

The Meaning and Relevance of Video Game Literacy

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Abstract: In his article "The Meaning and Relevance of Video Game Literacy" Jeroen Bourgonjon argues that video gaming deserves scholarly attention as a social practice and a site for meaning-making and learning. Based on an overview of contemporary trends in literacy and cultural studies, he argues that video games cannot be approached like traditional text forms. He contends that video games serve as an important frame of reference for young people and call for informed decision making in the context of culture, education, and policy. Bourgonjon provides an integrated perspective on video game literacy by employing theoretical insights about their distinctive dimensions and elements and situating them in Bill Green's sociocultural 3D model of literacy in order to determine the operational, cultural, and critical aspects of video game literacy.

Jeroen BOURGONJON

The Meaning and Relevance of Video Game Literacy

Traditionally, the concept of literacy has been associated with reading, writing, distributing, and discussing books. In a historical context dominated by printed texts, people began justifying social and cultural positions by framing literacy as an inherently social, economic, and cultural good. This perspective stresses the importance of reading and writing in a nationally standardized language, of mastering the ideals of a national and literary canon of books, and of acquiring historical facts (see, e.g., Hirsch). Literacy thus symbolized a cultured way of living and was considered a prerequisite for upward social mobility. As such, raising literacy standards for the so-called underdeveloped social classes has been deemed necessary to stimulate their economic advancement and personal and social development (see, e.g., Rogers and Street; Street; Rutten and Vandermeersche <<http://docs.lib.purdue.edu/clcweb/vol15/iss3/>>).

When the term "video game literacy" was introduced by James Paul Gee in *What Video Games Have to Teach Us about Learning and Literacy*, the contrast between video games and traditional media including printed books raised questions and apparent contradictions. What do central terms within the notion of traditional literacy mean when applied to the medium of video games? Does it make sense to talk about reading and writing in the context of video games? Do the effects of playing video games resemble the impact of reading books? Resemblances between the two literacies are rejected by those scholars who perceive reading and writing literary texts as highly intellectual and cognitive activities and video gaming as simply relying on cerebral responses to visual stimuli on the screen. Another perceived contradiction is that video games are often blamed for turning young people away from reading books. Because of all these reservations and contradictions, video game literacy might seem to be an oxymoron. Indeed, when confronted with new media such as video games, literacy is often studied in terms of crisis or decline (see Soetaert and Rutten; Vandermeersche and Soetaert <<http://dx.doi.org/10.7771/1481-4374.2239>>). Yet the recent attention on video game literacy is not rooted in hype or academic profiling, but rather in debates about literacy and changing theories about culture that emphasize its ideological and pedagogical nature (see Soetaert and Rutten).

In the 1970s and 1980s, empirical studies revealed that many social groups in the Western world had remained functionally illiterate despite compulsory education (see Bélanger, Winter, and Sutton). Simultaneously, warning messages were issued about the decline in high-level cultural knowledge (see, e.g., Bloom; Hirsch; Postman). Among others, both trends compelled scholars from a variety of disciplines, such as anthropology, ethnography, new literacy studies, cultural studies, and educational studies, to reevaluate the concept of literacy that has shaped many assumptions about learning and education in contemporary society. In terms of functionality, Harvey J. Graff contested the assumption—or in his terms: "the myth"—that literacy is a prerequisite for social, cultural, and economic prosperity. He explains that "problems inherent in the 'literacy myth' start with confusions over the meanings of the word 'literacy' and efforts to measure it. Literacy has been defined in various ways, many offering imprecise, yet progressively grander conceptions and expectations of what it means to read and write, and what might follow from those practices, attitudinally and cognitively, individually and collectively" (Graff, Harvey J. 14). Brian Street argues from an ethnographic perspective that the notion of literacy introduces an ideological binary between literate and illiterate people, and that traditional approaches ignore the inequalities people experience when trying to become literate. Street therefore problematizes literacy as "a single and universal skill which adults can learn through a formal learning process based on a centrally produced and universally applied school-like literacy textbook (primer) in one-size-fits-all programmes; and [that] this learning can be measured through a standardized test" (2).

