware of it.	Can interact with ease and skill, picking up and using non-verbal and intonational cues apparently effortlessly. Can interweave his/her contribution into the joint discourse with fully natural turntaking, referencing, allusion making etc.	Can create coherent and cohesive discourse making full and appropriate use of a variety of organisational patterns and a wide range of connectors and other cohesive devices.
C1+					
C1	Has a good command of a broad range of language allowing him/her to select a formulation to express him/herself clearly in an appropriate style on a wide range of general, academic, professional or leisure topics without having to restrict what he/she wants to say.	Consistently maintains a high degree of grammatical accuracy; errors are rare, difficult lo spot and generally corrected when they do occur.	Can express him/herself fluently and spontaneously, almost effortlessly. Only a conceptually difficult subject can hinder a natural, smooth flow of language.	Can select a suitable phrase from a readily available range of discourse functions to preface his remarks in order to get or to keep the floor and to relate his/her own contributions skilfully to those of other speakers.	Can produce clear, smoothly flowing, well-structured speech, showing controlled use of organisational patterns, connectors and cohesive devices.

Continued

	Range	Accuracy	Fluency	Interaction	Coherence
B2+					
B2	Has a sufficient range of language to be able to give clear descriptions, express viewpoints on most general topics, without much conspicuous searching for words, using some complex sentence forms to do so.	Shows a relatively high degree of grammatical control. Does not make errors which cause misunderstanding, and can correct most of his/her mistakes.	Can produce stretches of language with a fairly even tempo; although he/she can be hesitant as he or she searches for patterns and expressions, there are few noticeably long pauses.	Can initiate discourse, take his/her turn when appropriate and end conversation when he/she needs to, though he/she may not always do this elegantly. Can help the discussion along on familiar ground confirming comprehension, inviting others in, etc.	Can use a limited number of cohesive devices to link his/her utterances into clear, coherent discourse, though there may be some "jumpiness" in a long contribution.
B1+					
B1	Has enough language to get by, with sufficient vocabulary to express hirn/hersell with some hesitation and circumlocutions on topics such as family, hobbies and interests, work, travel, and current events.	Uses reasonably accurately a repertoire of frequently used "routines" and patterns associated with more predictable situations	Can keep going comprehensibly, even though pausing for grammatical and lexical planning and repair is very evident, especially in longer stretches of free production.	Can initiate, maintain and close simple face-to-face conversation on topics that are familiar or of personal interest. Can repeat back part of what someone has said to confirm mutual understanding.	Can link a series of shorter, discrete simple elements into a connected, linear sequence of points.

A2+					
A2	Uses basic sentence patterns with memorised phrases, groups of a few words and formulae in order to communicate limited information in simple everyday situations.	Uses some simple structures correctly, but still systematically makes basic mistakes.	Can make him/herself understood in very short utterances, even though pauses, false starts and reformulation are very evident.	Can ask and answer questions and respond to simple statements. Can indicate when he/she is following but is rarely able to understand enough to keep conversation going of his/her own accord.	Can link groups of words with simple connections like "and", "but" and "because".
A1+					
A1	Has a very basic repertoire of words and simple phrases related to personal details and particular concrete situations.	Shows only limited control of a few simple grammatical structures and sentence patterns in a memorised repertoire.	Can manage very short, isolated, mainly pre-packaged utterances, with much pausing to search for expressions, to articulate less familiar words, and to repair communication.	Can ask and answer questions about personal details. Can interact in a simple way but communication is totally dependent on repetition, rephrasing and repair.	Can link words or groups of words with very basic linear connectors like "and" or "then".
Below A1					

