Gaming and Literacies

Implications for Equitable Futures

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Abstract

This symposium draws upon scholarship from across the globe to explore when, why, and how videogames are and are not being adopted in K-12 classrooms. Systematic reviews complemented by empirical research offer well-rounded perspectives of the possibilities supported and stymied by pedagogical innovations and obstacles. Additionally, theoretical models offer new ways to envision enactments of videogames and the related meaning making and pedagogical turns that further inform research and practice.

Objectives and Overview

Responding to Milner's (2022) call to create "space for analysis and discussion designed to interrogate and advance methods, mechanisms and practices that name injustice and co-construct opportunities for just educational processes and systems" (p. 2), this symposium draws upon scholarship from across the globe to explore when, why, and how videogames are and are not being integrated in K-12 classrooms.

Although videogames and literacies has been a topic of research for over 20 years (cf. Beavis, 1998; Bailey, 2016; Burnett & Merchant, 2014; deHaan, 2019; Engerman et al., 2019; Gee, 2003; Nash & Brady, 2021; Squire, 2011; Steinkuehler et al., 2010), this symposium (re)initiates the particular discussion of gaming and literacies through its intentional, global conversation. In different countries—and even regions within countries—there can be poor access to digital games in educational spaces because of insufficient internet connection or malfunctioning hardware (Author1 & Colleague, 2021). Additionally, there can be large national

differences in the cultural norms and values that surround games—who can play them, when, and why—which also influences the accessibility of games in the classroom (Author 2 et al., 2021; Buckley, 2021). Thus, how, when, and why videogames are used can be context-specific and political in nature. Furthermore, because most videogames typically use English text, games that rely heavily on written text (e.g., *Fall Out* or *Final Fantasy*) might be difficult for teachers and students in countries where English is not a primary language. Lowering the language barrier, some games with almost no written text, such as *Limbo, Journey,* or *Minecraft*, are easier to adopt for teaching across the globe. In this way, the educational use of videogames could potentially both benefit the learning L1 and L2 (English as a second language; Author2 et al., 2022). Anchored in the examination of gaming and literacies in and beyond the classroom, this symposium not only engages audience members in rethinking what, how, and why the integration of videogames might (un)intentionally include and exclude students and teachers, but also it explores equitable futures inspired by gaming.

Significance

This session of international scholars includes research from various contexts and metacontexts, showing the idiosyncratic nature of gaming and literacies in particular spaces. However, the research also reveals a universality of key features of gaming that can serve as fodder for educators and education researchers to literally and figuratively level up their research and teaching practices.

Structure

This 90-minute session will feature a 5-minute introduction of videogaming and meaning making and of the session's goal to initiate rich discussions with attendees. Then there will be four, 15-minute paper presentations (60 minutes). The discussant then will address the implications of

the principles of gaming and literacies (10 minutes). The remaining 15 minutes will be dedicated to questions and interactive discussions with attendees, drawing upon the questions that arise during the presentations (we will collect questions using a professional chat platform, e.g., backchannel.com, mentimeter.com).

Layering Literacies and Metagaming in *Counter Strike-Global Offensive*: An Ethnographic Study

Objectives

The aim of the present paper is to explore what literacy practices unfold through and beyond gaming, how metagaming is conceptualized and how metagaming shapes the players' view and relation to their literacy practices with a particular focus on the first-person shooter game *Counter-Strike: Global Offensive (CS:GO)*.

Perspective(s)

This study combines the theoretical frameworks of gaming literacy (Bourgonjon, 2014; Zimmerman, 2009), layered literacies (Blinded, 2015), and metagaming (Boluk & LeMieux, 2017) to account for the various practices in and around the videogame *CS:GO*. Metagaming–or using pre-existing, current, and new knowledge from game plays, as well knowledge and information from online and offline literacy practices—enables players to counter opponents through fluid forms of optimal or unexpected tactics and strategies that go beyond the rules of the game. Examining the semiotic domain of *CS:GO*, this research includes gamers' ability to

produce meanings to solve problems and the ways their literacy practices help and empower them to develop their metagaming.