A first consequence is that the conceptualization of literacy as a neutral set of skills that can be dissociated from the social context becomes contested (see Gee, *Social Linguistics*). Gee argues that literacy is not solely a cognitive process, but rather is something that emerges in specific contexts that are intertwined with the practices of social groups and classes. Gee refers to these practices by making a distinction between discourse (e.g., conversations, stories, research articles, etc.) and discourse, which he describes as "a socially accepted association among ways of using language, of thinking,

feeling, believing, valuing, and of acting that can be used to identify oneself as a member of a socially meaningful group or 'social network,' or to signal that one is playing a socially meaningful role" (*Social Linguistics* 143). Thus, people can only be considered literate in a specific discourse when they master the signs and codes in a semiotic context. An example of such semiotics is the academic world. Gerald Graff describes academia as an exclusive club with its own code, language, and practices: becoming academically literate thus implies decoding and demystifying what it means to be an academic in order to participate. Of course, society consists of many additional spheres and semiotic domains. Increasingly, social groups no longer occupy a single semiotic domain, but travel in and out of new spaces with their own culture and practices. A successful life then demands the ability to adapt and acquire multiple discourses (see Gee, *Social Linguistics*). Following Gee's thought, literacy is understood as a social construction that not only determines the use of a specific language, but also what is considered important and valuable. This introduces a second correction to the notion of literacy: the need for a critical dimension. As social groups struggle for dominance and authority, the ability to read the social context and participate in democratic debates is of particular concern (see Freire). Hence, critical literacy also refers to challenging dominant perspectives, stimulating emancipation, and allowing social groups to regain their voice and worthiness, and become liberated from oppression (see Freire; Gee, *Social Linguistics*). This critical dimension concerns all aspects of life. Educational institutions, for example, often only appreciate one form of literacy: language practices and the rules of scholarship including the publishing of scholarship. This can explain the alienation of young people from schools: the literacy acquired at home or with friends is undervalued in the classroom where all social groups, youth and subcultures which deviate from the norm are excluded (see Sanford and Madill). Given the relationship between literacy and the struggle for control over discourses, the idea of a single and neutral literacy becomes untenable (see New London Group).

Most of the above-referred to functional and ideological criticisms are contextualized by Manuel Castells as digitization and globalization. The New London Group coined the term "multiliteracies" to account for two intertwining trends: multiliteracies refers to the multiplicity of cultural and linguistic differences and affiliations in our globalized society (61). It also points to the many medial forms and communication channels introduced by information technology. New media refocus our attention from the content of language to its formal qualities. Compared to traditional reading and writing, multiliteracies transcend accepted ways of engaging with page-bound printed texts, moving toward participation in a media landscape combining different textual, aural, and visual modes effortlessly on the screen (see Kress). Moreover, these new modes of communication allow for global connectedness between social groups and subcultures. This leads to increased attention to (the effects of) culture and reopens the discussion about its conceptualization. Further, the question of what it means to be literate has gone hand in hand with a prescriptive conceptualization of culture. When literacy was narrowly defined as print culture and closely associated with the culture of the ruling classes, it was obvious to consider culture as "the best that has been thought and said" (Arnold 5). However, cultural studies scholars such as Richard Hoggart and Raymond Williams suggested broadening and democratizing the concept of culture to include the experiences of all social classes. From their perspective, culture does not only refer to high art and the elite's exclusive way of living, but also to the everyday practices of the working classes. In the words of Stuart Hall, culture becomes a descriptive category to analyze and explore "the production and exchange of meanings—the 'giving and taking of meaning'—between the members of a society or group" which turns the focus toward meaning-making in/and popular culture (3).

Despite these anthropological, ethnographic, linguistic, critical, and socio-cultural corrections to traditional perspectives on literacy and culture, many conservative premises are still reflected in back-to-basic calls for a "national canon," in the many complaints about the deterioration of Western culture, and in the representation of literacy in popular culture (see Soetaert and Rutten; Verdoordt). The meaning of both literacy and culture is contested and in part determined by the way they are represented and hence Hall argues that "we give things meaning by how we represent them—the words we use about them, the stories we tell about them, the images of them we produce, the emotions we associate with them, the ways we classify and conceptualize them, the values we place on them" (3). This idea that representational systems determine the process of meaning-making and reception has led Henry Giroux and other cultural studies scholars to conclude that culture is pedagogical by nature.