Appendix B

Communicative activities in WoW mapped to CEFR descriptors

Communicative Activities Observed in WoW Group Gameplay	Common European Framework of Reference (CEFR) Scale Descriptor Equivalent (Category/Level)
1. Attending to others' needs	
Greeting or taking leave	Can establish social contact: greetings and farewells; introductions; giving thanks. (Conversation/A2)
Checking others' progress	Can ask for and provide personal information. (Information exchange/A2)
Checking others' health	Can ask how people are and react to news. (Conversation/A1)
Warning others	Can explain why something is a problem, discuss what to do next, compare and contrast alternatives (Goal-oriented communication/B1)
Giving support	Can communicate in simple and routine tasks using simple phrases to ask for and provide things, to get simple information and to discuss what to do next. (Goal-oriented cooperation/A2)
Apologizing	Can handle very short social exchanges, using everyday polite forms of greeting and address. Can make and respond to invitations, invitations, apologies etc. (Sociolinguistic appropriateness/A2)
Expressing disappointment	Can express how he/she feels in simple terms, and express thanks. (Conversaton/A2) Can express and respond to feelings such as surprise, happiness, sadness, interest and indifference. (Conversation/B1) Can convey degrees of emotion and highlight the personal significance of events and experiences. (Conversation/B2)
Making a joke	Can use language flexibly and effectively for social purposes, including emotional, allusive and joking usage. (Conversation/C1)
2. Facilitating gameplay	
Suggesting a move	1) Can explain why something is a problem, discuss what to do next, compare and contrast alternatives. 2) Can make his/her opinions and reactions understood as regards possible solutions or the question of what to do next, giving brief reasons and explanations. (Goal-oriented cooperation/B1) 1) Can outline an issue or a problem clearly, speculating about causes or consequences, and weighing advantages and disadvantages of different approaches. 2) Can help along the progress of the work by inviting others to join in, say what they think etc. (Goal-oriented cooperaton/B2)

Directing others	Can discuss what to do next, making and responding to suggestions, asking for and giving directions. (Goal-oriented cooperation/A2) Can help along the progress of the work by inviting others to join in, say what they think etc. (Goal-oriented cooperation/B2)
Reporting on status	1) Can give and follow simple directions and instructions e.g. explain how to get somewhere. 2) Can ask for and give directions referring to a map or plan. (Information exchange/A2)
Reporting on loot	Can deal with practical everyday demands: finding out and passing on straightforward factual information (Information exchange/A2) 1) Can communicate in simple and routine tasks requiring a simple and direct exchange of information. (Information exchange/A2) 2) Can give and receive information about quantities, numbers, prices etc. (Transactions to obtain goods & services/A2)
Asking for help	Can ask for attention. (Turntaking/A2) Can communicate in simple and routine tasks using simple phrases to ask for and provide things, to get simple information and to discuss what to do next. (Goal-oriented cooperation/A2)
3. Meaning-making	
Sharing about a past game experience	Can ask and answer questions about pastimes and past activities. (Informaton exchange/A2) Can use the most frequently occurring connectors to link simple sentences in order to tell a story or describe something as a simple list of points. (Coherence/A2) 1) Can relate details of unpredictable occurrences, e.g., an accident. 2) Can narrate a story 3) Can reasonably fluently relate a straightforward narrative or description as a linear sequence of points. Can give detailed accounts of experiences, describing feelings and reactions. (Describing experience/B1) Can give clear, smoothly flowing, elaborate and often memorable descriptions. (Describing experiences/C2)
Explaining how to do something	Can describe how to do something, giving detailed instructions. (Informaton exchange/B1) Can give a clear, detailed description of how to carry out a procedure. (informaton exchange/B2)
Asking about meaning	Can ask for clarification about key words or phrases not understood using stock phrases. (Asking for clarification/A2) Can obtain more detailed information. (Information exchange/B1)
Explaining the meaning of something	Can explain the main points in an idea or problem with reasonable precision. (Propositional precision/B1) Can pass on detailed information reliably (Propositional precision/B2)

