

Informal Online Learning Practices: Implications for Distance Education

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Abstract

This qualitative ethnographic study examines five American teenagers' historical and current digitally-mediated multiliteracy practices within digital popular culture. The participants included three male and two female students of a private high school in the Midwestern United States. The study is framed by the notion that literacy is a socially, culturally, and historically situated discursive construct rather than a purely individualized cognitive endeavor. This social constructivist theory of literacy emphasizes the social conditions necessary to navigate the economic, social, and political worlds of the 21st century. The purpose of the study was to explore the students' multiliteracy practices that they enact through their activities within digital popular culture. Data collection methods included synchronous interviews facilitated by video conferencing tools as well as observation of the participants' online activities and member checks conducted via email and instant messaging. The analytic strategy employed during this study was informed by Clarke's (2005) situational analysis method. The study's findings indicate that literacy practices in which the study participants have engaged through informal learning activities within digital youth culture have had a much greater impact on enabling them to cultivate the multimodal literacies necessary within a postmodern digital era than have their formal educational experiences.

Keywords: *Literacy; multiliteracy; digital popular culture; online, digital media; youth*

Introduction

The experiences of students in today's U.S. schools as they gain the literacies necessary to participate in contemporary culture differ vastly from the childhood literacy acquisition experiences of the adults who crafted the policy and curriculum in today's schools. As many of today's students have realized, the multimodal and digitally-mediated literacies they need to navigate many aspects of life in a digital age have not been integrated into their formal educational experiences. This study defines literacy from a socio-cultural perspective, rather than the purely cognitive and positivist terms with which it has been traditionally understood. A socio-cultural theory of literacy enables an understanding that reading and writing only make sense when they are studied in the context of the social and cultural (and historical, political and economic) milieu of which they are situated (Gee, 2000). From this perspective, cultivating literacy involves gaining competencies in particular practices that are socially constructed within various institutional discourses and are governed by social rules and conventions (Kellner & Share, 2005) as well as cognitive rules and conventions. Since literacy is situated historically within any given society, any situated definition of literacy necessarily evolves and shifts in tandem with social, cultural, and technological change.

The thought that many, if not most, American students today have come of age in an era where digital media and technologies have become increasingly ubiquitous is often taken for granted by most people working with digital media and technologies in U.S. education. In this historical moment, much of popular culture, youth culture in particular, is mediated, produced, and reproduced through globally networked computer-mediated communication technologies. In order to become fully literate in the 21st century, many students have sought out digitally mediated learning experiences on their own. This study explored the interrelation of youth's daily life practices within digital youth culture and multiliteracy practices they developed in order to gain the literacies necessary to navigate today's digitally and globally-networked world. Youths' interaction with the various aspects and entities facilitated by digital media and technology-mediated practices as well as discourses within popular youth culture form the underpinnings of digital youth culture. To better understand ways in which the study participants cultivated contemporary literacies within digital youth culture, this qualitative study employed several types of data collection methods including: multiple interviews, prolonged observations, and post-interview member checks.

As contemporary literacy is shifting from page to screen, many classrooms are shifting instruction from physical space to cyberspace. At present, the literacy practices in which students engage outside school and the discourses surrounding the technologies and media with which they engage are often ignored, devalued, or even prohibited within U.S. schools. However, rather than missing opportunities for educators to engage students, it may be quite possible for faculty to leverage the skills and knowledge that students themselves have developed through their activities within digital youth culture in order to create more effective learning experiences for their students. This might best be achieved by educators tapping into the literacies many of their students and other youth who are active online have been cultivating through their self-directed online activities within digital popular culture. As faculty and institutions begin to create online instructional environments, they may benefit from integrating strategies students have been developing to navigate digital popular culture into educators' more formal online curricula.

Literacy in the Digital Age

New literacy theorists such as the New London Group (NLG) (1996) conceptualize and study literacy as a discursive construction. In contrast with the traditional purely cognitive definition of literacy and in concert with poststructural and feminist thought, a socio-cultural perspective frames literacy as a culturally, historically, and socially situated practice within which the cognitive aspect of literacy is only one facet. Literacy then is constructed and situated historically within a given society and developed within the values and priorities of a culture (Gee, 1996). Theories of literacy that are situated socially, culturally, and historically link between reading and writing with the social structures in which they are embedded (Barton & Hamilton, 2000). From this perspective, meaning-making is situated and filtered through our participation in various social practices (Lave & Wenger, 1991). Contemporary reading and writing are often digitally mediated and involve multiple modes of communication including text, image, video, and audio. The multimodal nature of these contemporary communication technologies necessitates that today's youth become literate within multimodal environments in which some aspect is digitally mediated, and that they become multiliterate, as our society is transitioning from print to screen-based vehicles of mass communication. When educational experiences are created from such a perspective, curricula become dynamic and relevant to contemporary life.

