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Digital Literacy and Public Pedagogy

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The introduction of digital and electronic representation and communication technologies in the arts, popular culture, education, and cultural heritage has evoked strong and often oppositional reactions with respect to learning and literacy. Some have welcomed the educational challenges of digital culture and emphasize its possibilities for individual emancipation and social transformation in the new media information age (Gee, 2003). From this perspective, the traditional cultural consumer before the digital revolution is perceived more or less as a “passive” recipient and reader of static and finished cultural products that promoted a formal type of end-oriented learning and literacy through books, paintings, or films with discrete themes, meanings, and ideologies. Interactive digital cultural objects such as websites, DVDs, or online gaming environments are welcomed as unique forms of literate representation where meaning is negotiated and constructed because users can manipulate, enter, explore, perform, or even partially create their own forms of literary and representational content (e.g., blogs, Wikis, YouTube, and Facebook).

Other reactions are more critical (Ryan, 2001). Because of its sophisticated techniques of multi-medial simulation and immersion, digital culture is accused of absorbing its recipients in an all-pervasive “virtual world” of visual representations to be experienced and understood by individual users as all-consuming images instead of offering up a shared cultural space that requires the negotiation of meaning among the constituent members of a learning community. Digital culture is believed to obliterate the distinction between reality and fiction by presenting already “finished,” all-consuming images of possible worlds, and substituting the need for creative imagination and critical literacy with the instant satisfaction of thrills and a delusional wonder in simulations. This diversity of opinions suggests that digital technologies are generating a profound change in the way we engage with the educational environments of cultural objects such as digital games that instantiate and require new forms of literacy through which we learn to read and interact with others and the world around us.

Since the 1960s, new digital techniques for the creation, processing and distribution of text, images, and sounds have been applied to existing “popular” and “high” art forms and genres, and have profoundly changed their appearance, impact, and the ways we engage with representations and texts as educational environments. Film productions like Star Wars, The Lord of the Rings, and the recent digital recreation of the battle of Thermopylae in 300 highlight how
spectacular audiovisual effects and immediate sensorial stimulation have become as important as narrative in producing cinematic appeal. Digital technologies have enabled the rise of new forms of art and entertainment predicated on the possibility of interactive educational environments that often synchronize with the participants’ movements or interventions, epistemological interests, and aesthetic desires. Digital culture has become the means for enacting forms of public pedagogy through which we learn to read and engage others and the world around us. The way in which the attention of public spectatorship is triggered by the educational potential of digital media environments and the kind of engagement that is solicited in the way we decode and respond to its representations seems to have changed likewise due to the proliferation of a digital culture: nowadays even visitors to traditional institutions that perform a public pedagogy like museums are asked to do as much as to look and listen and read, and to experience as much as to interpret and reflect on objects and texts.

New media techniques mobilize audiovisual simulations and kinesthetic representations to teach by enveloping the user in digital educational environments thereby enacting a public pedagogy. Digital communication channels such as email, the Internet, video conferencing, and instant messaging have introduced the possibility of real time involvement of the audience in otherwise unidirectional forms of cultural mediation and information dissemination like television and radio and have given rise to new forms of representation like multi-user online games, in which the participants are co-creators of fictional gaming worlds.

New concepts such as interactivity and immersion have attempted to describe the nature of human perception and cognitive participation inaugurated by the technological innovations of digital media in the public sphere. But these concepts have been as elusive and problematic as they are suggestive in attempting to explain the phenomenology of user responses; therefore their usefulness for understanding the effects of our engagement with digital media as a form of learning and literacy has been limited. For example, the term interactivity was initially used with regard to computer interfaces that allowed for user input and control while running a program (in contrast to computers, which process preloaded data without interruption). The concept of interactivity in fact applies to all uses of modern human computer interfaces and has very little analytical value for understanding the effects of technology on the forms and structure of our cognitive and affective responses: how we decode representations within the medium, what we learn from them, and the ways our learning is affected. Interactivity suggests the possibility of an equal exchange between a digital interface, its programmed textual representations, and the user; whereas, many so-called “interactive media objects” merely allow the user to choose between several pre-determined paths or react to the movements of the cursor, without giving genuine control over the form or content of the digital domain (see Gee, 2003). On the other hand, a theory of interactivity presumes that reading a novel or viewing a painting or film is a passive learning experience—a form of spectatorship and not interaction. As theorists of reading response have pointed out, interactions with traditional narrative could not function semiotically without the active imaginative and cognitive “construction” of a mental text by the reader in the role of meaning maker (see Trifonas, 2010a). So, far from being the most distinctive feature of digital technology—its means and its representations—the theory of interactivity amounts to very little insofar as it allows us to understand the unique complexity of the educational effects of digital technology upon us as literate beings and how we read the medium, read in the medium.

The same kind of skepticism can be voiced with regard to the concept of immersion. Spectacular forms of learning and entertainment like flight simulators, digital games, IMAX films or Computer Assisted Virtual Environments may give the spectator the feeling of being in the image and may exceed traditional media in terms of sensorial impact. Yet when one takes a
closer look at the novelty of these new forms of digital representation and the genres they have invented, the impact of digital technologies appears to be not so radical after all, even though it may be technologically revolutionary. Older forms of commercial amusement in the 19th and early 20th century like circuses, panoramas, magic lantern shows, and dramatic spectacles relied on the same sensorial immersion of the participant audience and forms of reading.

