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# An ecological community becoming: Language learning as first-order experiencing with place and mobile technologies

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### ABSTRACT

This work looks at how language learners' experiential engagement with place is achieved through design. It proposes a new language learning model, one that emerges through the availability and support of mobile technologies, and in which semiotic resources and learners' participation in and experience of events are central. In this model, language learning is languaging in place, where place is a 3D holographic experience. Within such place and through such experience, knowing co-arises with design, place-based interactive experiences with others, and through mobile game narrative. The findings also suggest experiencing events together creates community, one that is emergent, dynamic, place-making and ecological in nature. Drawing on the constraints and affordances of community gives rise to linguistic choices and skilled linguistic action. By employing an eclectic toolkit from multimodal analysis, cognitive event analysis, and communicative project, we describe our mobile game design and describe our analysis of the game playing process to explain how we conceptualize the relationship between language learning, place, events and mobile technologies.

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## 1. Introduction

Classical applied linguistic research usually begins with a language-related problem, either from a phenomenological tradition of language learning, and acquisition in individuals,

or lexicon-grammar constructions. These research orientations assume that individuals are discrete, rational, and autonomous Cartesian beings, and that language variables are independent and unchanging within variant contexts. This assumption of the individual as a cognitive system and language as a separate linguistic system is implicated in the application of theory in various research designs and settings.

In this binary mode, research is mainly conducted in lab settings, where language learners are given a task to grasp certain aspects of the pure language system. Data resulting from such settings is sterile and controlled and allows researchers to make causal claims. Tasks conducted in such settings exclude resources accessible to learners when they are in socio-cultural places. It is unavoidable and collateral that acquisition becomes a synonym for input, processing and output/production.

The dualistic two-system assumption also has a strong impact on classroom practices. In learning a language in foreign language settings, classrooms are considered almost the only "place" language learning takes place, except for homework done at home. In learning language in second language situations, a similar routine permeates the curriculum. The classroom has typically been the

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main site for language learning, in which “input” is mainly from teachers, textbooks and peers. Focusing learning on the linguistic system and the collateral consequence of decontextualized results neglects powerful learning environments outside of the classroom.

As one can see the problem is complex. The presupposition that the individual is the prevalent analytical unit is left unchallenged. The mental processing of input and output assumptions, the linguistic system composed of codes and lexico-grammar prescriptions, and the well sedimented default place for language learning are convoluted in how classical second language acquisition positions research and learning. While the input-output metaphor dominates second language acquisition, the revival of *Vygotsky's work in Mind and Society (1978)* offers instrumental values of social interaction for cognitive development.

Leaving Vygotsky's residual mentalism unchallenged (Cowley, 2012), interactionists pursue an individual's competency, fluency, and complexity; sociolinguists seek identity construction; socio-cognitivists emphasize alignment of multiple parties' information.<sup>5</sup> In contrast, van Lier (2004), by integrating sociocultural theory, ecological psychology and semiosis reconceptualized language as an *activity* and language learning as a “way of relating more effectively to people and the world”. In linguistic research, the view of language as codes was challenged by Roy Harris in the 1970s and is rethought as one system with two orders, that is *first-order languaging* as situated and contextualized events and *second-order language* as appeared in lexicon-grammar and cultural norms by *distributed language* researchers (see Cowley, 2006; Thibault, 2011; Zheng, Dai, & Liu, 2017a).

When languaging is brought to the fore of understanding human interactivity, sites of study and place have meanings. Newgarden, Zheng, and Liu (2015) and Zheng, Schmidt, Hu, Liu, and Hsu (2017b) applied this approach and studied how learners coordinate events taking place in real time in the wild by languaging with each other and appropriating both semiotic resources and artifacts. These new ways of conceptualizing language expand the notion of language learning from acquiring and grasping abstract codes to coordinating of events. These approaches may potentially transform the landscape of language research and what is considered as language, resulting in empirical research in second language acquisition by thinking of language and world dialogically and ecologically (Linell, 2009; Zheng, 2012).