Thus, they enlarge the context of learning beyond the formal institution of education we have grown so accustomed to, by illustrating that people also learn in the symbolic spaces of popular culture. This affects the central issues, themes and topics addressed in formal education. Because culture—in all its forms and manifestations—is foremost seen as a means to give meaning to experiences, it is not surprising that scholars of education who put meaning-making at the heart of education argue for the learning potential and even inclusion of previously excluded media and genres such as film, television, and the documentary (see Giroux; Soetaert, Mottart, Verdoodt).

Catherine Beavis was one of the first literacy scholars to suggest that video games deserved attention from a literacy, cultural, and pedagogical perspective. She reasons that while video games are highly contested, they embody conceptions of youth culture and thus give rise to difficult questions about the relationship between popular culture and education, polarize our thinking about culture and identity, and confront us with concepts of texts and textuality. In line with suggestions from the New London Group, Beavis set the agenda for literacy scholars and educators by pointing out that "complex understandings of the links between representation and identity, between pleasure and aesthetics, between dominant discourses and hegemonic practices and a recognition of texts' appeal are all important factors in exploring the nature of young people's engagement and fascination with computer games, and in helping young people become informed and critical" (2). Yet, it was not until Gee introduced video games as ideal case studies for exploring theories about literacy, discourse, and semiotics that contemporary research in literacy studies really started addressing these issues.

In contrast to debates about the impact of media on literacy, the study of video game literacy was not rooted in a protectionist reflex against what back-to-basics scholars would refer to as the superficial content and commercial character of popular culture (see Squire, "Video-Game Literacy"). With the exception of Christoph Klimmt who considered video game literacy as a protective mechanism against presumed negative influences of gaming, most scholars with a background in literacy, cultural, educational, and game studies have been careful not to put games in competition with other media nor to describe video game culture in terms of crisis. According to Aaron Delwiche, this cautious approach could be prompted by the concern that "negative remarks might provide ammunition to would be censors" (177). Regardless the reason, it remains clear that most scholars have taken on a predominantly positive perspective and value the critical analysis of video games and appreciation the medium. Their calls for video game literacy are grounded in the observation that video games are not traditional text forms, serve as important frames of reference for young people, and require informed decision-making in the context of culture, education, family, and policy.

As contemporary literacy programs focus on media engagement with books, television, and the Internet, it is tempting to treat video games as yet another type of narrative and to apply existing tools for analyzing (visual) language and story structures in video games. However, game and media scholars warn against such a straightforward translation of frameworks and methodologies. They argue that "games are similar-but-different to other texts" (Partington 75) and raise an important question: "Without the player, there literally is no game. This leads to a core challenge for literacy researchers: How do we study a phenomenon that cannot exist without its players?" (Squire, "Video-Game Literacy" 644). According to most scholars, any study of video games should therefore at least address the ludic dimensions of video games. As the underlying rule system is arguably the single most important ludic dimension, learning how to interpret and manipulate this rule system becomes a priority for understanding video games. However, this requires a new literacy that is based on pattern recognition and system thinking (Frasca <<http://www.ludology.org/articles/ludology.htm>>; Salen and Zimmerman; Zimmerman).

As many young people spend countless hours playing video games, one could question whether video game literacy can be acquired simply through gaming, and thus if it really needs critical attention in education. Literacy scholars respond by subverting the question: "How will students react to traditional schooling in this digital era?" (Squire, "Video-Game Literacy" 658). After all, as Gunther Kress notes, "young people, who may be spending long periods with electronic games, developing high levels of visual analytic skills and muscular coordination quite unlike those of writing, are not going to leave these at the school gate and then turn back into the kinds of human subjects which we may want them to be: formed around the logics and rationalities of writing" ("Internationalisation"

193). All things considered, video game literacy deserves attention from this perspective because it provides insight in young people's frames of reference.