It would be too hasty, however, to conclude that forms of representation used by digital and electronic communication technologies have made no difference in the way we learn to interpret and understand how to relate to real world phenomena and to each other. When considering the large-scale effects of digital media on us locally and globally as forms of public pedagogy, there has been a cultural transformation in the ways we have come to redefine learning and literacy. Many small shifts in our experience of digital representations and media have, in their cumulative combination, amounted to a qualitative transformation of the experiential field of learning and literacy. This research area is still in its infancy (Buckingham, 2003). Often accounts of the educational cultural consequences of digital technologies as forms of learning and literacy are based on what are believed to be new media’s inherent possibilities and future promise rather than on analysis of actual practices.

The heading “digital game” comprises all kinds of video-games: p.c. games, console games, arcade games, games that are played offline or online, single-player and multi-player games. Digital games are highly interesting research objects for several reasons. The strong cultural reactions evoked by new media in general are evoked even more vehemently by digital games, as is evident in the concern that has been expressed about their supposed stimulation of aggressive behavior (Poole, 2002). Digital games use very sophisticated techniques for enhancing both the player’s agency and sense of immersion, and thereby exemplify new media culture’s structures of engagement on the level of individual game-play. On the level of the culture as a whole, digital games are both an exponent and a vehicle of cultural transformation as a form of public pedagogy. Not only do they form a rapidly growing part of the popular culture industry, they also instigate transformations in other cultural domains such as education. Played in a multi-player fashion, online digital games engender new forms of social relationships and new forms of shared participation in cultural literacy and modes of learning (Turkle, 1995). As games are used for instructional purposes in schools, industry, and the Army or Air Force for training purposes, the playing of games is no longer constricted to a sphere outside normal adult life, but forms part of the “serious” world of production and consumption, knowledge and education (Juul, 2006). This suggests that digital technologies may have changed the characteristics and cultural significance of learning and what it means to be literate—not to mention the nature of play itself. This significance may be broader than the acquisition of cognitive skills. Through the act of play, computer games prepare and “train” the general public for a “culture of real virtuality” in which we require digital literacy skills for decoding and understanding media simulations in our environment and how to relate to them as public forms of learning or public pedagogy.

Digital games constitute a strategic research site for framing public pedagogy because they exemplify the transformations in perception and participation that are characteristic for digital culture of learning and literacy. However, what these transformations are seen to consist of depends on what aspects of gaming are foregrounded, and with what non-digital cultural phenomena digital games are compared (Ryan, 2001).

The complex forms of user engagement with digital games and other forms of textual, aural, haptic, and visual representation—e.g., participation and spectatorship with cultural objects such as books, paintings, music, cinema—reveal the complex phenomenological structure of user participation and perception to analyze and understand the way players’ engagement with digital games is structured as a digitally mediated form of learning and literacy (Pietro, 2002).
The “gaming interface” is the sociotechnical site imbibing the intricate and complex relations between the social and the technological fields of players’ experience. The concept interface is not limited to the hardware and software interfaces, but is taken to include the player and the (social) environment in which the game is situated. Constructivist theories of technology, in so far as they elucidate the engagement of the player with digital gaming technologies, examine technical tools in their concrete materiality and actual use, foregrounding the ways in which they transform actions and goals and are themselves transformed in practice. Complimentary to those conceptions, digital technology affects the cognitive constitution of user responses that position the spectator in relation to internal textual or codic mechanisms of digital games, as well as the interaction between these textual structures, the technological objects that represent them, and the social context. The digital game as public pedagogy foregrounds the intentional-ity and embodiment of the subject and the role technological mediation plays in social relations produced therein.

Digital games have changed tremendously since their initial introduction in the fifties. They have become more and more complex, popular, and contested. To illustrate this, we can compare the so-called “classic” digital games with contemporary digital games. What has changed in the 50 years we have known digital games? New media objects such as digital games focus on enhancing the spatial dimension of user experience. How do players participate and interact with a basic, black-and-white game such as Pong, which debuted in 1972, compared to a full-color, highly complex, narrative-motivated, irony-laden, hours-consuming game such as Halo 3? While spatiality has been the subject of much speculation and criticism in new media theory, little attention has been given to the complexity of its actual experience and its conception by embodied spectators who are experiencing digital media apparati as a form of learning and literacy as well as a means for entertainment. The issue of the content and structure of user experience within digital spectatorship and participation is far from resolved (King & Krzywinska, 2002). It is expressed by the predominance of two accounts attempting to explain the cultural significance of digital space that seem to oppose and to exclude each other. The first holds that—in comparison with more traditional spatial representations such as painting and cinema—the space of digital media invites a sense of total absorption, as it positions the player/spectator in the space of representation and requires participant attention and activity within the space of the image to such a degree that the player/spectator is completely immersed in the virtual space and oblivious of the real world outside. The second account emphasizes the spectator’s distance and control. Where traditional spatial representation relied on the willingness of the spectator to conform to a constructed point of view, spatial representation in digital culture allows the spectator the freedom to act, to move around, to make choices, and to manipulate or even construct the spectatorial positions suggested by the representation.