In this paper, we share a project that is designed and researched from an ecological perspective. We frame this project in the paradigm of design-based research (Barab & Squire, 2004) and report how the examples used provide context for possible dialog with current theories and models of language learning. The project seeks to understand how space/place, technologies and people function together as a system for language learners to experience events. We created and developed an augmented reality mobile game, *Guardians of the Mo'o*.<sup>6</sup> We conducted a holistic inquiry into

<sup>5</sup> To Timo Järvillehto these social turns remain a two-system view of the world, a temporary fix of dualistic separation of subjectivity and objectivity. He turns to ecology and or *systemic* view of minded activity. To Ames (2011), these social turns can be further traced to Aristotelian and Platonic substance ontology that research is evidenced by static results. As an East-West comparative philosopher Ames brings classical Chinese text on its own terms and suggests a correlational possessive cosmological perspective. Elsewhere, Zheng, Dai, and Liu (2017) have applied the one-system and *tian ren he yi* (unifying cosmos and persons, 天人合一) perspectives in applied linguistic research.

<sup>6</sup> *Guardians of the Mo'o* is the creation of collective team members, including the authors of this article, and colleagues, Dr. Grace Lin, Michael Bischoff, Richard Schoonmaker, Jeff Bernstein and undergraduate students of first author's Instructional Media class at various stage of the project who continually provide invaluable feedback. The mobile app game can be found at App Store > ARIS (under iPhone Apps Public) > *Guardians of the Mo'o* (offsite). This downloaded version works only in the iOS system, and allows gamers to play “out of place” as well.

how players orchestrate game narratives mediated by GPS-enabled iPads, resources and people encountered in space, and the following research questions emerged during data analysis: 1. What is a language learner's group activity like when it occurs in a place augmented by mobile technologies? And 2. How does language emerge through place-making events? These questions will be addressed by framing an analysis that grounds the *results* of action in place (Chemero, 2009; Järvillehto, 1998) using distributed cognitive systems resulting in events as a unit of analysis at a highest scalar level (Steffensen, 2013) and communicative projects as a unit of analysis at a finer scale (Linell, 2009; see Newgarden & Zheng, 2016; Newgarden et al., 2015; Zheng, 2012). A multimodal analytical tool kit provides ways in which visualization can be interpreted in congruence with situated and contextualized transitional events.

In the following sections, we will review concepts that influenced our design, data collection, analysis and findings, including: the relationship between space and place to learning and ecological psychological theory on meaning-making and values realizing. We then will illustrate our design, which focuses on diversity and the making of effort and time to value diversity, rather than putting linguistic objectives in the foreground; we emphasize the importance of community becoming by bringing out language learners with unique cultural and linguistic backgrounds to participate in creating a sense of community. As a result, language learners gain linguistic skills, cultural knowledge, and diversified perspectives. Through this gain, we believe that a community can grow and expand its capacity locally and globally.

## 2. Conceptual framework

This project reintroduces a larger ecology into the classical language learning system, so that language learners are seen as bilinguals or multilinguals, and participate in and contribute to a community. Community implies space that is constrained by place and time; and place and time are constituted by events; events imply place-making, which invokes cognitive dynamics that rely on public events rather than the subjective or the abstract (Cowley, 2012). In this section, these constructs will be briefly introduced to prepare for a set of new vocabulary to make sense of how we designed the game for players to encounter the world and why encounters with the world are meaningful (Gibson, 1979).

### 2.1. Community

In order to sustain a community the participation and contribution of all members is required. Although effort, time and goals of participation and contribution can vary, one sustaining factor for a healthy community is diversity and valuing diversity (Hershock, 2012). In this view, language learners are no longer seen as linguistically deficient individuals, living in the portraits of a special population whose needs and demands target cultural resources. They are, embodied in their culture and language, equally an important population that weaves the fabric of diversity. This reconfiguration of language learners as part of a larger system, a community, emphasizes coordination of communicative and communal activities (Zheng et al., 2017a). When learners are looked on as participants of a community, language learning connects resources, events, and experiences. For example, Cowley (2012), in explaining how cognitive dynamics work; we make and track phonetic gestures, we link individual sense-making with how a community anchors (partly) shared meanings in norms that contribute to coordination. We become a part of a community of practice (Lave & Wenger, 1991) marked by language use and the ways in which coordination gives off new meanings.

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