



Cyber-ludic pedagogies: towards a post-critical methodology of video games as cultural sites

Dora Kourkoulou^{1*} and Rhiannon Bettivia²

¹University of Illinois Urbana-Champaign, 601 E John St, 61820, Champaign, Illinois, United States of America. ²Simmons University, Boston, Massachusetts, United States of America. *Author for correspondence. E-mail: tkourkou@illinois.edu

ABSTRACT. In this paper, we explore contradictions in the uneven movements of engaging video games in learning, and the affective deployment of play as a strategic mechanism to guarantee institutional and civic compliance. To that purpose, we are tracing the links between positivist, evaluative paradigms in Digital Game-Based Learning (DGBL) scholarship, arguing that a linear assessment of knowledge transmission does not adequately engage the complexity of virtual worlds and the learning processes they mobilize. As a response, we propose a cyber-ludic pedagogical framework that embeds gamers' knowledge-production practices and performances in the wider social context they occupy, acknowledging their hybridity as digital and physical experiences. We apply this framework to a case-study reading of a vlog entry performed as a humorous guide to social distancing at the onset of the COVID-19 pandemic. Our reading recognizes the operationalization of knowledge communication modes as tropes while emphasizing discrete projects of brand awareness, identity formation, and claims to digital space. Our analysis of the vlog performance of what we term 'technodeviance' serves to de-exoticize the deviant in educational research; problematize the assumption of one-way knowledge transmission and representation; and center the pedagogical value of game and play data that is found in popular culture texts and in user-generated content.

Keywords: cyber-ludic pedagogies; post-critical methodologies; video games; digital game-based learning.

Pedagogias Ciberlúdicas: em direção a uma metodologia pós-crítica de videogames como locais culturais

RESUMO. Neste artigo, exploramos as contradições nos movimentos desiguais de engajamento dos videogames no aprendizado e o emprego afetivo do jogo como um mecanismo estratégico para garantir a conformidade institucional e cívica. Para esse fim, estamos rastreando as conexões entre paradigmas positivistas e avaliativos na pesquisa de Aprendizado Baseado em Jogos Digitais (ABJD), com o argumento de que uma avaliação linear da transmissão de conhecimento não envolve adequadamente a complexidade dos mundos virtuais e os processos de aprendizado que mobilizam. Como resposta, propomos uma estrutura pedagógica ciberlúdica que incorpora as práticas de produção e desempenho de conhecimento dos jogadores no contexto social mais amplo em que estão inseridos, reconhecendo sua hibridização como experiências digitais e físicas. Aplicamos esta estrutura a uma leitura de estudo de caso de uma entrada de vlog realizada como um guia humorístico para o distanciamento social no início da pandemia de COVID-19. Nossa leitura reconhece a operacionalização dos modos de comunicação de conhecimento como tropos, ao mesmo tempo em que enfatiza projetos discretos de conscientização de marca, formação de identidade e reivindicações ao espaço digital. Nossa análise do desempenho do vlog do que chamamos de 'tecnodeviança' serve para desexoticizar o desviante na pesquisa educacional; problematizar a suposição de transmissão e representação unidirecional de conhecimento; e centrar o valor pedagógico de dados de jogos e jogadas que são encontrados em textos da cultura popular e em conteúdo gerado pelo usuário.

Palavras-chave: pedagogias ciber-lúdicas; metodologias pós-críticas; videogames; aprendizagem baseada em jogos digitais.

Pedagogías ciberlúdicas: hacia una metodología poscrítica de los videojuegos como sitios culturales

RESUMEN. En este artículo, exploramos las contradicciones en los movimientos desiguales de involucrar los videojuegos en el aprendizaje y el despliegue afectivo del juego como mecanismo estratégico para garantizar el cumplimiento institucional y cívico. Con ese propósito, estamos rastreando los vínculos entre

los paradigmas evaluativos positivistas en el programa de Aprendizaje Basado en Juegos Digitales (DGBL), argumentando que una evaluación lineal de la transmisión del conocimiento no aborda adecuadamente la complejidad de los mundos virtuales y los procesos de aprendizaje que movilizan. Como respuesta, proponemos un marco pedagógico ciberlúdico que incorpore las prácticas y actuaciones de producción de conocimiento de los jugadores en el contexto social más amplio que ocupan, reconociendo su hibridez como experiencias digitales y físicas. Aplicamos este marco a una lectura de estudio de caso de una entrada de vlog realizada como una guía humorística sobre el distanciamiento social al comienzo de la pandemia de COVID-19. Nuestra lectura reconoce la operacionalización de los modos de comunicación del conocimiento como tropos mientras enfatiza proyectos discretos de conciencia de marca, formación de identidad y reclamación del espacio digital. Nuestro análisis del desempeño del vlog en lo que llamamos 'tecnodesviación' sirve para des-exotizar la desviación en la investigación educativa; problematizar el supuesto de transmisión y representación del conocimiento unidireccional; y centrar el valor pedagógico de los datos de juego que se encuentran en los textos de cultura popular y en el contenido generado por los usuarios.

Palabras-clave: pedagogías ciber-lúdicas; metodologías pos-críticas; videojuegos; aprendizaje digital basado en juegos.

Received on November 14, 2022.

Accepted on March 21, 2023.

Published in August 10, 2023.

Introduction

In mid-March 2020, with the United States following Asia and Europe in lockdown measures due to the COVID-19 pandemic, Asmongold, a gamer, YouTuber, and Twitch streamer, released a video on his personal YouTube account. While both accounts are public, he maintains another one specifically used for streaming. The video was titled 'Advanced Social Distancing Survival Guide from a 10+ year NEET.' The video is evocative of sitting in front of an imaginary cave-fire: in the video frame, the attic's ceiling looms right above the performer's head. He looks pale in the video, as he always does in his video posts, a semi-long beard on his face. His hair appears unwashed and unkempt (later, he claims that he has not showered in days), and he is snuggly wrapped by what seems like a child's blanket. In the background, right beneath his streaming logo, which resembles a fantasy-inspired war emblem, one can see a pile of teddy bears.

The video begins with Asmongold declaring, after a smirk and in his usual tone of stoic irony and childlike energy "well, well, well... how the tables have turned" (ZackRawr, 2020b). He is alluding to the social distancing guidelines that turned his self-proclaimed 'marginal lifestyle' into an apparent social norm. He then proceeds to offer his list of directives for successful social distancing. Chief among his advice is, unsurprisingly, the usage of gaming, particularly to play an immersive video game to occupy the majority of the NEET's time. Immersive play serves to exclude the possibility of physical closeness, reaffirming the complicated boundaries between the Internet and socialization (ZackRawr, 2020b).