Continued

Communicative Activities Observed in WoW Group Gameplay	Common European Framework of Reference (CEFR) Scale Descriptor Equivalent (Category/Level)
Clarifying	Can understand enough to manage simple, routine tasks without undue effort, asking very simply for repetition when he/she does not understand. (Goal-oriented cooperation/A2)
	1) Can ask for clarification about key words or phrases not understood using stock phrases.
	2) Can say he/she didn't follow. (Asking for clarification/A2)
	Can follow what is said, though he/she may occasionally have to ask for repetition or clarification if the other people's talk is rapid or extended. (Goal-oriented cooperation/B1)
	Can ask someone to clarify or elaborate what he or she has just said. (Asking for clarification/B1)
	Can ask follow up questions to check that he/she has understood what a speaker intended to say, and get clarification of ambiguous points. (Asking for clarification/B2)
Confirming	Can indicate when he/she is following. (Cooperating/A2)
	Can generally follow what is said and, when necessary, can repeat back part of what someone has said to confirm mutual understanding. (Goal-oriented cooperation/B1)
	Can help the discussion along on familiar ground, confirming comprehension, inviting others in, etc. (Cooperation/B2)
Asking about game strategy or rules	Can ask for and follow detailed directions (Information exchange/B1)
Explaining game strategy or rules	Can briefly give reasons and explanations for opinions, plans and actions. (Putting a case/B1)
	Can describe how to do something, giving detailed instructions. (Informaton exchange/B1)
	Can pass on detailed information reliably. (Information exchange/B2)
	Can explain a viewpoint on a topical issue giving the advantages and disadvantages of various options (Putting a case/B2)
Pointing out things in the environment	1) Can tell a story or describe something in a simple list of points. Can describe everyday aspects of his environment e.g. people, places, a job or study experience
	2) Can give short, basic descriptions of events and activities.
	3) Can describe plans and arrangements, habits and routines, past activities and personal experiences.
	4) Can use simple descriptive language to make brief statements about and compare objects and possessions.
	5) Can describe people, places and possessions in simple terms. (Describing experiences/A2)
	1) Can reasonably fluently relate a straightforward narrative or description as a linear sequence of points. Can give detailed accounts of experiences, describing feelings and reactions.
	2) Can describe events, real or imagined (Describing experiences/B1)

Appendix C

Examples of three main types of CAs in WoW mapped to CEFR descriptors

Examples of Communicative Projects (CPs) from WoW Gameplay Transcripts	
CP 1 Type of CA: Attending to others' needs Name: Gwo notices Danja is alone and offers help Episode: Week 8, Length: 0:00:53.3 **Language Transcript:** (0:47:50.4) Gwo: Oh, level 18, ok. Ok, Danja? (0:48:16.6) Danja: Yeah? (0:48:17.9) Gwo: Why you are there alone? What are you doing there? (0:48:20.9) Jil: (laughs) (0:48:22.0) Danja: I have to finish (laughs) (0:48:22.6) Jil: Why are you there alone?! (all laugh) You are not allowed to be somewhere alone! (0:48:29.9) Gwo: No, I mean like, we can help you if you have a quest because you are fighting with something. Or you are usually fighting something. Sorry, I didn't like, mean it like... (0:48:37.8) Danja: Uh, yeah. **Action transcript:** (0:48:13.5) Jil turns around and heads back to Gwo. (0:48:20.0) Gwo is standing next to a sparkling corpse. (0:48:24.9) Jil loots the corpse. (0:48:33.5) Gwo mounts his ram. (0:48:36.4) Jil checks her Friends roster, then the game map to locate Danja.	
Recurrent Languaging Activities	Questing, checking others' progress
CEFR descriptors matched	• Can ask for and provide personal information. (Information exchange/A2) • Can communicate in simple and routine tasks using simple phrases to ask for and provide things, to get simple information and to discuss what to do next. (Goal-oriented cooperation/A2)

Continued

Examples of Communicative Projects (CPs) from WoW Gameplay Transcripts

CP 2

Type of CA: Facilitating gameplay
Name: Gwo asks Danja about her quests
Episode: Week 8, Length: 0:01:05.0

Language Transcript:

(0:01:17.6) Phail: OK, so...
(0:01:24.3) Gwo: Uhh,uhhhhh, Danja, you were saying about the quest you have?
(0:01:29.4) Danja: Yeah, I have a quest around here. I have to kill 15 Defias Smugglers and 15 Defias Trappers.
(0:01:38.7) Gwo: Yeah, it's around here, we can do it, but did you finish the quest with the pigs?
(0:01:44.4) Danja: With the what?
(0:01:45.4) Gwo: With the pigs?
(0:01:47.6) Phail: With the boars, yeah.
(0:01:48.8) Gwo: With the boars, sorry.
(0:01:50.0) Danja: Yeah.
(0:01:50.9) Gwo: Did you finish it?
(0:01:52.1) Danja: Ummhmm. (affirms)
(0:01:53.0) Gwo: OK.
(0:02:07.1) Phail: Umm. Humm. Ok, we need to go, umm, more west for that quest.

