

Emotionally Oriented Approaches to Game-Based Learning

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Emotions are increasingly understood to play a crucial role in learning. We often associate games with action and adrenaline; games also recruit feelings associated with accomplishment, exploration, and social bonding. Educators should be mindful of negative themes associated with games, particularly emphases on violence, domination, or misogynistic attitudes toward women, but closer inspection of even problematic titles reveals a complex reality in which players may infer from game experiences pro-social lessons. Analyses of game play during the COVID-19 pandemic reveal that youth also play games for a sense of progress and achievement, emotional soothing, social communication, and exploration. Second language educators tap into these same emotional drives with games, either through redesigning curricular experiences or integrating game technologies. Reflecting on two years of online, hybrid, and blended education reveals how much existing technologies reinforce predominant classroom patterns, and how far e-learning technologies have to go before they leverage games' capacity for clear goals, feedback, and personalized progress, as well as a sense of emotional connection, place, exploration, or play. As big technology companies promote a new wave of virtual and augmented reality technologies (currently packaged as "The Metaverse"), educators may benefit from looking past technological affordances and for the emotional experiences that we see missing in current learning technologies.

Keywords: games, learning, pandemic, COVID-19, *Minecraft*, second language acquisition

INTRODUCTION

Emotions, once thought to be largely orthogonal to learning, are now

understood to be central to how we perceive, process, and make use of experiences, including new information (Davidson & Begley, 2012; Pekrun, 2014). The specific mechanisms by which emotions affect learning are only beginning to be understood, however, and not even a perfect mapping of the neurological mechanisms of learning would necessarily tell us how to teach (Hinton et al., 2008); for example, low levels of cortisol, induced by stress, can improve learning, but that does not suggest that we frighten children first thing each morning (de Kloet et al., 1999; LeDoux, 1996). Rather, as educators and instructional designers, we are wise to attend to the emotional dynamics of learning situations and leverage emerging understandings. This paper synthesizes emerging findings from emotions, games, and learning to suggest implications for teachers of English as a second language.

Writing in early 2022, three themes pertaining to games and learning beg consideration: (a) the (at times) negative influence of games and game culture on global events, particularly the rise of extremism, (b) the ongoing pandemic from the COVID-19 virus, the educational inequities and challenges to our current educational system that it has revealed, and (c) the stark contrast between pedagogical models employed by schools and through games (see Squire, 2021). Analyzing youth deployment of games during the pandemic reveals lessons for language educators for how we use technology to promote progress, emotional safety, a sense of place, and exploration.

AN EMOTIONAL RECKONING FOR GAMES

Games in Light of Extremism

The last five years have challenged games and learning researchers. A series of events (Gamergate, Christchurch shooting, QAnon, vaccine denialism, a global rise of right-wing extremism) have games researchers re-examining the role games and game culture contribute to the current state of affairs (Beram, 2019; Lavin, 2020). The cultivation of young males by the alt-right toward extremist and fascist political ideologies has driven game scholars to re-evaluate the impact of games and game culture on society at large (Wells et al., in review). Violent and misogynist language continues to thrive over mainstream game services

such as XBox Live and PlayStation Plus and is an accepted feature of Riot's commercially successful titles (*League of Legends* and *Valorant*), so many players are resigned to accepting trash talking and disruptive or abusive behavior as normal (Gray, 2016). Revisiting Gamergate from 2022, one is reminded of how even the most basic critiques of game tropes (e.g., Sarkeesian & Cross, 2015) were met by violent, systematic harassment (Braithwaite, 2016). Indeed, speech such as violent threats has become sufficiently normalized among game discourses that they fail to even regard it as problematic (Beram, 2019). However, games culture constitutes a portion of contemporary popular culture, and as such, the issues and themes playing out in games culture reflect those playing out in the culture at large. Similar themes emerge across society with blatant, even proudly misogynistic, authoritarian, and systemically racist values thriving in portions of athletics or other media discourse (see Kavanaugh et al., 2019, for an example in women's tennis). Primal emotional responses such as anger (even expressed as violence) and second order responses such as resentment may be fueled within corners of game discourse (particularly as cultivated by right-wing extremists, see Lavin, 2020), but they are also well documented among older rural voters (for example, see Cramer, 2016), which reflects their roots in broader social and economic patterns.

