Place and Experience-Based Language Learning

An evaluation tool for place- and experience-based language learning experiences

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In line with current approaches to language acquisition that advocate for contextualized and localized learning (Holden & Sykes, 2011a; Godwin-Jones, 2016; Reinhardt, 2016), a variety of digitally-based language learning experiences have become available. These approaches combine the affordances of place-based education, mobile technology, and game-based activities to create engaging and interactive language learning experiences. These experiences include activities that range from make-your-own-adventure, role-playing games that can be played remotely (e.g., *Paris Occupé* https://www.coerll.utexas.edu/coerll/event/occupied-paris-creating-virtual-learning-experience), to mobile, augmented reality games that are partially played on-site (e.g., *Mentira* http://www.mentira.org/, a place-based murder mystery set in the Spanish speaking neighborhood of Los Griegos in Albuquerque, New Mexico). For further examples see http://pebll.uoregon.edu/.

Drawing on various aspects of the local environment, location-based educational activities connect learning experiences to a physical place, involving learners contextually "at cultural, historical, social, and cognitive levels" (Reinhardt, 2016), and reinforcing language content through place associations (Holden & Sykes, 2011; Reinhardt, 2016). This "situatedness" in the real world enhances the authenticity of the learning experience (Reinhardt, 2016), and encourages stronger ties to local contexts and communities (Sobel, 2004). The hands-on, real-world approach of place-based language learning engages students in tasks and activities that evoke their lived realities and add meaning and relevance to language learning by connecting it to students' daily lives (Holden & Sykes, 2011b; Holden & Sykes, 2013; Godwin-Jones, 2016). When combined with gaming strategies, place-based approaches offer many opportunities to engage learners interactively and promote interlanguage pragmatic development in authentic and realistic discourse settings (Holden & Sykes, 2013). Moreover, exploratory and discovery-based activities can increase learner engagement and motivation further, challenging students to take ownership of their own personalized learning experience in which they co-create the learning experience by setting goals, defining learning paths, and impacting outcomes.

Reconciling the aforementioned affordances, especially **mediated immersion**, the potential to **contextualize the learning experience** while offering high levels of **interactivity** and **increased learner engagements** stand out as some of the strengths of place-based language learning (Dunleavy, Dede & Mitchell, 2009). Besides these benefits, game-based and exploratory place-based learning scenarios offer many opportunities to **develop relevant 21st century skills** such as complex

communication skills, collaboration, strategic thinking, and active and innovative problem-solving (Kirriermuir & McFarlane, 2004; National Center on Education and the Economy, 2007).

Despite the educational potential of immersive place and experience-based language learning experiences, they are rarely integrated in the language classroom (Kirriermuir & McFarlane, 2004; Klopfer, 2008; Dunleavy, Dede & Mitchell, 2009). Common challenges, such as lack of institutional technological infrastructure (access to mobile devices, bandwidth issues, etc.), cost of implementation, and issues related to privacy and control, are major hurdles. Additionally, one of the most common reasons for the lack of classroom application is the difficulty of assessing alignment of the learning activity's content with classroom goals. Review of the experience's subject matter and functionalities to establish its pedagogical potential and its relation to the standard language curriculum requires a considerable amount of time, technical know-how, and a familiarity with place- and experience-based approaches (Kirriermuir & McFarlane, 2004; Klopfer, 2008).

PEBLL aims to facilitate this review process and support teachers in finding programs and services for adaptation in their language classrooms. It is a curated database that compiles place- and experience-based language learning experiences, tagged and categorized by indicators such as language, proficiency level, and content area. It provides easy access to high-quality language learning projects from all over the world. In addition to the search and filter options offered at http://pebll.uoregon.edu/, the following sections introduce a set of criteria that practitioners can refer to when evaluating place and experience-based activities. It is the goal of this document to inform further research of place-based language learning and assist practitioners in effectively implementing place-based language learning in their own classrooms.

The PEBLL evaluation tool presented here aims to sort and categorize the affordances and aspects of place-based language learning experiences based on significant concepts within second language acquisition:

1. **Interactivity**
2. **Contextuality**
3. **Engagement**
4. **Cognitive challenge**
5. **Technological affordances**

Some of the aspects of place-based language experiences discussed could likely be integrated with more than one of the categories above. However, these categories and the detailed aspects are by no means meant to represent a rigid set of requirements that every place-based language learning

experience needs to fulfill; instead, they should provide a dynamic guideline for establishing criteria specific to place-based language learning and a tool for the evaluation of learning experiences based on insights from SLA research. The following sections synthesize relevant literature related to these criteria and provide an overview of the importance and potential impact of each criteria as related to language learning.