Asmongold's video has left unspoken another kind of connection that is changing our educational, professional, and social landscape: the one between online socialization and entertainment on the one hand and work/school on the other. Early and foundational research on the educational potential of video games worlds, in the field of Digital Game-Based Learning (DGBL), advocates for the capacity of games to promote self-driven and peer-based learning more than top-down teaching (Shaffer, 2007; Steinkuehler & Oh, 2012; Squire, 2012; Gee, 2013; Chee, 2016). At the same time, research from media and communication studies points to the participatory character of fandom or gamer cultures and the agency of users, especially in transmedial spaces (Jenkins, 2012). Yet, Asmongold's popularity depends upon a commonly held belief among gaming cultures that he is a representative of gamers' attachment to anti-social ways of life.

This gap between gaming communities' self-reflection, and self-identification, as 'anti-social' stands in contrast to the overwhelmingly positive scholastic rhetoric about the educational potential of games. Additionally, as in many other instances, the events surrounding the COVID-19 pandemic served as a crystallization for such attitudes by shining a spotlight on both social distancing and e-learning platforms and pedagogies. In early spring of 2020, the world was bracing for a possible Zoom crash when colleges and universities in the United States returned from extended spring breaks, reconvening in an unprecedented number of online spaces as in-person learning environments shuttered in response to public health closures. Social media influencers joked about the possibility of holding classes in game worlds, such as *World of Warcraft*, which had already passed the 'crash test,' or demonstrated their ability to operate at the scale of millions of simultaneous users. While faculty learned to use a combination of commercial and homegrown learning platforms like Blackboard, Moodle, and Canvas, students were petitioning to use *Discord* (gaming

software) servers or YouTube videos instead of Zoom to hold their classes. Even as some instructors joked about a return to ham radio and educational institutions outside the US experimented with asynchronous content delivery via television, it seemed as if the time for this generation had come. And yet, though the majority of today's students are considered 'natives' of virtual worlds in gaming and social media, there was enough discomfort with the shift to online instruction to warrant a significant drop in enrollment for online-only instruction and a general disillusionment in the two years that followed over online learning. This observation indicates that the cultural character of game worlds does not lend itself seamlessly to educational purposes, even as these models persevere beyond the pandemic crisis (Bettivia & Davis, 2023).

The purpose of this paper is to acknowledge the contradictions existing in the movements of digital video games in and out of school curricula and classrooms, and to propose a post-critical methodological approach in order to explore the depth and content of their pedagogical potential and message. Set within a broader framework of social studies-based research beginning in the 1970s, post-critical methodologies, a response and continuation of critical ethnographic research, questions the existence of unified knowledge frameworks and theories by homing in on the mismatches between representations and particular meanings, foregrounding subsequent aporias (Noblit, 2003). Rather than being a mere methodological choice, however, post-critical methodologies are grounded in political projects which seek to give rise to alternative ways of knowledge and instruction, while questioning the very structures of the educational systems in which they operate, including the time, spatial and bodily boundaries of educational praxis. In this article, post-critical methodologies both inform and are informed by game and technology studies, and their theoretical premises.

This work is divided into three sections. The first section, a brief history and overview of DGBL, foregrounds two arguments: firstly, that the economic and technological conditions of game development and market deployment took place in an intimate relationship with educational institutions, allowing for our contemporary understanding of commercial video games as legitimate sites for knowledge production and learning. The second argument points to the multi-layered methodological insistence of DGBL on utilizing evaluative paradigms of learning outcomes, even when this preference is not stated. This section foregrounds the need for alternative methodologies that challenge unified representations and can accommodate the complexity of contradictions of gaming cultures and platforms.

The second section presents the proposal for the 'cyber-ludic conceptual framework'. Cyber-ludic pedagogies frame gamers' knowledge-production practices and performances in the wider social context they occupy, acknowledging their hybridity as digital and physical experiences. This section offers definitions of post-critical methodologies and their current status in educational research before moving towards exploring their potential application in the study of games and unveiling their role in learning and education. One of the characteristics of post-critical methodologies is the commitment to groups of resistance and deviance to foreground marginalized voices while resisting the temptations of techno-romanticization. This commitment, we argue, has special significance for DGBL, because it calls into question the affective deployment of play as a strategic mechanism to guarantee institutional and civic compliance. Contemporary interpretations of gaming cultures tend to gravitate between the idealization of the liminal qualities of play, its definitional capacity to push institutional and social boundaries and bring forth change, and the more aggressive or antisocial manifestations, such as #gamergate. Cyber-ludic pedagogies call for tracing the ways that each of these poles lurks inside the other, suggesting the need for more complex pedagogical work in gaming communities and media.

The final section applies the cyber-ludic framework to a case-study reading of the humorous vlog entry described in the opening vignette, Asmongold's 'Advanced Social Distancing Survival Guide from a 10+ year NEET'. Offering a methodology that expands the nature of data from participant observation to the cultural artifacts and media texts within gaming culture, the case-study questions the documented knowledge production of gaming communities. Rather, we suggest that knowledge production is often used as a communicative trope, which nevertheless allows its user to simultaneously construct their critique of traditional school structures while positioning themselves in relation to them. Finally, we argue that the deployment of such forms and the performance of them as humorous enables their transmitter to provide concealed messages of deeper political problematizations than expected from their audience or the spaces they occupy. A discussion of the learning implications of this case study highlights the pedagogical significance of gamers' commentaries for the integration of games into classrooms, providing insight into learners' cultures as they utilize these forms in and out of school.

DGBL: a brief history

This section presents two interrelated points that emphasize the need for a cyber-ludic conceptual framework and methodological practice to make a post-critical expansion to existing work in DGBL research. The first point underlines the links between educational institutions and the development of video games and the gaming industry. The second posits that DGBL literature is often uncritical of such neoliberal developments even when recognizing them, a tendency that can be traced in its epistemological and methodological choices. Even when employing qualitative and ethnographic methodologies, DGBL still adopts an evaluative paradigm of assessing process and matching representational content onto specific learning outcomes. Cyber-ludic pedagogies pave the way for the development of a standpoint that will acknowledge these complex relations and contradictions, by diversifying the sites, data, methods, and theoretical foundations of DGBL research.

Existing educational literature often makes the argument that games are neglected and underrepresented in classroom instruction. Yet links between games and education are more complex than they appear at first. In reality, video games have been created and played since the 1950s in direct relationship with institutions of knowledge. These relationships include the creation of video games as methodologies for advancing early computer science, often within exclusive clubs of elite institutions, or by students who were pushing the limits of their curriculum in dorm rooms or garages. Digital games drove the development of the technologies supporting them in universities across the Western world (Jerz, 2007; Donovan, 2010). Finally, they also include the relationship between early video game companies and the educational software market, which gave rise to the genre of 'edutainment' games, exemplified by titles like the *Carmen Sandiego* and *Oregon trail* franchises in the 1980s (Kinder, 1996; McDonough et al, 2010; Bettivia, 2016).