Methods and Data Sources

The complex nature of literacy practices in gaming environments requires the exploration of rich data; thus, the current study embraced the philosophy and combination of various ethnography and virtual ethnography methods (Hammersley & Atkinson, 2007; Hine, 2000). Over 9 months, I observed four young Cypriot gamers, aged 16–17. Data included video recordings of the participants, game play video-screen recordings, field notes, field interviews, post-field diary notes, and a semi-structured interview per participant. Inductive coding of literacy practices (Saldaña, 2015), along with frame-by-frame analysis of screen recordings, provided insight into the intersection of metagaming and layering literacies through 7 practices: (1) solving problems in a multimodal literacy space, (2) using situated communicative patterns to be effective for implementing metagaming strategies in the limited time, (3) watching live tournaments to learn of better tactics and strategies for metagaming, (4) exploring gaming sites and forums, (5) watching and discussing tutorials and co-players' game plays, (6) sharing articles, texts, and game play highlights on social media, and (7) speaking with local gamers to further develop their gaming literacy.

Findings

Players self-engage in a cycle of layering literacies within and around game play (online and offline) as a means to improve their metagaming, or a critical practice including tactics that are both collective and individual, long-term and short-term, fluid and bounded, as well as anticipated and unexpected. Players layer their literacies as they solve problems in the game, watch live tournaments, explore gaming sites and forums, observe co- players' game plays,

discuss tutorials, speak with local gamers, and share articles, texts, and game play highlights on social media.

Scholarly Significance

This paper brings together layering literacy practices and metagaming to offer a new perspective for literacy education, namely one that includes a more student-oriented, socially situated and dynamic learning environment that can prepare learners to be critical thinkers and solvers of real-life problems in effective ways, something that is not fully achieved in education.

Stardust and Statistics: Situated Language and Literacies in *Pokémon GO* Guides

Objectives

The purpose of this paper is to investigate guides written by players of the mobile augmented reality game *Pokémon GO,* and how players, especially families who play together, may acquire specialist language and Discourses (Gee, 2014) through them. I examine how some players enact scientific Discourses to explain gameplay elements and discuss implications for families, games, and literacy instruction in educational settings.

Perspective(s)

This paper is informed by a social and situated understanding of literacy and language learning (Gee, 2004; Kress, 2003; Lankshear & Knobel, 2003; New London Group, 1996). In this framework, player-written texts about games are rich sites for language practices and the acquisition of specialist terms and ways of knowing. This work also is informed by research on intergenerational gameplay and the learning potential of social game play (Siyahhan & Gee, 2018).

Methods and Data Sources

Methods included an initial survey of 149 players of in the Southwestern United States who played *Pokémon GO*. From this survey, I identified three focal families to interview based on participants' discussion of playing games with their families in open-ended answers. I also analyzed player-written guides to the game using tools for Discourse analysis outlined by Gee (2014) to look for instances of specialized language use and domain-specific Discourses. The posters of these guides are self-described researchers of the game who enact scientific and mathematical Discourses to report their findings, while also drawing on the specialized language of videogames. I considered these guides alongside self-reported learning and family play practices that the focal families discussed in their interviews.

Findings

Findings suggest that players who read player-written guides to the game encounter specialist language around various domains, including science, mathematics, and the game itself. The authors of these guides use sophisticated, specialized language to convey information. Parents sought information about the game online and used the specialized language of the game in discussions with their children as they played together. A common theme from the parent interviews was the discussion of "theories" around the game, in which parents would encourage children to form hypotheses or guess what would happen. For example, parents would help children to make predictions about how using certain resources would affect the power of their characters. These findings point to children and their parents engaging with specialist and academic language through their shared experience of the game and their discussions of game mechanics and game play theories based on player-written guides and other paratexts.

Scholarly Significance

Literacy educators might use game guides as ways to bring domain-specific specialized learning into the classroom, giving context to academic language and giving students opportunities to practice understanding situated meanings. Educators might use game-informed activities, such as reading and writing guides to a game, rather than in-school game time. This work also highlights the ways that parents and mentors interacting around games can enhance children's literacy practices by discussing the game and modeling behaviors such as reading, asking questions, and connecting games to real-world situations and experiences.

Digital Games in the L1 English Classroom: From Personal to Critical Literacies

Objectives

This presentation reviews qualitative case study research of digital games in English classrooms in countries where English is the primary language. The critical review investigates the potentialities of these new social, cultural and textual forms to identify how teachers have been using these new forms of meaning making. In so doing, the review explores the literate practices associated with the digital game English classroom, as well as the games selected and the forms of game play utilised.

Perspective(s)

A socio-cultural approach to literacy (Gee, 1996; Street, 1995) is employed as a theoretical lens with which to explore the activity reported in the case studies. Such an approach moves thinking away from digital games as medium and the overly optimistic rhetoric that often accompanies discourses of digital game based learning. Thus, the review focuses attention on the specific

social and cultural literacy practices that emerge when games are enacted in the English classroom for play and study.