1. Interactivity

Category	Aspects	Characteristics	References
Interactivity	**Social interactivity:** Interaction with people and place(s); collaboration between users	• *The experience encourages interaction. and engagement with people and places.* • *The experience promotes authentic and realistic discourse.* • *The experience encourages social interaction with other users.* • *The experience requires collaboration between participants, virtually or in live action.*	Kirriermuir & McFarlane, 2004; Gee, 2007; National Center on Education and the Economy, 2007; Klopfer, 2008; Dunleavy, Dede & Mitchell, 2009; Sykes & Holden, 2011a; Sykes & Holden, 2011b; Sykes & Reinhardt, 2013; Perry, 2015
	Explicit interactivity: Interaction with mechanisms (i.e., selecting options, achieving goals, or gameplay) within the experience itself	• *The experience involves in-activity choices and encourages decision making by the user.* • *The user's decisions impact the outcome of the experience.*	Salen & Zimmerman, 2004; Gee, 2007; Reinhardt & Sykes, 2011; Sykes & Reinhardt, 2013
	Cognitive interactivity: Mental and sensory user engagement	• *The experience utilizes strong narratives to engage users cognitively.* • *The experience engages users visually, auditorily, and tactually.*	Salen & Zimmerman, 2004; Dunleavy, Dede & Mitchell, 2009; Parsons, Petrova & Ryu, 2012; Reinhardt & Sykes, 2011; Sykes & Reinhardt, 2013

According to sociocultural and social constructivist perspectives, knowledge and meaning are socially and collaboratively constructed. In this view, language learning relies on the input and feedback processes that social interaction affords (cf. Lantolf & Thorne, 2007). **Social interactivity** (i.e., the opportunity for social interaction and collaboration with co-learners) can, therefore, be considered a key feature in any place-based language learning experience that targets communicative competence. Successful interactive design creates "the conditions, or affordances, for interaction" and facilitates learner participation on interpersonal and cultural levels (Sykes & Reinhardt, 2013).

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This type of interactivity is largely implemented in learning experiences as learner interaction in authentic discourse (i.e., discourse in realistic settings with people and places, possibly in augmented-reality scenarios), and in settings that require collaboration and interaction with other users, emphasizing 21st century skills (see National Center on Education and the Economy, 2007; Klopfer, 2008).

Apart from social interactivity, **explicit interactivity** (i.e., interaction with the language learning experience mechanisms themselves) plays a significant role in forming an impactful learning experience (Sykes & Reinhardt, 2013). Especially mechanics that require actions and decision-making by the player increase the level of explicit interactivity through actively involving the player in advancing the gameplay (Salen & Zimmerman, 2004). As a result, the level of learner engagement is raised (see the paragraph on "Engagement" below).

Increased learner engagement is also an effect of **cognitive interactivity**, which describes the immersive devices employed by a language learning experience to capture the user's attention and imagination (Salen & Zimmerman, 2004; Sykes & Reinhardt, 2013). These immersive devices include visual, auditory, and tactile interactions, and/or strong, and engaging narratives. Experiences that involve characteristics such as engaging game scenarios allow players to interact with or even influence these devices further, offering opportunities for learner involvement and ownership (see "Engagement").

2. Contextuality

Category	Aspects	Characteristics	References
Contextuality	Relation to reality	• The learning experience builds a connection to real-life experiences and is clearly "situated" in a physical context. • The learning experience raises awareness of a place and its issues, as well as people, events, time, and artifacts.	National Standards in Foreign Language Education Project, 1996; Klopfer, 2008; Dunleavy, Dede & Mitchell, 2009; Sykes & Holden, 2011a; Sykes & Holden, 2011b; Driver, 2012; Godwin-Jones, 2016; Reinhardt, 2016
	Involvement with target community, culture, social practices	• The learning experience is clearly "situated" in a cultural context. • The experience raises pragmatic awareness, and the learner's ability	Lave & Wenger, 1991; Klopfer, 2008; Dunleavy, Dede & Mitchell, 2009;