The simultaneous development of gaming technologies and widespread adoption of their use changed the relationship between games and education. Our contemporary understanding of computer game pedagogies and research coincides with the development of online games and their related digital and physical fan communities. Traditional educational media, like video and sound texts, have a perceived direct line of transmission between the message sender and its receiver. The development of online games not only expanded spaces of play, it also gave rise to activities in the platforms, fora, guides, and streaming sites related to the games. The technological development of online gaming called into being a complex network of social interactions that challenges understandings of education that rely on a linear relationship between message transmitter and message recipient. Advances in communication technologies, to which video games had been a major driving force, drove publishers of educational games to financial extinction or invisibility (Montgomery, 2016). Educational gaming companies could not compete with the pace of technological development that was spurred in part by the entry of monopolistic technology companies like Sony and Microsoft into video game production. Additionally, the advancement of online games and the building of their satellite communities made strictly educational game content seem like parochial, unimaginative media (Egenfeldt-Nielsen, Smith, & Tosca, 2016), a perception exaggerated by what was perceived as the financial greed of educational game publishers (Francis, 2015).

While this direct link between education and the gaming industry changed as a result of the development of Internet technologies and digital play, there are still traces of these commercial relationships, especially in relation to the field's epistemological inquiries. Educational research has maintained a methodological paradigm that aims to assess the extent of implementation of video games in specific subject-matter teaching; practical and explicit skills (Ypsilanti et al., 2014; Landers & Armstrong, 2017); metacognitive and communication skills, especially within the framework of affinity groups (Gee, 2005); communities of practice (Steinkuehler & Oh, 2012) or 'epistemic' communities (Shaffer, 2007); and, more recently, the evaluation of specific educational outcomes in and out of the classroom and curriculum (Backlund & Hendrix, 2013; Alshammari, Ali, & Rosli, 2015; Eordanidis, Gee, & Steward-Gardiner, 2017; Paravizo, Chaim, Braatz, Muschard, & Rozenfeld, 2018). This line of inquiry extends beyond quantitative research into mixed methods and qualitative research. Yet, this research does not escape the search for a one-way relationship between the message and its reception, as it translates to learning outcomes. This methodological choice acquires new depth if it is seen against the parallel development between DGBL and the edutainment economy.

Imaginaries of video games, such as that of the trope of the deviant and its deployment, cannot produce conceptual singularities. Instead, examining games and gaming communities warrants understanding them in a space of meeting between education and the gaming industry; the conflicting representations of youths

claiming marginalization; and the industry's disruptive innovators existing in those sites respectively. In addition, such rigid meaning production in DGBL needs to be juxtaposed against the needs and dictates of the economy that produces the field's subjects of inquiry, a direct line between process and profit, which informs lines between meaning and representations, messages and learning outcomes, often found in unexpected spaces and non-representational events. What follows is a framework for executing this project.

Conceptual framework: DGBL theories meet post-critical methodology

A cyber-ludic framework weaves together digital game-based educational theories with post-critical methodologies. Post-critical methodologies are as much a critique of earlier approaches inspired by critical theory as they are a continuation engaging critical theory in new directions. As Noblit (2003) explains, the term 'post-critical methodologies' often refers to ethnographic research in educational spaces that protests the existence of absolute truths and precise meanings existing in observation data. Moreover, post-critical frameworks follow social foundations research developed in the 1960s. This research attempted to give voice to 'deviant' youth, but in doing so, it engaged in the exoticization of the underdog (Willis, 1977; McRobbie, 1978; Giroux, 1983). Post-critical researchers offer critiques of previous attempts at deviant ethnographies, noting their tendency to reproduce the colonial traditions of ethnographic and anthropological research, especially as they submit research subjects to hegemonic gaze and analysis. Post-critical research centers the voices of marginalized and underrepresented educational subjects, while at the same time avoiding romanticizing or objectifying subjects and their attachments to specific symbols, meanings, and messages.

As such, post-critical methodologies offer new insights into these emerging questions and sites of educational inquiry. Their importance for our educational research project, therefore, is triple-fold. First, post-critical methodologies challenge both idealization and innovation assumptions regarding deviance. In this paper, we explore the relationship between deviance and gaming, by deploying the liminality of play in our exploration of what we term 'the technodeviant'. Second, we suggest that understanding games as rhizomatic sites of identity formation, community development, and knowledge production must involve questioning the precision between representations and their meanings. Third, we advocate for methodological fluidity to match the dynamic nature of games and virtual worlds, rejecting orthodoxies of theory and method in favor of cyber-ludic pedagogies.

This research is performed on the 'hyphens' of gender, class, sexuality and racial identities, and acknowledges the fluidity between those, and their meanings and significations (Anders, 2019). At the same time, the understanding that knowledge is situated across spatial and qualitative institutional boundaries and bodies of research challenges the authority of data, as well as what constitutes data (Childers, 2011). This framework of investigation and analysis welcomes the data that accounts for researchers' intuitions and instincts. Finally, it advocates for the inclusion of what has been less privileged in scientific research, such as sense(s), affect, mnemonic experience, pre-ideas, and non-representations.

Opening up the definition of what constitutes data is especially important for research in a field that is both expanding and ever-changing. The reflexivity and flexibility of cyber-ludic pedagogies offer deeper and more inclusive accounts of educational praxis and institutions. Cyber-ludic theories, therefore, open up an understanding of learning as a matrix of activities and messages, capable of 'transmitting affect' (Brennan, 2004; Muñoz, 2020). By affect, we mean energy that drives cognition. We also want to account for the 'stickiness' of affect, its ability to stay on and define subsequent experiences, even when it has become invisible (Ahmed, 2013). Through these aesthetic interactions, generating and acquiring knowledge does not happen solely in school environments or even necessarily in conscious experiences, but rather in the subconscious process of the encounter with the Other that reading and cultural participation allow (Schwab, 2012).

Based on these theoretical considerations, operationalizing cyber-ludic pedagogies constitutes an important framework for studying video games as educational sites, challenging commonly shared assumptions in the literature about the cultural and pedagogical value of gamers' actions in and out of virtual worlds. One common assumption lies in the fact that gaming is often framed as a site and act of inherent resistance, youth reflection, and deviation. Earlier cultural scholarship within the field has homed in on cheats/cheat codes (Consalvo, 2009), grievers/protesters (Taylor, 2006; 2018), MODers (Loh & Byun, 2009), and textual poachers (Jenkins, 2012), offering important insight on how young people use game code and stories to create their own virtual realities, deviating from mainstream culture. While not exclusively educational, this research has serious pedagogical implications and has often been acknowledged as such

(Duncum, 2013). In essence, this research finds political significance in the way gamers are reclaiming their gaming agendas in relation to and in conflict with popular game publishers.