An additional argument that supports the claim for video game literacy, is that many people—including youngsters that identify themselves as gamers—have a rather "naïve understanding of games" (Zagal 3). In other words, people who play games are not automatically well-equipped to approach them critically (see Partington). Based on interviews with teachers and professors of game courses, José Zagal argues that a naïve understanding is reflected when someone confuses being insightful with being successful in a game: beating a game does not necessarily lead to critical evaluation. A lack of understanding is also displayed when someone can only describe video games using formal arguments, grounding their decision solely on obvious features such as graphics or sound. The same applies to players who generalize their own experiences, thereby ignoring that different players approach and enjoy video games in different ways. Often, this stems from a single-minded focus on particular games or genres. Lastly, a naïve understanding can refer to the inability to consider how video games could serve other functions than entertainment. This problematized and uncritical understanding of video games has serious consequences in the context of culture, education, family, and policy. According to Idit Harel Caperton, video game literacy is necessary from a cultural perspective to realize the full potential of the medium, to stimulate children in their development, and to inform people how to understand and talk with designers in order to fully participate in (game) culture. In the context of education, Squire has argued that "the biggest challenge in developing a critical vocabulary around games may not be with students, but with teachers, parents, and administrators who treat games as trivial, rather than influential cultural artifacts and practices" ("Video-Game Literacy" 662). Furthermore, video game literacy is an important prerequisite for digital game-based learning: as with any new medium, students will first need to be introduced to video game culture to realize the educational potential (see Buckingham and Burn; Bourgonjon, Schellens, Soetaert, Valcke). A first step is eliminating popular misconceptions about video games that hinder the learning process. For example, experienced gamers often ignore text during play: when confronted with textual messages in learning games, gamers will likely skip them and miss out on the learning content. Aside from criticism of the overreliance on text in educational games, this example demonstrates how misconceptions can affect what is learned. But such misconceptions are not only found in education. Because many people do not play video games, the media have a profound impact on the public's perception of game culture. Within the context of the family, this leads to communication difficulties as parents' perceptions about video games—which are solely based on confrontation with the often-biased representation in the media (see Ferguson)—do not correspond to the everyday gaming experiences of their children. Within the context of policy, the popularity of video games urges policy makers to make decisions about video games in the fields of economics (e.g., discussions about a tax shelter for the gaming industry), law (e.g. discussions about censorship, and legal issues regarding the selling and renting of second hand video games), and education (e.g., discussions about using games in the classroom, and attention for video game literacy in schools). Because important rights and values such as freedom of speech and the interests of social groups such as youngsters and the gaming industry are at stake, it is essential that these decisions are made deliberately by a well-informed public.

Based on my above argumentation I postulate that there is a need for video game literacy and hence the question can now be raised: what constitutes video game literacy? What defines a deliberate and well-informed decision about video gaming? A straightforward answer is complex, given the conceptualization of literacy as a social struggle: each definition is inevitably grounded in a specific academic discourse and thus stresses distinctive features. It is therefore more advisable to describe the different dimensions and functions that a theory of video game literacy might address (see Buckingham and Burn). In what follows, theoretical insights from different scholarly perspectives on video game literacy are collected. Based on the suggestion of Beavis, we categorize these different aspects according to Bill Green's sociocultural three dimension 3D model he introduced in his 1988 article "Subject-specific Literacy and School Learning" (see also Beavis; Durrant and Green), structuring the discussion around operational, cultural, and critical literacy (see Figure 1):

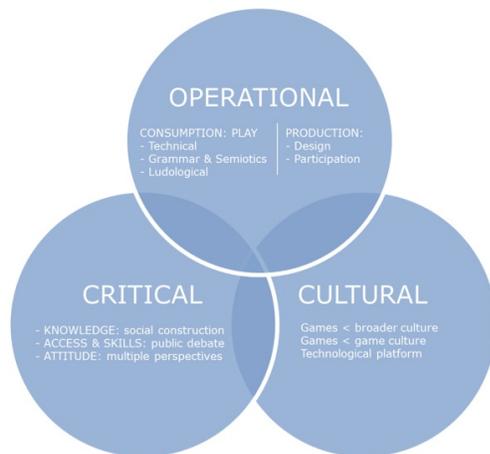


Figure 1: Toward an integrative representation of perspectives on video game literacy.