Analysis of emotional reactions to game experiences reveals that the ways in which emotions are produced through games are complex and not wholly determined by the game as a media property itself. To take *Civilization* as an example, the emotional experience of game play is a constituent component, but experience depends on players' goals, values, and prior experiences. Critics of the *Civilization* series have argued that its game play model based on expansion and conquest (particularly of native peoples) in the name of "civilization" is problematic, if not offensive (Pullen, 2018; Smith, 2018), whereas other historians have noted that depicting world history as a story of materialist progress is preferable to competing models such as the "great man" or "triumph of western civilization" approaches (McCall, 2012). Because *Civilization*, as a simulation, privileges access to material resources, investments in science and technology, strategic alignment of resources and social policy, and access to trade and political networks, exposing students to its historical depiction is like exposing them to a Marxist-materialist view. Emotional reactions to this depiction may vary from identification with a critical read of history to anger over imperialism packaged as

entertainment.

Empirical study of player experience reveals that meaning-making within a game is complex. One student I studied, Marvin, oriented to the game as an expansion/conquest game, and after several rounds of defeat, declared the lesson he learned from *Civilization* was that “War always leads to destruction and lost armies” and that, with respect to the United States, “If you become strongest nation out there ... there should always be peace.” Marvin treated *Civilization* as an expansionist simulator and concluded as a result that imperialism was immoral (Squire, 2005). Other students who turned the game into a reverse colonialist simulation, exploring under what conditions Africans or Native Americans may have conquered Europe in the 17th and 18th centuries. They concluded that imperial conquest was partially the result of global materialist conditions, although many students were reticent to abandon theories that Europeans were possibly morally inferior. The political views and values of *Civilization* players as a population have not been studied systematically, but analyses of game communities reveal that gamers hold a host of political positions, which again relate to personal beliefs and values, lived experience and history (including cultures and nations of origin), reasons for playing the game, and interpretations of game events (Squire & Giovanetto, 2005).

This object lesson of *Civilization* reminds us that as representations, media are historically situated and demand interrogation; what players do with games is at least as important as the game itself. Players can, and will, read different experiences into a game. Whether or not a game such as *Civilization* should be used in classrooms is a question with no simple answer. Should *our* emotional responses to colonialism preclude us from presenting the issues in an interactive system? Should distaste over “colonialism in a game” mean that it cannot be portrayed in an interactive system, or perhaps worse, it *can* be represented, but just in a boring way? Better questions are how are these issues presented, what is the impact of the media on those who experience it, and what kinds of experiences might it be replacing? Non-expansionist, non-colonialist, or otherwise sustainable interpretations of history would most certainly be valuable.

Having acknowledged that the process of extracting design lessons from games can be problematic, but also that researchers should account for the context of meaning-making in addition to the media itself, we turn toward more contemporary lessons from games, particularly, how

they have been used by players for forms of emotional regulation during the pandemic, and then, what lessons this may have toward learning.