Therefore, play in virtual worlds and its associated terms—fun, freedom from profitability, freedom from oppression, liminality, creativity—are used to serve an anti-institutional, and often anti-educational, rhetoric. The gamer as a deviant, what we call the technodeviant, is a symbolic figure in this context because the deviant reveals a contemporary contested territory for identity and belonging that can be simultaneously both embodied and equally read/observed. The dual acts of embodiment and critique are increasingly part of the production process (Hall, 2003). On the one hand, technological agents deploy images of disruptive innovation and profit seeking as revolutionary action with political and social implications, by assuming and enacting displaced and exoticized marginalized identities (Chun, 2021). On the other, contemporary game marketing is positioned as feeding off the innovation, privilege, and social status of early adopters in technological diffusion models (Rogers, 2003). We argue that the way this exclusivity is constructed through the idealization of deviance becomes part of the contemporary identity of gaming communities.

In games and education scholarship, formal paths between learning and video games are frequently rigid, and are restricted to examining the direct implementation of one into the other. This approach risks missing unstated and more nuanced aspects of these relationships. Gamification critics have also challenged claims about playfulness that are increasingly marked by technological progress, increased algorithmic control, and an additional educational emphasis on operationalizing play and measuring its learning outcomes. In that sense, the tendency is for gamification to engage in similar practices as grading, mechanical repetition, and value exchanges (Hung, 2017). Still, technological play (that goes beyond games) maintains and expands a deviant appeal, and this mechanism of expansion remains often unexamined. Because the default technodeviant is a white, hetero, male subject, the technodeviant both lays claims to marginalization while operating from a position of hegemony. This affective privilege allows the population with the assumed deviant identity a claim to the game space, which can displace marginalized groups. Even while centering a community of deviants, play-based pedagogies have often relied on suppressing defiance as a necessary condition for instructional success. Marjanovic-Shane (2016- fixed) reveals an emphasis on narrative cohesion when play is involved. This emphasis obliges the teacher or facilitator to expel dissenting voices when they contest the flow of the plot. While games seem to challenge disciplinary, temporal, and spatial boundaries, as well as forcing schools and universities to expand theirs, they are raising new divisions in education and equity.

Video games represent a new artistic medium where multiple modalities meet, with rituals involving different experiences of time, space, and belonging. Games challenge conceptualizations of curricular and disciplinary divisions and restrictions, similar to the ways in which the emergence of the novel influenced such conceptualizations (Anderson, 2006; Hunt, 2007). The pedagogical potential of games cannot fit into class times or allocated coursework assignments. Much like literature, video games constitute immersive experiences, and immersion needs to be conceptualized as a temporal concept as well as a spatial one (McMahan, 2013). As an effect, the cyber-ludic research framework moves video-game pedagogies beyond participant observation research that seeks to evaluate the educational outcomes of video games.

This article centers the multiplicity of sites that operate together to form the ‘embodied experiences’ of video games interactions. Traditionally, DGBL theories have attempted to create experiential narratives that are linear and function as a traceable set of connections in relation to each other. Yet games, the technologies themselves and the rhizomatic communities that interact with them, are more complicated than this: they are not discrete objects with boundaries, but dynamic, time-based experiences dependent on ever-changing combinations of data, human agents, and technological agents. Embracing this complexity by applying post-critical methods to DGBL theories enables a more comprehensive examination of virtual worlds as informal sites of learning and sites of informal learning that exist at the borders of formal schooling. In moving beyond DGBL theories to cyber-ludic pedagogies in this way, we can study the relationship between games, play, and education as part of the on-going project in the field of education to challenge the patriarchal transmission lineage that views the relationship between teachers and students as one wherein teacher transmits to student. This ‘sideways’ communication, what Brennan (2004, p. 75) calls ‘horizontal line of transmission,’ is important because it also helps move our understanding beyond individual body boundaries, extending sites of investigation into the realm of ‘things,’ ‘technologies’ and the non-representational spaces of pre-ideas, cognition, memory and imagination (Thrift, 2008). Cyber-ludic research practice engages with alternative bodies of data outside of the school experience.

In the next section, we are going to apply this theoretical framework to a case-study event in gaming culture that occurred at the onset of the COVID-19 pandemic. Asmogold's vlog post on social distancing reflects on gaming's positioning at the boundaries of educational institutions and social activities. Our analysis of Asmogold's performance of the imagery of a NEET identity serves as a site to 1) question the exoticization of deviance in educational research, 2) problematize the assumption of a one-way relationship between meaning and representation, and 3) acknowledge the pedagogical value of data that is found in readings of popular culture texts, especially in user-generated content.

Applying cyber-ludic pedagogies

The case study: starring Zack as Asmongold

This article takes up Asmogold's video, 'Advanced Social Distancing Survival Guide from a 10+ year NEET,' as a case study to explore the tensions between online socialization, entertainment, work, and school. Employing the cyber-ludic pedagogical framework, such research invokes a diverse set of sites and skills and includes data from a variety of sources. The research corpus traces pathways between mainstream media texts; public forum posts; blog and media posts on games and technology, including computer code; and audiovisual material of gameplay, screenshots, streaming and blog posts. Gaming communities are rhizomatic, a proliferation and syndication of data and the innumerable connections created between agents, both human and technological. Selection criteria of both data and connections for the corpus follow the post-critical approach of acknowledging researcher positionality and experience as they trace and document connections. What follows is the application of the cyber-ludic pedagogical framework to the vlog entry vignette described at the outset of the article.

Asmogold's vlog post is meant to be a humorous guide to social distancing. Asmogold describes social distancing as a way of life, often associated with NEETs, that has expanded beyond an affinity group of technodeviant to the general population because of the COVID-19 pandemic. What was once a niche experience has become essential for the survival of civilization. The technodeviant lifestyle is sometimes an involuntary one: in Asmogold's content, he at times references symptoms of social anxiety. Pre-pandemic, social distancing is discussed variously as a technique, a skill, learning outcome, and wisdom which has been painstakingly acquired, either as a result or as the cost of earlier social shunning. Now, Asmogold can impart this acquired knowledge upon others. Reading from a list on his digital tablet, he describes behaviors that can facilitate social distancing, supporting his authority by recruiting statistics-inspired words to lend mathematical legitimacy to his claims, terms such as 'correlations' and 'curves'. The list foregrounds the all-encompassing playing of immersive video games that will occupy the majority of the time spent social distancing. Other items include advice such as staying at home except for when picking up fastfood via drivethrough, avoiding human contact including sex, not showering, and generally not keeping up the appearance of self-care.