Action Transcript:

(0:01:17.8) Jil stops, takes a look around and runs back toward the others. There is a fleshripper flying next to a falling down stone edifice.
(0:01:26.4) Jil stops near the fleshripper, turns toward Phail and Gwo and runs toward them.
(0:01:33.6) Gwo is running in front of Danja as Jil runs to catch up with them. Two (level 12) Fleshrippers fly above the group of 3.
(0:01:39.4) All stop. A dead fleshripper and a dead goretusk lie on the ground near Gwo.
(0:01:41.8) Jil turns around and Phail is fighting off an attacking fleshripper. (He's a priest, and he uses some action that creates an aura of light around him.)
(0:01:47.4) Jil turns toward Gwo and Danja who are standing near eachother.
(0:01:53.7) Danja and pet are firing damage on the fleshripper Phail is fighting off.
(0:02:04.3) The fleshripper dies and Phail loots it.
(0:02:04.4) Jil turns toward Gwo.

(0:02:06.0) Gwo turns almost completely around, then slightly back and forth.
(0:02:07.1) Jil runs toward Gwo, turns toward the others, then walks backward.
(0:02:15.0) All are standing together in a circle.
(0:02:20.1) Phail starts to run away from the others.

Recurrent Languaging Activities	Questing, Planning next moves
CEFR descriptors matched	• Can a) ask for clarification about key words or phrases not understood using stock phrases and b) say he/she didn't follow. (Asking for clarification/A2) • Can obtain more detailed information. (Information exchange/B1) • Can pass on detailed information reliably (Propositional precision/B2) • Can help along the progress of the work by inviting others to join in, say what they think etc. (Goal-oriented cooperation/B2)

CP 3
Type of CA: Meaning-making
Name: Gwo asks how Lov heals
Episode: Week 8, Length: 0:01:05.5

Language Transcript:
(1:06:51.9) Gwo: So Lov, I just stand close to you and I get, uh, got healing or what?
(1:06:58.0) Lov: Healing
(1:07:00.3) Gwo: What?
(1:07:01.1) Lov: Healing
(1:07:02.8) Gwo: What?!
(1:07:05.2) Lov: Yeah
(1:07:07.8) Gwo: So I just stand next to you?
(1:07:10.9) Lov: (unclear)
(1:07:16.0) Gwo: Lov, I don't know what you are saying actually. Sorry, I cannot hear you.
(1:07:21.7) Lov: Ah, I'm sorry. If I use the shadow skill, I can heal.
(1:07:25.5) Gwo: Yeah, but I, like, walking normally when I passed by you, I start to heal myself? or like...?
(1:07:30.5) Lov: No, actually if you follow me, also you can heal.
(1:07:33.1) Gwo: If I focus on you?
(1:07:34.5) Lov: No, you follow me. I mean, if we are a group.

Continued

Examples of Communicative Projects (CPs) from WoW Gameplay Transcripts

(1:07:38.5) Gwo: Oh, really? Even if I am far away?
(1:07:41.5) Lov: Yeah.
(1:07:42.1) Gwo: Hmmm. I see. I see.

Action Transcript:
(1:06:56.9) Jil attacks goretusk, kills it, loots.
(1:07:11.4) Jil runs toward another goretusk, kills it, loots.
(1:07:27.3) Jill looks at Riverpaws in distance.
(1:07:29.8) Jil turns around and heads back toward Gwo and Lovol.
(1:07:38.4) Jil runs up to Gwo on ram and Lovol standing near him.
(1:07:51.5) Gwo turns around on ram and faces toward Lovol and sparkling corspe on ground next to him. Jil also turns to face Lovol.

Recurrent languaging Activities	Learning a skill, Random fighting, Traveling
CEFR descriptors matched (category and level)	• Can obtain more detailed information. (Information exchange/B1) • Can describe how to do something, giving detailed instructions. (Informaton exchange/B1) • Can ask someone to clarify or elaborate what he or she has just said. (Asking for clarification/B1) • Can pass on detailed information reliably (Propositional precision/B2) • Can ask follow up questions to check that he/she has understood what a speaker intended to say, and get clarification of ambiguous points. (Asking for clarification/B2)