GAMES AS EMOTIONALLY SOOTHING DURING TROUBLED TIMES

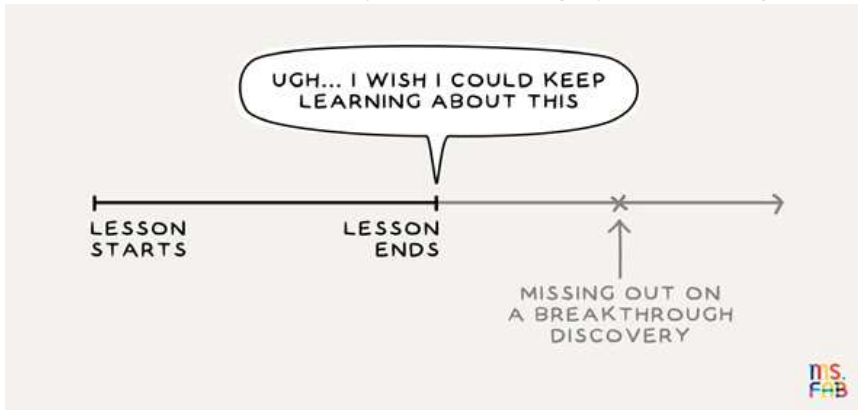
Foregrounding the traumatic nature of recent geopolitical events masks more commonplace gaming experiences that belie their continued social and cultural import. During the pandemic, games have fulfilled a variety of functions that are instructive for educators and instructional designers. This paper draws from a broader literature review on games, cognition, and wellbeing (Wells et al., in preparation), analyses of game play during the pandemic (Squire, 2021), and focuses on four qualities of games with importance for second language learning: promoting a sense of progress, soothing through coziness, giving people a place to go, and exploring the world.

Promoting a Sense of Progress, or “Dopamine Through Progress Quest”

A hallmark of games is that they establish clear goals, give players feedback on their progress toward goals, and enable constant progress toward more satisfying goals. Perhaps not surprisingly, games such as *World of Warcraft*, which provides an artificial sense of progress through the gridding of levels, experienced a resurgence during the pandemic. In a time in which one day seemed to bleed into another, people sought out experiences of joy through progress. Neuroscientists have long understood that this cycle of setting and achieving goals is rewarded within the brain through increases in dopamine levels, which is also important to the formation of memory (Wise, 2004). Issues arise *if* players seek dopamine highs through games instead of in “real” life, but a second question for educators has been “Can educators leverage these same dopamine reward cycles that games do?” As Gee (2004) described, a hallmark of games is that achievement is not held constant. Players are free to tackle as many challenges as they want, as often as they want without penalty. Indeed, designers hope that players will be so compelled by challenges that they continue playing their games.

Regardless of whether educators embrace fully interactive games in their instruction, evidence suggests that employing an open “gamified” approach to instruction whereby content is presented as a series of challenges and students are free to *progress* through content at their own pace can be effective (Aguilar et al., 2018). Within language instruction, Duolingo is perhaps the best example of this principle. In fact, Duolingo saw dramatic increases in usage during the pandemic, as people looked for constructive uses of free time, and perhaps a sense of progress (*Changes in Duolingo ...*, 2020). An implication of games for learning during a pandemic is that people desire opportunities to set and achieve goals wherein time is not held constant, and they can progress as quickly as they want. In formal learning systems, everyone proceeds at the same pace, so that a student is not able to go beyond what is presented, explore new areas, specialize their expertise, and develop a unique identity within a domain. Identifying opportunities in the curriculum for students to progress beyond what is presented is a hallmark of games learning, and indeed, in the *Civilization* curriculum, students self-organized into their own sense of expertise (Squire et al., 2008). This same principle is being advertised as central to the new Synthesis learning system started by Elon Musk and colleagues at SpaceX (see Figure 1). Synthesis offers a series of “competitive simulations” (i.e., games) that purport to raise student interest and then support learning in complex domains through problem-centered learning curricula.

FIGURE 1. Advertisement for Synthesis Learning Systems (Fabrega, 2021)



Note. Used under academic fair use.