Methods and Data Sources

Guided by the research question, "What do studies of learning about digital games in the L1 English classroom reveal about the literate practices in these contexts?," I conducted a systematic critical review (Grant & Booth, 2009) of qualitative research in order to evaluate accomplishments and identify gaps and silences. Four inclusion/exclusion criteria were applied to facilitate the search. Papers were excluded if:

1. They reported research not conducted in a formal learning environment, such as a classroom.

2. The formal learning context did not resemble the characteristics and imperatives of L1 English education.

3. They did not establish some form of pedagogical intervention.

4. The study did not have a sustained focus on a digital game or games, or where no gameplay took place.

After the application of this criteria, 16 papers (from 2003-2021) were identified for analysis.

Findings

Findings were organised into categories of related literacy practices, each category associated with one of four orientations to English, namely: personal growth literacies, skills literacies, critical literacies, and cultural heritage literacies. This presentation will focus on results related to personal growth literacies and critical literacies. I will argue that the desire to increase engagement, connect with the lifeworlds of students, and legitimise their out-of-school gaming literacies should not detract from the need to develop critical digital game literacies.

Scholarly Significance

The use of digital games in English Education contexts remains a novel exercise (Nash & Brady, 2021). This critical review demonstrates that while digital game literacies have much to offer the L1 English learner, more studies that centre digital games for play and study, and more detailed description and analysis of the methods employed to teach these texts is needed.

Digital Games, Literacy and Language Learning in L1 and L2: A Comparative Systematic Review

Objectives

This presentation showcases a comparative systematic review of how the use of digital games inside and outside school settings (K-12) might support primary and secondary students' literacy and language learning in relation to first language (L1) and second language (L2) educational contexts.

Perspective(s)

The review is both informed by insights from New Literacy Studies (Street, 1984) and related sociocultural and social semiotic literacy research (Mills, 2010), and from cognitive approaches to reading and writing (e.g., Hayes, 2012; Snow et al., 1998). Using this inclusive literacy construct, we understand literacy as multiliteracies (e.g., multimodal production of game designs) put to use through language practices, and literacy as cognitive processes that involve developing particular skills for reading, writing, speaking, and listening in L1 and L2 contexts.

Methods and Data Sources

This systematic review included studies that address digital games and literacy and language aspects in L1 and L2 quantitative and qualitative research. We first searched library databases, which focused on peer-reviewed journals published between 2000 and 2020. This procedure generated 48 selected studies for close reading. Then we conducted a breadcrumb search on all the included studies (i.e., following references from one article of interest to additional articles), followed by additional searches in selected journals that related explicitly to the L1 and L2 research fields. The breadcrumb search and focused journal search provided an additional number of studies that met our criteria, giving us a total of 77 peer-reviewed studies for further analysis. All the included studies were read closely and coded in relation to: (a) country of origin, L1 or L2 (or both); (b) education level and age (K-12); (c) game context (e.g., in-school or out-of-school); (d) game type; (e) game title; (f) game genre; (g) game aspects; (h) literacy or language aspects; (i) theoretical framework; (j) research methods; (k) and key findings (see Table 1).

*Table 1: Overview of included studies (*Two studies refer to both L1 and L2).*

	L1 studies	L2 studies
Educational level		
Primary	11	17
Lower secondary	31	8
Upper secondary	12	5
Gaming context		
In-school	35	18
Out-of-school	18	10
Game type		
Educational game	12	18
Commercial game	31	10
Game design tool	12	0
Research methods		
Qualitative	32	1
Quantitative	16	19
Mixed methods	2	4
*Total studies**	49	28

Findings

Our findings indicate widely different patterns from utilizing diverse game aspects, theories, and research methodologies in relation to the two different subject areas, which show that L1 and L2 are less convergent than what often is suggested in research that compares the two subjects in a globalized world. The L1 studies indicate positive findings with mainly commercial games in relation to writing, multimodal production, critical literacy, and, partly, to reading. The L2 studies report positive findings with educational games in relation to the investigated language skills (vocabulary, reading, and writing), though with an increasing number of studies conducted in out-of-school settings examining commercial gaming practices.

Scholarly Significance

This is the first systematic review conducted on the learning outcomes from using digital games in L1 and L2 contexts. We discuss the findings from the two K-12 subjects using a cross-disciplinary perspective, and we suggest directions for future research.

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