Near the end of the video, Asmogold notes that he is purposefully leaving out his final piece of advice aimed at people with jobs, because most of his audience consists of men without jobs. In so doing, he is suggesting, performing, to his now expanding audience his belonging to NEET culture, implying that he does not have a job in addition to embodying the other social distancing traits he has listed. While he persistently draws on a technodeviant lifestyle of self-induced isolation related to gaming, Asmogold (real name: Zack) is in fact a gaming powerhouse. His video reflections on current events, carefully constructed to largely read as apolitical unless taking up a particular right-wing grievance, and Internet culture have gained him a following of more than one million subscribers on YouTube and three million Twitch followers. He has an estimated yearly income of a million dollars and enough loyal fans to report and get his 'griefers' or 'trolls' banned from the platforms he occupies. He has created his brand by livestreaming his playing of *World of Warcraft* (WoW) from a dungeon-like, untidy room. While he hints in his video that he lives with his parents, he in fact inhabits a large house with other streamers and business partners, a current trend in streaming circles. Despite his immense financial and social success, Asmogold's fans are loyal to the unhygienic, socially anxious technodeviant lifestyle that he claims as his brand, and these fans reinforce it with commentaries and even fan-generated videos. The relationship between brand and lifestyle is an important one: Zack, as opposed to Asmogold, maintains a brand as a lucrative source of income, while not necessarily living the lifestyle around which he builds the brand.

Another facet of Asmongold's brand is built on his expression of conservative political beliefs: his participation and support, for example, in a campaign called Make Warcraft Great Again, a direct reference to MAGA and the 2016 and 2020 American elections, was instrumental in the 2019 recreation of *WoW* in its original form, before almost two decades of update patches. Rather than a mere slogan, MWGA was an explicit demand from some of *WoW*'s core gamers to bring back the original releases that existed before the game expanded its demographics. In a video by Punkrat (2019) describing the entire campaign which Asmongold himself streamed on his own platform, there is a mix of political references and imageries, such as Russian computer servers and young white male protesters, that serve to emphasize the associations of the campaigners with the Trump campaign, while at the same time engaging with the image of a resistance movement and the narrative of the underdog. That the campaign defined the object of gamers' desire as Vanilla (community wording) or Classic (the publisher's choice for the final release) reiterates the racial statements inherent in the release.

Despite this apparent attachment to right-wing politics, Asmongold, as a branded persona, has also released more critical commentaries, especially on his personal account. A couple of months before the social distancing lifestyle video was released, he posted a series of other videos, again on his personal account, announcing a break from streaming and explaining his grievances with Twitch, the streaming platform that enabled his success (ZackRawrr, 2019; 2020a). While he himself was experiencing a personal crisis to which he often refers, Zack, performing a more intimate version of self, admitted that he felt obligated to say specific things, simply because his audience would want to hear them. The suggestion is that he is performing his brand for an audience, and that his statements do not adequately reflect his personal beliefs. He alludes to a series of misogynist comments, targeted against Pink Sparkles, his former girlfriend and another streamer. Pink Sparkles performs the exaggerated pole of feminized gender roles in Internet culture: her brand is a pink-girly room, loaded with verbal reminders of gender and visual sexual references. Later that year, right after the murder of George Floyd, Asmongold posted a powerful commentary on disguised racism in the design of *emotes*, Twitch-specific emoticons, and viewer behaviors. This, along with global anti-racism protests, have been posted again on his personal account, which has far fewer followers than the streaming account.

These examples suggest that the interplay between Zack's stance and Asmongold's commentary is more complex than they originally appear, and warrant deeper examination. His performance of technodeviant and right-wing American Internet subcultures draws on and represents a large number of gamers and followers. This paper takes up the complex space between digitally- and play-mediated socialization and work/learning environments. The next section will analyze the ways in which Asmongold invokes language and practices around knowledge production to examine how gaming agents position these practices within a complex political and cultural framework. Such a juxtaposition offers a pointed critique of assumptions that simultaneously isolate gamers' knowledge production practices from social realities and embed them into learning processes.

Theory-crafting in gamer worlds

The relationship between gaming and learning is constantly in flux. In its earliest iterations, with early interactive fiction in academic environments like *Adventure* or edutainment franchises like *Oregon trail* and *Carmen Sandiego*, the commercial and regulatory relationships between gaming and educational institutions were inextricable and mutually constitutive. As games grew in complexity and access to gaming technology became ubiquitous, the early mutual constitution of games and education yielded the presence of gaming in education and education in gaming. Asmongold recruits learning and knowledge vocabulary to describe the content in his video: he is imparting knowledge that he has been acquiring for over 10+ years. He is using the word 'teach' to describe what he is doing while centering terminology that links to knowledge institutions and methodologies, terms such as advanced; list making, statistics; and the potential generalizations of his observations. He also makes constant references to the acquisition of his social distancing wisdom beginning during his teenage/school years to establish his authority regarding the how-tos of the NEET lifestyle. Asmongold simultaneously invokes knowledge production conventions in reference to educational institutions while establishing his outsider position in relation to them: both parts of this duality are important in establishing his authority on the subject of social distancing and as a representative of the NEET lifestyle. This is an instance of gamers 'theory-crafting,' which can be done collaboratively, in forum participation, or individually, in written and video guides (Steinkuehler & Oh, 2012), and, more recently, in infographics and data visualizations on social media. Theory-craft is not just about games: it is also found in hyper-

knowledge environments that people create in social media. Theory-crafting has become a communicative trope at this point, and its relationship to formal educational environments merits further study.

We argue that the practice of theory-craft cannot be adequately theorized outside of the silences in the video. Asmongold's description of his social distancing lifestyle serves to position himself within a group of involuntary celibate, yet heterosexual, white men, who have occupied digital gaming spaces and have become synonymous with computing worlds and related fields, including gaming: the technodeviant. Kendall's digital ethnography of *Bluesky* (2002), a text-based virtual world in the late 1990s, was one of the first studies of its kind. She makes the observation that this exact stereotype of involuntary celibacy was used by her subjects almost as a token of belonging in virtual communities in those early days of the Internet. Two decades later, with video games becoming increasingly ubiquitous across the world, the white maleness of game spaces is still pervasive, resulting in a conflation of gaming and gender. This manifests at all levels, from communities of players to game creators, as Chess, Evans, and Baines (2017) work on video game commercials reveals.

While the predominance of the technodeviant population, which we use to encapsulate the techno-imaginary of white, hetero, North American male, is a known phenomenon among gaming communities, cultural analyses of games had until recently largely ignored the exclusionary social practices engendered by gamers invoking these particular identities, focusing instead on representation of the aesthetics of game worlds. In the few exceptions where the technodeviant population was discussed and acknowledged, harassment, more often in the form of sexism, was placed in the context of locker-room talk (Kendall, 2002) or what Nardi (2010) calls a 'boys tree-house.' Nardi seems at times amused by it, while Kendall's work mentions multiple times that she expressed her concern and discomfort with this locker-room talk. Kendall eventually acknowledges that she felt that her intervention had less effect on her participants than these conversations were having on her. Taylor's (2006) ethnographic work on virtual worlds is concerned with female representation. She also encounters the misogyny and homophobia of the locker-room talk, yet, like the other researchers, she appears to end up ignoring the problematic behaviors that seek to define the boundaries of the technodeviant population. Part of the reason for this seeming nonchalance seems to be a widespread belief that these locker-room or tree-house aspects of communication were used as a mode of meme creation and community building, but that these behaviors and affinity groups were restricted to digital spaces only (Duncum, 2013).