Green's first dimension, operational literacy, is related to the semiotic system: the language of a medium and thus denotes the ability of reading and writing effectively in specific contexts. In the context of video games, reading and writing can be translated as a gamer's ability to play and design video games. Play comprises not just the technical abilities to install or launch a video game, nor the eye-to-hand coordination needed to navigate an avatar through the virtual world, but most importantly also entails interpreting what happens during the game and mastering the grammar and practices of the semiotic domain (see Gee, *What Video*). Perhaps these operations are best understood in comparison to literary or cinematic experiences. The reader or audience needs to follow and interpret certain codes and conventions, whether consciously or not, such as the identity of the narrator or the occasional a-chronological succession of scenes. In different styles and genres, authors and movie directors have experimented with these codes and after repeated experiences most readers and spectators have learned to read and decode them. Similarly, video games also follow certain conventions. Inexperienced players may lack a sufficiently developed frame of reference to recognize and interpret these codes and may fail to filter out what is important and as a result new players can become overwhelmed.

Besides the ability to read and thus play, most scholars argue that in congruence with writing, game design is another fundamental dimension of video game literacy. The underlying rationale is that literacy entails becoming an active and productive member of the accompanying (sub)culture (see Gee, *Social Linguistics*). As video games are a typical exponent of a culture of digitization and where in consequence people's social lives are increasingly dependent on digital technology, many scholars emphasize the importance of understanding the logic of computer programs, that is, in the so-called system-thinking (see Salen; Zimmerman; on systems thinking in humanities scholarship see also Tötösy de Zepetnek; Tötösy de Zepetnek and Vasvári). Based on constructivist learning theory (see Papert) and its focus on the creation of artifacts as an essential stimulus for learning, these scholars believe that such understanding can be built most effectively by learning to program and design games and thus by becoming a productive member of game culture. However, becoming a game designer takes more than learning a programming language, if only because games also contain a ludic dimension. For example, Eric Zimmerman argues that learning how to program software can teach us something about rule systems and computer algorithms, whereas games demonstrate the playful and creative attitude people obtain when they engage with those rules. For example, playing a game like football transcends knowing a collection of rules, and entails a meaningful interaction of engaging with, criticizing, adapting, and sometimes breaking those rules. Zimmerman posits that game design stimulates understanding of how people behave within the boundaries of specific (digital) rule systems, by focusing on how systems can become subject to discussion and manipulation. Further, Katie Salen notes that game design requires an attitude that is focused on pattern recognition, thinking about mathematical models, and seeing the world as connected through dynamic relationships. The

design dimension of video game literacy thus also refers to a playful attitude towards existing systems and structures. Arguably, this meets contemporary social needs as social networks and computer systems increasingly affect, determine, and question what it means to be human.

According to David Buckingham, design is empowering because it allows for the exploration of personal investments in media and productive design can be considered epistemic (see Shaffer), because it initiates learners in specific cultural groups, rather than teaching them about these cultures (see Brown). However, while this preference for participation brings production to the center of attention, it also exposes the notion to criticism. Although most scholars agree that production is an essential dimension of video game literacy, not everyone supports the claim that production should be limited to game design and programming. For example, Caperton explains that "in the past three decades, Constructionist scholars (myself included) were often challenged regarding whether or not Constructionist learning must always include programming to qualify. My personal response is: Why not? I am not as pure as many of my colleagues. I believe in the power and value of representing knowledge through programming ... but I also believe in the value of media making for learning" (10). Similarly, Salen downplays the role of game design in the production dimension, by suggesting that the "emphasis on production may be misleading within a larger conversation around gaming literacies, as it might seem to present the argument that players can only be truly considered literate in relation to games if they manipulate and produce their own" (308). Salen also believes that production should be considered more broadly: "If we follow this argument, only gamers-who-mod [i.e., gamers who modify video games] would be considered full members of the current culture of participation. This is simply not true. While a good percentage of teens, for example, produce some sort of online content ... the production of game artifacts (skins, levels, fan fiction, etc.), is just one of the many ways that players participate in the robust knowledge networks that constitute the ecology of games" (308-09). Both Salen and Caperton thus subscribe to the social and cultural dimensions of literacy by focusing on criticism and evaluation through all kinds of texts rather than on the production (design) of video games.