Both accounts are too one-sided. Playing digital games seems to rely on the tensions and exchanges between both positions to both learn to engage the medium and to read its signs for meaning making. New media theorists still show a tendency to overlook this complex phenomenological structuring of spectatorship as a learning process that requires forms of digital literacy because they focus on the virtual reality (VR) experience (Hendricks, 2002). VR seems to promise that the virtual and the real could become one and that the illusion of immersion could be complete without any critical resistance or the need for interpretation on the part of the user. Thereby, the material presence of the visible screen and its function to separate virtual from physical space would tend to lose its technical and cultural significance as an interface for engaging, decoding, and making meaning within the medium.

The continuing popularity of screen-based games shows that the opposite might be true. In spite of the technological possibilities to develop interfaces that go beyond the screen, digi-
Digital Literacy and Public Pedagogy

Digital game culture is still a “screen culture” of learning and literacy. In digital games, the visual acknowledgment of the screen has even come to demand a pivotal role. This recognition allows us to trace both continuities and discontinuities between “analog” and digital media culture as the haptic elements of touch screens or haptic simulations (e.g., Nintendo DS, Wii, and the new iPod) are increasingly sought after. But, while the experience of “spatiality” by the film spectator is produced largely in spite of the spectator’s reflection on the materiality of the screen, film plot, or thematic content, the experience of spatiality in digital games is produced through this active, embodied and reflective position outside of the image (Harnish, 2002). The spectator engages with the game space by moving an “avatar,” by handling the virtual camera, by manipulating items, and by attending and reacting upon two-dimensional displays onscreen. Each of these means immerses the spectator only on the condition of an active and deliberate participation with the digital media as a form of learning and literacy.

Digital games elucidate what is at stake in the educational and cultural transformation of how we have come to define and understand what learning and literacy are in the sphere of a public pedagogy where the forms of interaction and communication are transformed. A comparative, multidisciplinary analysis of several games assessing correlations between types or genres of games and the range of player responses has shown this phenomenon (Williamson, Saffer, Squier, Halverson, & Gee, 2005). The core of the research consists of ethnographic participatory observation of game playing individuals complemented with interviews. Empirical research studying a select number of representative games as they are played by research participants face-to-face has been complemented by ethnographic research on net based communities (Turkle, 1995). The Internet technology itself has offered researchers alternative means and sources like archived discussions of chatrooms, newsgroups, and discussion lists, as well as logbooks and, of course, email connections through which to examine and understand the shared space of public pedagogy. Research dealing with online gaming practices has already demonstrated the usefulness and reliability of these and similar sources (Haraway, 1985).

The formal and “textual dimensions” of online games are the constituents and structure of screen-mediated spatial experience (Darley, 2002). The relation of the interface to the bodily and sensorial experience of digital space by the flesh-and-blood spectator also has to be acknowledged. Current theories and methodologies in the social sciences and humanities have not yet developed adequate categories to describe, analyze and interpret the “living interface” between new media objects like digital games and human users. Not only do digital games combine several media and involve all kinds of bodily and sensorial experiences, but they are events rather than objects, as they are not fixed once and for all, but change materially as a result of the interventions of their recipients, who may either act alone or in a social exchange with other players. The difficulty of intellectually grasping new media objects like digital games is exemplified in the recent debate around the narrative structure of games. Whereas the “narratologist” argument is that digital games can be analyzed in narrative terms, the “ludologist” argument claims that the crux of a game is the exercise of a range of cognitive, imaginative, and sensomotor skills, either for its own sake or to achieve a goal (Schneider, Lang, Shin, & Bradley, 2004). Whatever narrative a game provides is only an excuse, and sometimes even an obstruction, of the playing of the game itself (Ryan, 2001; Trifonas, 2010b). An adequate understanding of the ways in which players engage with and thereby modify the play systematically represents the cognitive and affective responses characteristic of user engagement with the new media interface of the digital game as well as its public manifestations in online environments. The intellectual and scientific importance of acknowledging the digital game as a form of public pedagogy lies in understanding the transformations regarding how we define learning and what it means to be literate through the examination of user engagement with this new cultural phenomenon.
Digital games constitute a strategic research site as a form of public pedagogy because they exemplify the cultural transformations in perception and participation of learning through play that are characteristic for electronic culture. The digital and electronic communication technologies have most certainly made a difference in the way we learn to interpret and understand how to relate to real world phenomena and to each other. As educators and researchers, we are still trying to account for the changes to education and learning brought about by the digital age. When considering the large-scale effects of digital media on us locally and globally as the educational environments of a public pedagogy, there has been a cultural transformation in the ways we have come to redefine learning and literacy because of techno-cultural objects like the digital game. Many small shifts in our experience of digital representations and media have, in their cumulative combination, amounted to a qualitative transformation of the experiential field of learning and literacy. We need to be able study the transformation in a coherent way. This chapter marks one beginning.

References