		to use language as part of a community. ● *The experience enables the learner to participate in social practices and meaningful interaction.* ● *The experience promotes the learner's intercultural competence.*	Sykes & Holden, 2011a; Sykes & Holden, 2011b; Driver, 2012; Godwin-Jones, 2016; Reinhardt, 2016
	Functional language use	● *The experience is centered around authentic (i.e., realistic) discourse within the target community.* ● *The experience emphasizes relevant language functions for everyday interaction within the target community (such as requesting, apologizing, etc.).*	Sykes & Holden, 2011a
	Physical proximity	● *The experience requires on-site engagement (i.e., parts of the activity require to be at an actual physical location).* *AND/OR* ● *The experience's narrative is set at a physical location, but the place is mediated virtually and can be engaged with remotely.*	Sykes & Holden, 2011b

In addition to considerations related to interactivity, it is essential to evaluate place-based language learning experiences for their relation to physical and social context (summarized here as "contextuality"). Situated learning theories describe learning processes as directly tied to a particular physical and cultural context (Lave & Wenger, 1991; Dunleavy, Dede & Mitchell, 2009). Sociocultural learning theories focus on the knowledge *of* language, or the the ability to use language in context, as part of a community, rather than gaining knowledge *about* language (meta-information about structures and forms (see Saville-Troike, 2006; Lantolf & Thorne, 2007). As Driver (2012, p.51) describes the challenge, the learning goal is to handle complex, nuanced, socially embedded and physically embodied situations, while the process we are using to reach that goal is still rather "streamlined, sequential and dissociated from everyday settings." Therefore, a distinct **relation to reality** and everyday life, including opportunities for contextualized language use in interaction with real places and people as well as **participation in the target community**, is regarded an essential element in the acquisition of the target language and the development of translingual and transcultural speakers (Dunleavy, Dede & Mitchell, 2009; Driver, 2012; Reinhardt, 2016). This emphasis on **contextualization** goes hand-in-hand with functional approaches to language learning that stress the **communicative functions** of language and the importance of language pragmatics and meaning-based language learning (see Saville-Troike, 2006). Through **involvement with the target**

culture and social practices, and real-life or virtual interaction with local communities in authentic discourse situations, relevant language functions (such as greeting, requesting, apologizing, etc.) and appropriate speech behaviour are modelled, a fundamental factor in raising linguistic and intercultural awareness and competence (Sykes & Holden, 2011b).

Varying in **proximity** and **degree of augmentation,** learning experiences can employ various methods to evoke a place and its cultural context. While some activities require users to be **on-site**, (i.e., at an actual physical location) to engage with place and people, oftentimes augmented by mobile technology, other programs evoke place-based engagement **remotely**, via virtually mediated physical locations or historic settings. It remains to be investigated if remote experiences achieve the same pedagogical effect and promote intercultural insight on an equal level as on-site experiences.

3. Engagement

Category	Aspects	Characteristics	References
Engagement	**Intrinsic motivation**	• *The experience has intrinsic value and personal relevance, targeting interests and goals of a specific learner group.* • *The experience provides tasks that activate the learner's background knowledge and stimulate engagement.*	Malone, 1980; Klopfer, 2008; Dunleavy, Dede & Mitchell, 2009; Sykes & Holden, 2013
	Ownership and personalization	• *Working with undefined goals and outcomes and open-ended exploration of the interactive space, the learning experience promotes learner autonomy and decision-making that impacts and advances the gameplay in meaningful ways.* • *By involving learners in the creative process, the learning experience encourages learners to take ownership of their learning path and goals and to personalize their learning experience with regards to focus and challenge level.*	Malone, 1980; Kirriermuir & McFarlane, 2004; Dede, 2005; Gee, 2007; Klopfer, 2008; Mathews, 2010; Sykes & Holden, 2011b; Liu & Tsai, 2012; Richardson, 2016
	Feedback and opportunities for reflection	• *The learning experience communicates clearly defined performance criteria, and feedback is provided throughout (electronically, by exchange with other players, or by physical reality).* • *The activity offers opportunities for the learner to reflect on their learning progress and readjust focus and goals.*	Malone, 1980; Kirriermuir & McFarlane, 2004; Dede, 2005; Gee, 2008; Klopfer, 2008

As has been pointed out repeatedly, place-based language learning holds a vast potential for high levels of learner engagement. Extending to areas and topics beyond the physical walls of the classroom, these place-based language learning experiences can involve learner interests and goals, and target topics that are personally relevant to specific learners groups, thereby naturally increasing **intrinsic motivation**. That effect is amplified if the experience engages learners in tasks that activate their background knowledge, and in this way stimulate authentication by the learner, concurrently appearing more meaningful on the whole (Malone, 1980; Klopfer, 2008; Sykes & Holden, 2011b).