In Green's 3D model, cultural literacy refers to meaning-making, and thus to understanding texts in relation to specific contexts. Jeroen Bourgonjon, Kris Rutten, Ronald Soetaert, and Martin Valcke observed that approaching video games wisely implies facing a number of dilemmas such as the distinction between game-as-designed versus game-as-played, representation versus simulation, game versus derivative texts, and broader social and cultural contexts. Zagal integrates most of these opposing perspectives by postulating that understanding video games is best described as the ability to "explain, discuss, describe, frame, situate, interpret, and/or position games in the context of human culture (games as a cultural artifacts), in the context of other games (comparing games to other games, genres), in the context of the technological platform on which they are executed, and by deconstructing them and understanding their components, how they interact, and how they facilitate certain experiences in players" (24). Since many of the elements in the fourth context have been addressed already under the play dimension of video game literacy, only the other three contexts will now be elaborated upon.

First, Zagal argues that video games should be understood in the context of other media and related to media genres, artistic movements, and specific (sub)cultures. Following scholars in the field of digital humanities and intermediality studies, this entails exploring how video games play a role in transmedia storytelling, how they remediate other media and vice versa, and how they share "aesthetic, thematic, compositional, and structural elements from established artistic or expressive genres or movements" (Zagal 26; see also Bolter and Grusin; <<http://www.technologyreview.com/news/401760/transmedia-storytelling/>>; for a bibliography of intermediality studies and digital humanities see Tötösy de Zepetnek <<http://docs.lib.purdue.edu/clcweblibrary/bibliographydigitalhumanities>>). This implies, for example, that the *Harry Potter* video game series cannot be understood separately from the books and that external cultural knowledge about *art nouveau* and Ayn Rand's philosophy of objectivism is a prerequisite for interpreting and appreciating fully the architecture and narrative of *BioShock* (see Bourgonjon, Rutten, Soetaert, Valcke). Second, the technological platform creates the framework for designing and playing video games. As such, the computational power, the operating system, and the different underlying technologies determine the possibilities and constraints for designers. For example, the video game *Tetris* was developed when computers had limited computational power compared to contempo-

rary technologies. Nowadays, game designers work with technology that is capable of creating landscapes, mimicking human facial expressions, and simulating the complexity of city life. Moreover, new accessories, such as motion sensors and cameras, have emerged. These new technologies and accessories can evoke new reactions and emotions from players. Of course, technological advancements are not a prerequisite for evoking new reactions and emotions in players, and contemporary designers can still voluntarily choose to design video games like Tetris. Yet, video game literacy also encompasses developing a critical stance toward the relationship between platforms and creative expression (see Bogost; Montfort and Bogost).

Third, understanding video games involves relating and situating specific titles in video game culture. Just as we need to be aware of the history of physics to fully appreciate Einstein's theories or conscious about the history of art criticism to grasp the meaning of Marcel Duchamp's work, we can only understand video games if we are knowledgeable about other titles or genres. This includes knowledge about video games' relation to non-digital games. For example, the video game *World of Warcraft* takes place in a universe that was created in earlier *Warcraft* games, but also builds on the tradition of the popular pencil-and-paper role playing game *Dungeons & Dragons*. However, understanding video game culture also entails considering how people actually use them, because even though gamers experience video games as part of their personal lives, they interpret them in social contexts. Buckingham and Andrew Burn conclude that "any analysis of game literacy needs to take account of the social dimensions of gaming and not merely the textual or formal aspects of games per se" (328) and for Anthony Partington, any critical analysis of video games should "draw out and draw on" gamers' own culture (74).