A situated theory of literacy recognizes the importance of "everyday" literacy practices such as locating information and communicating with others, and calls into question the dominance of traditional classroom-centered conceptions of literacy. However, many of the multimodal literacy practices in which young people engage as they participate in digital youth culture are the stepping-

stones to the multiliteracy practices necessary for them to become literate adults within a globally and digitally networked society and economy. Counter to the literacy needs of students in the 21st century, schools often continue to provide literacy education based on a conception of literacy embedded in the discourses of the Industrial Age where communication was grounded in the logic of traditionally printed texts rather than a historically situated conception that considers the current shift in the media and technologies of communication. The students' activities within the digital popular culture that the participants in this study engaged, such as computer gaming, social networking, instant messaging, and other pleasurable digitally mediated activities prevalent within our rapidly changing culture, may serve as effective avenues for young people to cultivate the more multimodal types of literacies necessary to be prepared for life in the postmodern digital era of the 21st century.

Many theorists including Van Dijk (1999) and Castells (1996) assert that contemporary society has entered a new historical epoch, the information age, where digital media and social networks form the foundational communication structures. As part of daily contemporary life, the current transition in information and communication technology from printed page to digitally networked devices continues and with it our ability to produce, access, and interpret texts is changing swiftly. With this transition, rethinking literacy and learning is particularly significant in this historical moment since the meaning-making within the symbolic texts of a digital age increasingly relies on audio, visual, and computer technologies (Livingstone, 2004). The multimodality of meaning-making is increasingly mediated by digital media and technologies. In tandem with shifts in communication technologies, the ways we teach and the conception of classroom is (though not quite so swiftly) expanding within the discourses of Academia. The shift is slowly moving beyond traditional grounding in printed texts and solid walls to include digital media and cyberspace. During this period of re-conceiving teaching and learning to fit within an information age, societies are likely to question the conventions of the older media and begin to define the normative epistemologies and semiotic systems of digital media and networks as well as defining pedagogies suited for teaching and learning online.

When literacy was previously conceived within the context of print, educational pedagogies were grounded in paper text and its logic, (for example the slow pace of publishing, the strong division between roles of author and reader – producer and consumer, etc). However, within the current shift in the speed of computerized media and technologies of communication, and therefore literacy, from print to screen, educational pedagogies must shift from the logic of print to the logic of the screen and networked digital media and technologies.

Any educational endeavor, whether specifically focused as "literacy education" or not, has as its goal enabling students to become increasingly literate within the discourses of a given society. Hall (1997) notes that Foucault articulates a theory of discourse which frames discourse as the structure that constructs the topic, the language that allows us to talk about a particular topic in a particular historical moment individuals considered to be literate have increased access to discourses inherent within the dominant discourses of a society. Any given discourse privileges certain values, perspectives, and concepts while minimizing or discounting others, hence, marginalizing those values, perspectives, and concepts integral within other discourses (Lankshear, Knobel & Searle, 1997). Within any given discourse, literacy affords access to cultural capital as well as social, political, and economic structures associated with that discourse. Literacy, then, can be defined as competency in those practices through which societies make meaning within their dominant discourses. From this perspective, then, literacy refers to competency in a community's privileged social discourses. As we move into the information or digital age, those individuals who are able to navigate successfully within a globally-networked digital environment are the ones who will have access to the social, political, and economic structures of contemporary society.

Within the dominant traditional conception of literacy conceived during the era of industrial capitalism, in which print was the dominant mode of communication, literacy has generally been defined as a stable system of formal rules governing the social practices of reading and writing a particular language (NLG, 1996; Lankshear & Knobel, 2004; Kress, 2003). Reading, in this context, is the ability to decode and interpret written information, and writing is the ability to "code language into visual form" (Gee, Hull & Lankshear, 1996, p. 39). Literacy, as it has traditionally been conceived, involves acquiring the specific mental skills necessary to "gather, decode, and assimilate internal representations germane to each symbolic system" (Adams & Hamm, 2001). Within this perspective, literacy is cognitively based rather than socially constructed.