By the same mechanism, **learner autonomy and ownership** are promoted. If they are able to connect their language study to their lived reality and understand the relevance of the learning experience for their daily lives, learners are much more likely to engage in tasks and activities with an intrinsic interest in the learning outcomes. The experiential character of place-based learning lends itself very well to trigger learners' natural curiosity. Well-designed language learning activities encourage learner autonomy by allowing for open-ended **exploration** of the interactive space as a place that does not simply transmit knowledge, but builds it (Scardamalia & Bereiter, 2006). The most successful and enjoyable learning experiences are characterized as activities that involve learners in the creative process by **making decisions** that impact and advance gameplay in concrete and tangible ways, and allow learners to **personalize their learning experience** with regards to their interests and needs, challenge, and skill level (Malone, 1980; Dede, 2005; Squire, 2009; Sykes & Holden, 2011b).

It is well-documented that learner engagement and enjoyment are higher when learners are aware of their own progress and find the learning experience relevant (Kirriermuir & McFarlane, 2004). **Clear performance criteria and concrete feedback** throughout the experience are an essential feature of engaging language learning experiences that support learners to take on responsibility for their learning process and assume more active roles. These feedback processes can happen through various means, explicitly by electronic feedback (e.g. progress bar, task results) or by exchange with other players, or implicitly by physical reality, success or failure in the game or at the task, thus offering manifold opportunities for the learner to reflect on their own progress independently and readjust their learning focus and goals (Malone, 1980; Kirriermuir & McFarlane, 2004).

4. Cognitive challenge[1]

Category	Aspects	Characteristics	References
Cognitive challenge	Complex communication	• *The learning experience requires communicative skills to negotiate meaning and fulfill tasks, such as persuasive speaking and negotiating.* • *The learning experience requires the ability to communicate ideas to various audiences, using the appropriate language registers.*	Kirriermuir & McFarlane, 2004
	Manage complex data and abstract concepts	• *The learning experience requires the learner to collect, organize, and analyze complex data.* • *The learning experience requires managing a variety of resources, such as data or material resources.* • *The learning experience requires learners to work with abstract concepts.*	Kirriermuir & McFarlane, 2004; Dede, 2005; National Center on Education and the Economy, 2007; Klopfer, 2008
	Inductive/deductive reasoning and transfer	• *The learning experience relies on the transfer of skills and knowledge from a familiar domain to an unfamiliar one.* • *The learning experience requires learners to apply data or resources in a new context.* • *The learning experience fosters inductive and deductive reasoning.*	Bransford, Brown & Cocking, 2000; Kirriermuir & McFarlane, 2004; Gee, 2007; National Center on Education and the Economy, 2007
	Innovative, sustained problem-solving and strategic thinking	• *The learning experience requires creativity and innovative thinking to solve problems.* • *The learning experience requires continued (possibly multi-day) problem-solving.* • *The learning experience requires non-linear problem-solving.* • *The learning experience requires planning and risk assessment.*	Kirriermuir & McFarlane, 2004; Gee, 2007; National Center on Education and the Economy, 2007
	Progressivity, scaffolding, and adaptability	• *The learning experience is scaffolded and supports progressive understanding (progressivity).* • *The learning experience requires the learner to adapt to changing tasks, goals, and demands (adaptability).*	Malone, 1980; Gee, 2007; National Center on Education and the Economy, 2007

Besides the clear affordances discussed in the previous paragraphs with regards to interactivity, contextuality, and learner engagement, place-based language learning shows huge potential to

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[1] This category includes the development of essential 21st century learning skills.

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support the development of 21st century learning skills. Among many more, these skills include strategic thinking, managing complexity, working with abstract concepts, and skills and knowledge transfer to new domains (see National Center on Education and the Economy, 2007). Any evaluation of place-based learning experiences therefore should also take into account the **cognitive challenge** and skill sets that are involved.