This silence on the subject of exclusionary practices within the academic literature about games and virtual worlds further serves the romanticization of gaming as an act of resistance, defiance, and deviance as described in the literature review. Still, besides the obvious acts of aggression, more subtle political statements towards exclusion and their mechanics are documented among gaming communities. Kendall's work employs a discursive approach in order to examine how participants use language selectively in order to signify and define the boundaries of their respective identities. Her methodology was restricted to linguistic recording and analysis, given the technological limitations of the time. Kendall describes how her participants— and co-players— were substituting one identity for another, such as ethnicity for race, or profession for class, in order to maintain and define a space for their own particular demographic, while at the same time stripping this process of any political content and claiming color-blindness (Bonilla-Silva & Ditrich, 2011). This echoes an assumption of neutrality that still defines public perceptions technology (Benjamin, 2019). Still, as Chess and Shaw (2015) describe after becoming targets of harassment in the context of #gamergate, the ensuing scandal served as a reminder of what is entailed in the perceived purity of game spaces: that they are reserved for certain populations and that the technodeviant population is an exclusive one.

While Asmongold is seemingly sharing his performed technodeviant identity with a presumed wider audience of social distancers during the pandemic, he is also reclaiming a space which seems to be losing its exclusivity for white males like himself. While this movement is taking place, he establishes his authority by weaving together a seemingly arbitrary, yet loaded, assortment of pre-modern imagery— caveman lighting and posture, children's toys and blankets, medieval emblems— that tie the voluntary lack of societal integration to specific identities and life circumstances. This authority is further reinforced by a misappropriation of stereotypes later, such as the one that receivers of social benefits are unproductive members of society, unwilling rather than unable to produce income. Asmongold's claims expand through time and space within affinity groups, while constituting a very localized discourse within his own content across multiple platforms. Throughout his social distancing 'lecture' and his larger streaming career, the influencer attacks social benefits, by adopting and subsequently trivializing the image of a person who is receiving them and staying outside of society and labor production, not because of any inability to participate,

but because he prefers playing video games instead. At the same time, it is interesting that Asmongold's stated purpose for teaching social distancing in the video is the preservation of civilization for the stated self-serving purpose of maintaining the social benefits he receives from it as a NEET. His rhetoric places the NEET both in tension with and in dependency on both civilization and, by invoking social benefits, the state.

Further undermining the assumption that NEET and technodeviant identities are relegated to digital spaces, physiological senses play an important role in the social distancing video. Asmongold integrates senses such as smell, vision, and touch when technology is not enough to avoid human contact: his advice to avoid showering and to avoid self-care to a level that will repel people is accompanied with a visceral description of encountering a person who smells and looks like 'shit'. Maintaining such an appearance avoids the possibility of human touch by rendering NEETs invisible to others, who will bypass them and actively avoid looking at them in fear of their chosen physical presentation. His video connects recipients of social benefits with those who shun social interaction, highlighting a group that seeks avoidance while also fearing exclusion.

Cyber-ludic pedagogies and technodeviant

As advances in Internet technologies and access have expanded the use of online virtual worlds, DGBL has celebrated aspects of commercial video games such as the creation of communities of practice and knowledge production in game worlds, even when these spaces host rhetorics of resistance against institutions of knowledge. Employing a post-critical cyber-ludic reading of Asmongold's vlog post regarding gaming and social distancing demonstrates the ways in which these practices of informal knowledge-making in virtual worlds have come to constitute communicative tropes, often operationalized for humorous effect, rather than the straightforward knowledge dissemination texts that they are described as in the literature. Instead, streaming technodeviant like Asmongold often engage in 'theory-crafting' as part of their branding efforts in order to increase their audience and revenue. The performative efforts at branding do not detract from the fact that these texts simultaneously produce nuanced meanings that are relevant to the schooling experience and its exclusionary practices.

The deployment of the deviant, a persona that has both served educational research and the industry, requires additional scrutiny. These concurrent and often conflicting existences of deviance proliferate in gaming communities. When theory-crafting practices are placed in a larger social context and in relation to the intersections and valleys between games and games-related media texts, layers of often self-contradicting meanings begin to emerge. These layers challenge the ways in which scholars envision the integration of video games forms, genres, and rhetoric in educational settings and purposes. In this case study, Asmongold uses knowledge-making, scientific vocabulary, and the allusion to knowledge acquired during his adolescent years in order to simultaneously position himself outside of school settings and therefore claim the authority to critique them. By operationalizing the 'lecture' format of this vlog post for humorous effect, he adheres both to the gaming cultures from which he derives his audience and positions himself in a more ambivalent space of critical reflection and social commentary. The framework we present offers a means to find insight into the youth that comprise Asmongold's audience, in turn highlighting meanings and pedagogical practices often missed in evaluative paradigms of education. This article centers on the complexity of processes involved in delineating the pedagogical role of video games and their cultural expressions.

Concluding remarks

The relationship between gaming and learning is often unreflexive, whether the assumptions are coded as negative, such as the construction of the deviant gamer, or positive, in the gamification of learning tasks. We explored some of these contradictions in the uneven movements of engaging video games in learning in order to suggest a methodology for interpreting alternative data sources and emerging action sites with pedagogical implications for video games, casting virtual worlds as media of artistic expression and communication. We began by tracing the links between the positivist, evaluative paradigm in DGBL scholarship, arguing that a linear assessment of knowledge transmission does not adequately engage the complexity of virtual worlds and their hybrid physical and digital communities. We bring DGBL into dialogue with current games studies research and post-critical methodologies to generate cyber-ludic pedagogies, a framework that goes beyond evaluating the didactic effectiveness of video games in learning outcomes. The commitment of post-critical methodologies to the lived experiences of marginalized populations has special significance for DGBL because it calls into question the affective deployment of play as a strategic mechanism to guarantee institutional and

civic compliance. We proposed one method for performing cyber-ludic research that challenges the idealization of deviance among gaming communities by questioning rigid and one-way relationships between representations and meanings.

Our case study vlog claims social distancing as native knowledge of game world inhabitants at the onset of the COVID-19 pandemic. The vlog traces the boundaries of educational institutions, having gaming communities simultaneously rejecting and being rejected by them while invoking hyper-knowledge communication practices. By branding his Asmongold persona as a socially anxious, NEET, technodeviant still living with his parents, Zack achieves a loyal audience of white, heterosexual, North-American males reportedly sharing the technodeviance culture. The relationship between the technodeviant and Asmongold's occasional right-leaning political grievances is not coincidental. Both identities lay claim to a status of marginalization when they in fact occupy privileged positions in the current hegemony. The MAGA move to reclaim 'lost' ground for white supremacy, founded on imaginaries of US racial purity, is mirrored in #gamergate and other controversies in game spaces that seek to preserve the perceived purity of the virtual world form as one reserved for the technodeviant. Zack uses Asmongold in this way to reclaim the exclusivity of video game space in the interest of this demographic while offering a visceral critique of both his followers' conservative ideas, social practices, and gamer stereotypes. A cyber-ludic analysis of the case-study acknowledges the operationalization of knowledge communication modes as tropes while emphasizing discrete projects of brand awareness, identity formation, and claims to digital space. Our analysis of Asmogold's performance of technodeviance serves to de-exoticize the deviant in educational research; problematize the assumption of one-way knowledge transmission and representation; and center the pedagogical value of game and play data that is found in popular culture texts and in user-generated content.