In her book *Cheating: Gaining Advantage in Video Games*, Mia Consalvo argues that a significant part of video game culture's social dimension is paratextual. Gérard Genette and Marie Maclean defined paratexts as "the means by which a text makes a book of itself and proposes itself as such to its readers, and more generally to the public" (261). In the context of book culture, paratexts thus comprise all supplementary pieces of text, such as the title, author's name, and preface. Genette and Maclean showed that these texts contribute to the transaction of meaning, even though they are not part of the "more or less lengthy sequence of verbal utterances more or less containing meaning" (261) or the main text. In the context of hypermedia and video games, Consalvo anticipates the increasing difficulty of separating paratexts from main texts which is emerging within the ecology of video games as a system of media products including (but not limited to) manuals, guidebooks, walkthroughs, and internet videos. Consalvo argues that paratexts deserve attention, because they are often more interesting than the game itself and Bronwyn T. Williams adds that paratexts offer ample opportunity for creating identity and suggests that this process is different from traditional media: because paratexts often appear on the internet where they have the potential to reach a variety of different audiences around the globe the resulting identities are multiple. In addition, the notion of paratexts connects video game literacy practices to traditional and other forms of literacy (see Beavis; Salen). Further, Thomas Apperley and Christopher Walsh suggest that video game literacy comprises "intertextual navigation, comparison and reading of the 'official' and 'unofficial' paratexts, and contextualizing the information contained in light of the credibility of the particular sources" (117).

A further aspect of Green's 3D model of literacy is its critical dimension, the basic premise of which is that all human practices and meaning systems are social constructions and that an active and reflective approach to uncovering power relations, knowledge distribution, and inequality is necessary to address questions such as: who defines game literacy? Who has access to video games? Who gets to be video game literate? Who can criticize video games and how should they do it? Based on these concerns, it can be assumed that this critical dimension requires the knowledge that video games are a social construction, access to the public debates about the meaning and position of video game culture, the skills to participate in these debates, and an attitude that pays attention to and respects the different, often conflicting perspectives aired in these debates. Many scholars argue that a rhetorical and anthropological metaperspective offers solutions to meet these requirements in relation to popular culture in general (see, e.g., Brummett; Kimberling; for an overview see Bourgonjon, Rutten, Soetaert, Valcke). Rhetoric provides the theory and tools to understand and analyze, in Kenneth Burke's terms, "what is involved, when we say what people are doing and why they are doing it?" (xv). In the context of video games, this means that rhetoric does not just inform us about how play-

ers are being persuaded within the constraints of the game (see Bogost), but also how people talk about video games, and how they analyze this talk about video games (see Thompson). While other approaches to literacy sometimes reduce the critical function to bite-size questions about power and injustice, rhetoric rather adds complexity and ambiguity by "opening up video games to multiple, often conflicting perspectives" (Bourgonjon, Rutten, Soetaert, Valcke 100). This is useful, because "what we want is not terms that avoid ambiguity, but terms that clearly reveal the strategic spots at which ambiguities necessarily arise" (Burke xviii). For educators to apply such a perspective in practice requires the development of an anthropological perspective which displays "an attitude of openness to different cultural trends, a willingness to defamiliarize their own position as a teacher and to renegotiate the central role of the curriculum and the organization of education in general (with other teachers, but also with their students)" (Bourgonjon and Hanghøj 71).

In conclusion, current debates about the conceptualization of both literacy and culture draw our attention to video games as pervasive social practices and important sites for meaning-making. Although video games share many characteristics with other media, they should not be analyzed as traditional texts or media forms. Video game literacy therefore emerges as a necessity, if only to fully realize video games' potential, assure access and stimulate appreciation, and to help us approach and understand them from a well-informed, critical perspective. By building upon Green's and Beavis's 3D model, it is possible to provide an integrative, but in no way holistic, perspective on video game literacy, by structuring theoretical insights about the distinctive elements around operational, cultural, and critical literacy.

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