Place-based experiences that employ interactive elements provide practice areas for users to train **complex communicative skills**, actively by negotiating or arguing in favor of ideas, or passively by observing third party interactions within the experience. Moreover, many experiences also offer opportunities for practicing **complex data management**. Well-designed experiences often incorporate a variety of realistic resources, such as historical documents, scientific evidence, or historical media, audio and video recordings (Squire, 2009). In order to succeed in the learning experience, users often need to collect and analyze these and other types of data and resources (e.g., information, equipment, tools, etc.), and organize them for later use in specific contexts, thus facilitating **transfer** of skills or knowledge from a familiar domain to an unfamiliar one (Bransford, Brown & Cocking, 2000). This reapplication of previous knowledge and acquired concepts in new contexts, as well as **inductive and deductive reasoning**, economizes the learning process and furthers learners' insights and understanding of these concepts.

In addition to these benefits, many place-based language learning experiences involve open, exploratory activities that require **strategic thinking** (e.g., scavenger hunts), sometimes sustained over multiple days, in order to successfully participate in them. A great example is *Ecopod: Survival* (https://casls.uoregon.edu/student-programs/residential-immersion/), a place-based, augmented reality game in which students navigate their immediate surroundings and collaborate on collecting and selecting proper resources to survive a pandemic. Games such as this can engage users in non-linear and **innovative problem-solving**, prompt them to plan their actions and reactions, and assess risks in order to navigate through the experience (Kirriermuir & McFarlane, 2004). In doing so, it is beneficial if the experience adheres to the principle of **progressivity**, supporting progressive understanding and problem-solving, and scaffolding the input for the user throughout the activity. Users will thus be prompted to adapt to changing tasks, goals, and demands, again stimulating transfer of skills and knowledge.

5. Technological affordances

Category	Aspects	Characteristics	References
Technological affordances	**Mobility**	• *The learning experience is mobile, using portable equipment, possibly smartphones or tablets.* • *The learning experience affords ubiquitous engagement and can connect users to a common network or a shared environment.*	Prensky, 2004; Chinnery, 2006; Klopfer & Squire, 2008; Dunleavy, Dede & Mitchell, 2009; Squire, 2009
	Accessibility of language content	• *Language content is accessible throughout the activity and can be reviewed throughout the learning experience (e.g., conversation logs, vocabulary lists, inventory lists, written narratives, task descriptions, etc.).* • *The activity requires review and recall of important and/or new concepts.*	Gee, 2007; Sykes & Holden, 2011b
	Multi-media and multi-tech	• *The learning experience functionally employs various means of technology and media in problem-solving (e.g., peer-to-peer messaging, wireless communication, spatial navigation, etc.).*	Dede, 2005; National Center on Education and the Economy, 2007; Dunleavy, Dede & Mitchell, 2009; Johnson, 2010

Mobile technology for educational purposes is on the rise as "[p]eople expect to be able to work, learn, and study whenever and wherever they want to" (Johnson, 2010, p. 4). Affordances of mobile assisted language learning, such as **portability** and **ubiquity of access** to learning materials and programs, are strongly favored by educators and learners alike (Prensky, 2004; Chinnery, 2006). As a design principle, **mobility** influences the structure of many language learning applications. While technological applications enhance the language learning process in general by providing **opportunities to review and recall language content**, place- and experience-based language learning experiences add elements that allow for on-site engagement and augmented reality use. In mobile place-based learning scenarios, a direct connection to the learner's environment, their local and social context, adds meaning and relevancy to their learning experience (see paragraphs on "Contextuality" and "Engagement" above). As a side effect, place-based language experiences naturally lend themselves to advance **digital media literacy**, an important 21st century skill (National Center on Education and the Economy, 2007; Johnson, 2010). Within many place-based learning experiences, **multi-media use** is functionally applied in problem-solving throughout the activity (e.g., peer-to-peer messaging, wireless communication, spatial navigation, embedded external content, etc.) as a means, rather than the end, of realizing the exercise.

As access to mobile devices is still not available to all learners, and internet connectivity is restricted or unavailable in certain areas, mobile and place-based language learning experiences might still be regarded as optional elements in most language classrooms; however, their benefit in enhancing language studies might promote their increased adaptation in the future.

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