Despite the fact that Asmongold performs a lifestyle that he does not himself live in order to establish a brand does not in any way diminish the reach or impact of his media and discourse. His positionality as performed and its relationship to popular virtual worlds work together to give him authority as separate from and in relationship to formal learning environments. In much the same way the commercial imperative of educational gaming companies, or the gamification of education platforms (like 'badges' in e-learning software) does not detract from our understanding of these digital spaces as educational, so too can we understand that branded streaming content from gamers like Asmongold can constitute sites of learning. Given the scope of the audience for popular streamers, their ability to establish authenticity as sympathetic, deviant subjects, and the ways in which they weave together virtual worlds with the associated affinity groups that transcend digital environments merits further research on the potential educational impacts of gamers and streamers. The capacity for these texts to communicate informal learning is well demonstrated by the application of our framework to Asmongold's social distancing video: in a time where social distancing became the temporary norm, aspects of the NEET lifestyle became mainstream and, in our case study, increasingly profitable. Further research is needed to begin to unpack the broader educational potential of these multi- and transmediated works. Cyber-ludic pedagogies aim to embed gamers' knowledge production practices in the social realities they occupy, understanding them as inherently hybrid digital and physical experiences. The lack of edges and boundaries in game worlds means understanding their impacts, mnemonic experiences, and sticky affect in similarly unbounded ways. But just because we cannot understand gaming and playfulness within the bounds of traditional school models does not mean that the potential for reflexive inclusions of rhizomatic game networks do not have a role to play in both formal and informal learning environments. Our framework provides a starting point for beginning this important research by allowing emergent meanings to come through, furthering our understanding of the pedagogical workings of video games.

References

- Ahmed, S. (2013). *The cultural politics of emotion*. New York, NY: Routledge.
- Alshammari, S. H., Ali, M. B., & Rosli, M. S. (2015). the effectiveness of video games in enhancing students' learning. *Research Journal of Applied Sciences*, 10(8), 311-316. DOI: <https://doi.org/10.3923/rjas.2015.311.316>
- Anders, A. D. (2019). *Post-critical ethnography*. Retrieved from <https://doi.org/10.1093/acrefore/9780190264093.013.342>
- Anderson, B. (2006). *Imagined communities: Reflections on the origin and spread of nationalism*. London, UK; New York, NY: Verso.

- Backlund, P., & Hendrix, M. (2013). Educational games - are they worth the effort? A literature survey of the effectiveness of serious games. In *Processing of the 5th International Conference on Games and Virtual Worlds for Serious Applications (VS-GAMES)* (p. 1-8). Poole, UK. DOI: <https://doi.org/10.1109/VS-GAMES.2013.6624226>
- Benjamin, R. (2019). *Race after technology: abolitionist tools for the new Jim code*. Cambridge, UK: Polity.
- Bettivia, R. (2016). Enrolling heterogeneous partners in video game preservation. *International Journal of Digital Curation*, 11(1), 17-32.
- Bettivia, R., & Davis, R. O. (2023). E-support for E-learning: a tool to empower students in online courses. *Journal of Education for Library and Information Science*, 64(1), 53-70. DOI: <https://doi.org/10.3138/jelis.2021-0047>
- Bonilla-Silva, E., & Dietrich, D. (2011). The sweet enchantment of color-blind racism in Obamerica. *The ANNALS of the American Academy of Political and Social Science*, 634(1), 190-206.
- Brennan, T. (2004). *The transmission of affect*. Ithaca, NY: Cornell University Press.
- Chee, Y. S. (2016). *Games-to-teach or games-to-learn: unlocking the power of digital game-based learning through performance*. Singapore, SG: Springer.
- Chess, S., & Shaw, A. (2015). A conspiracy of fishes, or, how we learned to stop worrying about #GamerGate and embrace hegemonic masculinity. *Journal of Broadcasting & Electronic Media*, 59(1), 208-220.
- Chess, S., Evans, N. J., & Baines, J. J. (2017). What does a gamer look like? Video games, advertising, and diversity. *Television & New Media*, 18(1), 37-57. DOI: <https://doi.org/10.1177/1527476416643765>
- Childers, S. M. (2011). Getting in trouble: feminist postcritical policy ethnography in an Urban School. *Qualitative Inquiry*, 17(4), 345-354. DOI: <https://doi.org/10.1177/1077800411401197>
- Chun, W. H. K. (2021). *Discriminating data: correlation, neighborhoods, and the new politics of recognition*. Cambridge, MA: MIT Press.
- Consalvo, M. (2009). *Cheating: gaining advantage in videogames*. Cambridge, MA: MIT Press.
- Donovan, T. (2010). *Replay: the history of video games*. East Sussex, UK: Yellow Ant.
- Duncum, P. (2013). Youth's remix culture off and on-line. *Australian Art Education*, 35(1/2), 10-23.
- Egenfeldt-Nielsen, S., Smith, J. H., & Tosca, S. P. (2019). *Understanding video games: the essential introduction*. New York, NY: Routledge.
- Eordanidis, S., Gee, E., & Stewart-Gardiner, C. (2017). The effectiveness of pairing analog and digital games to teach computer science principles to female youth. *Journal of Computing Sciences in Colleges*, 32(3), 12-19.
- Francis, B. (2015, May 18). *Where in the world did blockbuster educational games go?* [Blog]. Retrieved from <https://www.gamedeveloper.com/business/where-in-the-world-did-blockbuster-educational-games-go>
- Gee, J. P. (2005). *Why video games are good for your soul: Pleasure and learning*. Australia: Common Ground.
- Gee, J. P. (2013). *The anti-education era: creating smarter students through digital learning*. New York, NY: St. Martin's Press.
- Giroux, H. (1983). Theories of reproduction and resistance in the new sociology of education: a critical analysis. *Harvard Educational Review*, 53(3), 257-293.
- Hall, S. (2003). Encoding/decoding. In S. Hall, D. Hobson, A. Lowe, & P. Willis (Eds.), *Culture, media, language* (p. 127-137). New York, NY: Routledge.
- Hunt, L. (2007). *Inventing human rights: A history*. New York, NY: WW Norton & Company.
- Jenkins, H. (2012). *Textual poachers: television fans and participatory culture*. New York, NY: Routledge.
- Jerz, D. G. (2007). Somewhere nearby is colossal cave: examining Will Crowther's original 'adventure' in code and in Kentucky. *Digital Humanities Quarterly*, 1(2), 1-65.
- Hung, A. C. Y. (2017). A critique and defense of gamification. *Journal of Interactive Online Learning*, 15(1), 57-72.
- Kendall, L. (2002). *Hanging out in the virtual pub: masculinities and relationships online*. Berkeley, CA: University of California Press.
- Kinder, M. (1996). Media wars in children's electronic culture: domesticating the world with Carmen Sandiego and the Mighty Morphin Power Rangers. In *Proceedings of 29th Hawaii International Conference on System Sciences* (Vol. 5, p. 126-132). Wailea, HI.