Emotional Soothing with Cozy Games

We most often associate games with visceral emotional responses such as adrenaline-fueled rushes or excited states in which the sympathetic nervous system has been triggered so that the body is alert and ready for action. Games *do* do this, but a whole family of games has emerged that seek to offer “cozy” feelings of comfort, reassurance, or safety, perhaps engaging the parasympathetic nervous system (Short et al., 2017). Games such as *Farmville*, *Animal Crossing*, *Harvest Moon*, and even *Hearthstone* employ warm colors, texture, and evoke feelings of safety, nurturing, and coziness. Also perhaps not surprisingly, *Animal Crossing: New Horizons* was an early pandemic breakout hit, as people sought out a place of refuge during times of crisis. Games such as *Animal Crossing* provide self-contained worlds for gamers to inhabit and that they can exercise a degree of control over. *Animal Crossing*, like many games of the genre, employs main verbs of “*grow, nurture, share, or explore,*” all in worlds that are relatively safe and free from conflict. If games have generated criticism for offering experiences characterized by toxic interaction, they also should be noted for creating life-affirming worlds built around care and nurturing. Of course, much as one might play “counter” to *Civilization’s* themes of conquest, plenty of players trash stuff in *Animal Crossing*.

Cozy games such as *Animal Crossing*, particularly when played in a secondary language, offer an intriguing context for language practice. Playing a game in a second language for safe practice exemplifies a typical use of secondary language learning video games “in the wild.” Much as an earlier generation learned a second language (partially) through books or television programs, the most recent generation has played video games with either the explicit goal of improving second language (L2) skills or has developed second language skills so that they could enjoy media properties (d’Ydewalle & Van de Poel, 1999; Fernandez, 2009). To test this hypothesis, Jensen (2017) studied over 100 young Danish English language learners and found that time spent gaming, watching television, and listening to music in English (outside of formal instruction) led to higher vocabulary scores, particularly among boys. These results, and increasingly life experiences, have led developers of games for learning to wonder if language learning games might intentionally help students develop L2 skills, and games like *Animal Crossing* are hypothesized to be the perfect context because they

support and enable the use of language in context (Gee, 2004). Underlying this interest in games is a tacit understanding that games provide extra exposure and perhaps repetitive practice, so that the compelling components of games that keep us returning to them are employed toward pro-social ends.

Emotionally Safe Places to Learn and Play: Discord and *Minecraft*

During much of the COVID pandemic, educators (particularly K–12) have functioned as frontline workers who are responsible for identifying and supporting emotionally troubled youth, and radically reinventing their work on an ongoing basis (Beames et al., 2021). COVID highlighted for many the emotional work that goes into teaching, which includes exhibiting compassion, comforting students, and nurturing through problematic behaviors (de Ruiter et al., 2021). Part of this emotional work can be creating a sense of community, place, and belonging. Note how teachers describe their classes as places students *go*, for example, “when students *come* to my class” or “*in* my class, we ...” Classes are, for many teachers, places that they construct with their own sub-cultures, mores, and expectations of behavior. The pandemic reduced many classes to a list of online assignments and videos, with little *place* or interaction. Online classroom management systems limit student–student and teacher–student interaction, particularly through not enabling social co-presence outside of Zoom. As a result, ways to engage in informal social grooming were limited, and so were social bonds among participants (Squire, 2021). Whereas outside of class, students used a variety of tools (particularly Instagram and Discord) to create co-presence and support social bonds (Takano, 2018), participation in online classes was described by most people as hollow or shallow.

The pandemic has renewed questions of how to support hybrid learning environments in which students can communicate inside and outside of official class time and physical space. Big technology is converging on the metaverse as a solution to this problem, which educators may recognize as Second Life 2.0. Before we race to embrace a metaverse, we might recognize that *Minecraft* (and also *Roblox*) already serves many of these functions for students. Students use *Minecraft*, the 21st century playground (or more appropriately the empty lot, the woods behind the house, or the cave on the edge of town), to hangout, explore, create, and share. During the pandemic, as physical

playgrounds closed, *Minecraft* servers boomed. Students from Japan to UC-Berkeley created virtual campuses for holding graduation ceremonies. To be sure, ceremonies such as UC-Berkeley's live ceremony in *Minecraft* that featured the university's chancellor were relatively rare. It highlights how traditional e-learning technologies failed to meet these needs, how well adapted *Minecraft* was for this purpose, but yet how students were able to also commandeer these technologies to meet their needs.