- Landers, R. N., & Armstrong, M. B. (2017). Enhancing instructional outcomes with gamification: an empirical test of the technology-enhanced training effectiveness model. *Computers in Human Behavior*, 71(1), 499-507. DOI: <https://doi.org/10.1016/j.chb.2015.07.031>
- Loh, C. S., & Byun, J. H. (2009). Modding neverwinter nights into serious games. In D. Gibson, & Y. Baek, *Digital simulations for improving education: Learning through artificial teaching environments* (p. 408-426). Hershey, PA: IGI Global.
- Marjanovic-Shane, A. (2016). 'Spoilsport' in Drama in Education vs. Dialogic Pedagogy. *Dialogic Pedagogy: An International Online Journal*, 4. DOI: <https://doi.org/10.5195/dpj.2016.151>
- McDonough, J., Olendorf, R., Kirschenbaum, M., Kraus, K., Reside, D., Donahue, R., ... Rojo, S. (2010). *Preserving Virtual Worlds Final Report*. Retrieved from <http://hdl.handle.net/2142/17097>
- McMahan, A. (2013). Immersion, engagement, and presence: A method for analyzing 3-D video games. In M. J. P. Wolf, & B. Perron, *The video game theory reader* (p. 67-86). New York, NY: Routledge.
- McRobbie, A. (1978). *Jackie: an ideology of adolescent femininity* (Monograph). University of Birmingham, Birmingham. Retrieved from <http://epapers.bham.ac.uk/1808/>
- Montgomery, B. (2016, February 7). Is the educational games industry falling into the same trap it did 20 years ago? *EdSurge News*. Retrieved from <https://www.edsurge.com/news/2016-02-07-is-the-educational-games-industry-falling-into-the-same-trap-it-did-20-years-ago>
- Muñoz, J. E. (2020). *The sense of brown*. Durham, UK: Duke University Press.
- Nardi, B. A. (2010). *My life as a night elf priest: an anthropological account of world of warcraft*. Ann Arbor, MI: University of Michigan Press.
- Noblit, G. W. (2003). Reinscribing critique in educational ethnography: Critical and postcritical ethnography. In K. B. deMarrais, & S. D. Lapan (Eds.), *Foundations for research: methods of inquiry in education and the social sciences* (p. 197-218). New York, NY: Routledge.
- Paravizo, E., Chaim, O. C., Braatz, D., Muschard, B., & Rozenfeld, H. (2018). Exploring gamification to support manufacturing education on industry 4.0 as an enabler for innovation and sustainability. *Procedia Manufacturing*, 21(1), 438-445. DOI: <https://doi.org/10.1016/j.promfg.2018.02.142>
- Punkrat. (2019, August 26). *The history of classic WoW (2007-2019). Classic WoW documentary*. [video file]. Retrieved from <https://www.youtube.com/watch?v=RnPxVfHkIws>
- Rogers, E. M. (2003). *Diffusion of innovations*. New York, NY: Simon & Schuster.
- Shaffer, D. W. (2007). *How computer games help children learn*. New York, NY: Palgrave Macmillan.
- Squire, K. (2012). Designed cultures. In C. Steinkuehler, K. Squire, & S. Barab (Eds.), *Games, learning, and society: learning and meaning in the digital age* (p. 10-31). London, UK: Cambridge University Press
- Steinkuehler, C., & Oh, Y. (2012). Apprenticeship in massively multiplayer online games. In C. Steinkuehler, K. Squire, & S. A. Barab, *Games, learning, and society: learning and meaning in the digital age* (p. 154-184). Cambridge, UK: Cambridge University Press.
- Schwab, G. (2012). *Imaginary ethnographies: literature, culture, and subjectivity*. New York, NY: Columbia University Press.
- Taylor, T. L. (2006). Does WoW change everything? How a PvP server, multinational player base, and surveillance mod scene caused me pause. *Games and Culture*, 1(4), 318-337. DOI: <https://doi.org/10.1177/1555412006292615>
- Taylor, T. L. (2018). *Watch me play: twitch and the rise of game live streaming*. Princeton, NJ: Princeton University Press.
- Thrift, N. (2008). *Non-representational theory: space, politics, affect*. New York, NY: Routledge
- Willis, P. (1977). *Learning to labour: how working class kids get working class jobs*. New York, NY: Routledge.
- Ypsilanti, A., Vivas, A. B., Räisänen, T., Viitala, M., Ijäs, T., & Ropes, D. (2014). Are serious video games something more than a game? A review on the effectiveness of serious games to facilitate intergenerational learning. *Education and Information Technologies*, 19(3), 515-529. DOI: <https://doi.org/10.1007/s10639-014-9325-9>
- ZackRawrr. (2019, March 24). *Why I took a break from streaming and my plans going forward* [Video file]. Retrieved from <https://www.youtube.com/watch?v=oScbfCyirAw>
- ZackRawrr. (2020a, February 25). *Why I took a break from streaming and what my plans are going forward (Part 2)* [Video file]. Retrieved from <https://www.youtube.com/watch?v=km2CrXeh01g>

ZackRawrr. (2020b, March 16). *Advanced social distancing survival guide from a 10+ year NEET* [Video file]. Retrieved from <https://www.youtube.com/watch?v=uin1GPB7uJk>

INFORMATION ABOUT THE AUTHORS

Dora Kourkoulou: Dora Kourkoulou is an Educational Policy, Organization and Leadership doctoral candidate, teaching and research assistant, at the University of Illinois at Urbana-Champaign.

ORCID: <https://orcid.org/0000-0002-8254-9253>

E-mail: tkourkou@illinois.edu

Rhiannon Bettivia: Rhiannon Bettivia is Assistant Professor at Simmons University. She earned her PhD from the School of Information Sciences at the University of Illinois, Urbana-Champaign.

ORCID: <https://orcid.org/0000-0003-4593-562X>

E-mail: rhiannon.bettivia@simmons.edu

NOTE:

Dora Kourkoulou: Conceived topic, performed analysis, wrote parts of paper; Rhiannon Bettivia: Contributed data analysis tools, designed the analysis, edited and wrote parts of paper