Second language teachers interested in creating a hybrid learning space might consider *Minecraft* and Discord (particularly as alternatives to the metaverse). One teacher, Glen Irvin in Wabasha-Kellogg High School in Minnesota, created an online classroom and curriculum based on *Minecraft* for his Spanish language classroom (Irvin, 2017). Irvin reported increases in student engagement, successful completion of assignments, and communication skills. Irvin quotes a student telling an administrator, "It's the closest thing to being dropped in a country where everyone speaks Spanish." Part of Irvin's success in employing *Minecraft* for second language appears to be that he is using it to create a sense of *place* where students *go* with the expectation that they will employ second language skills.

Exploration: *Pokémon Go*

Stuck in our offices and bedrooms during the pandemic left few opportunities for exploration and informal socializing, which draws attention to how little exploration and informal socializing occurs in traditional classrooms. We rarely leave class outside of the occasional field trip, nature preserves are rarely integrated into science, neighborhoods are rarely tied to local history, and ethnic communities are rarely a part of the curriculum (Squire et al., 2007). Classrooms are largely shut-off from outside social processes so that the teacher is usually the sole provider of information, feedback, and evaluation. Closing physical schools during COVID did almost nothing to change this pattern.

Augmented reality games such as *Pokémon Go* offer a compelling instructional model for language teachers who hope to engage students in learning in places outside of the classroom. *Pokémon Go* is the mobile phone game in which students physically explore neighborhoods to catch virtual Pokémon and compete over the control of physical territory

through Pokémon Gyms. *Pokémon Go* has been researched extensively and shown to lead to increased physical activity, improved social connection, and feelings of connection (Khamzina et al., 2020; Li et al., 2021). Could a game like *Pokémon Go* be used to encourage second language learners to explore environments in which second languages are spoken and incentivize learners to communicate in second languages?

Julie Sykes and Christopher Holden created *Mentira*, a second language mobile learning game based in Albuquerque, New Mexico to encourage Spanish language learners to get out of the classroom and use Spanish. Instead of Pokémon Gyms, *Mentira* featured an interactive narrative set in local neighborhoods, so that they were encouraged to go into local stores, talk with merchants, and engage with Spanish-speaking people. Although *Mentira* was developed for iPhones, one could also create a similar language game using simply quests written with pencil and paper.

CONCLUSIONS

This paper has argued for four uses of games in the second language learning classroom, connected to emotional experiences that they can provide. The paper begins by recognizing that building learning environments based on the emotional experiences from games is not without its challenges. Events occurring between 2017 and 2022 have game-based educators re-examining instructional approaches based on games. While interrogating the representational forms of games is worthwhile, we should also be mindful that it is how they are experienced and interpreted by players that matters; while all media affords interpretive flexibility, games are particularly malleable based on what we do with them.

Examining games during this same period suggests that if games have been (at times) part of the problem, they also point toward solutions. Games offer models for (a) giving learners a sense of progress, leading to dopamine rewards, (b) emotional soothing using coziness design principles, (c) creating hybridized places for learning, and (d) enabling models of exploration (physical and social). Many educators (particularly second language educators) already consider many of these factors and employ tools toward these ends. In this paper, I've suggested how tools that include foreign language practice software (i.e., Duolingo,

Animal Crossing, *Minecraft*) or place-based games such as *Pokémon Go* might also be used for learning. However, good paper-and-pencil adaptations of these principles also exist so that second language educators might re-examine their curricula in light of these principles to identify ways that their curricula might be enhanced.

COVID-19 forced educators to quickly adapt their teaching practices. Unfortunately, COVID-19 will likely not disappear entirely for months, if not decades. Periodic times of hybridized learning may become routine. Educators might, over time, look to these periods of quarantine as opportunities to try new learning experiences, such as creating a second language world in *Minecraft*. Such tools appear likely to proliferate as big technology companies invest in virtual reality, the metaverse, or other game-based approaches, and it will increasingly fall on educators to discern carefully how they might be employed to best support learning.

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