The imperative of reframing literacy is particularly significant in this historical moment because as we continue the current transition in information and communication technology from printed page to computer screen, our ability to produce, access, and interpret texts is changing rapidly. Within this transition, the meaning-making within symbolic texts increasingly relies on audio, visual, and computer technologies (Livingstone, 2004). The multimodality of instantiations of meaning-making is increasingly mediated by digital media and technologies. In tandem with shifts in communication technologies, the concept of literacy is expanding within discourses of Academia and educational policy beyond its traditional grounding in printed texts to include New Media. Today's New Media are the technologies of representation and communication in use in this digital era. Gitelman and Pingree (2003) assert that the historical period during which the term 'New Media' is used is transitory in which the new forms of media and more established media are in use simultaneously. During this transitory period, society is likely to question the conventions of the older media and begin to define the normative epistemologies and semiotic systems of the New Media. As the definition of texts has been expanded beyond that of printed materials to include the variety of textual modalities inherent within New Media, it is possible to form a socio-cultural definition of literacy that may provide a more useful theoretical base for contemporary literacy education. As our reading and writing activities move from page to screen, literacy practices are increasingly mediated by New Media. Computers, digital media, and telecommunications networks are examples of New Media. They are the vehicles through which contemporary literacy is achieved. Kress (2003) asserts print-based text is no longer the primary mode of representation and communication and that meaning is often spread across many modes of communication including textual, graphic, and audio.

Modes of communication are culturally and socially created resources that facilitate representation and communication (Kress, 2003). To construct knowledge from a message, it is necessary to gather meaning from all modes present in a text. These instances of communication may be in any mode or combination of modes. Lemke (1998) asserts that all literacy, not just that which is digitally mediated, is "multimedia literacy" (p. 284), since we never make meaning solely with language; there is always another component, often visual or vocal. Therefore, the multimodal, multimedia, multiliteracy that define contemporary literacy necessarily include digital technologies and media since reading and writing, even in their broadest sense, are bound to the technologies through which texts are constructed and disseminated. Literacy in this sense, is composed of interdependent social practices in which people, media artifacts, and strategies for making meaning are interconnected (Beach & Lundell, 1998). According to Kress (2003) learning is located not only across multiple modes of communication, but throughout the process of articulation and interpretation of signs. Messages come to their recipient in some form or another as an object for interpretation, not for decoding, as has been commonly assumed. Recipients assign meaning to the form (signifier) based on their understanding of discourses within which the message is located. Literacy is fundamental to the imperative of individuals gaining the capacities necessary to participate in discourses of local, national, and global economies, culture, and politics (Kellner, 2002). Although our society is experiencing rapid and large-scale change in macro social areas that impact how people conceive the concept of literacy,

for example the shift from page to screen based communication technologies, the traditional view continues to be the definition educators and policy makers use to write literacy-related policy and curriculum (Selfe, 1999; Rowan et al. 2001; Luke, 2002).

Becoming literate

Participants in this study as well as others who engage in digital popular culture activities develop strategies for learning within digital and globally-networked environments. These strategies are inherently learner-centered and learner-driven. Within the informal curricula of digital popular culture, learning activities are "authentic tasks," they are "real world activities" that are often situated within the context in which the knowledge constructed through the activity will be used. Learners develop strategies for constructing knowledge that are meaningful to them; they are driven to learn to answer questions that matter. In addition, many learning activities are rooted in interaction within communities of practice (Lave & Wenger, 1991). These pedagogies are often extensions of self-directed learning strategies students have developed offline. For example, as young gamers, participants in this study learned quickly that their peers are valuable learning resources. When faced with the ominous task of conquering the next level of a difficult game, they would often consult their friends. The young gamers often began seeking answers to their queries by observation of and conversation with others around a computer or game system. This low-tech strategy logically moved online as they began using the Internet. Instant messaging their friends and developing learning strategies on game forums were common early steps for many of the study participants as they developed self-directed pedagogies. Within digitally-networked environments the study participants constructed knowledge through interactions including conversations with others who were also using the site, content producers, content, the interface, and experts. The study participants were co-producers of knowledge as they contributed to the various networked online sites that they visited. The questions they posed and the answers they generated contributed to general knowledge construction within the gaming community in which they participated. Within the logic of the screen and digital networks, learners are producers as well as consumers of digital content; in other words, Internet users. Whereas, within the logic of print, learners are generally positioned as consumers of content. This shift in the learner's role has significant implications for contemporary online course design.

Participants in this study considered themselves as well as their fellow adolescents to be technological insiders since they have lived their entire lives within digital media environments and using digital technologies as an expected, even taken-for-granted, part of their daily life. The adolescents considered most of the adults surrounding their lives to be technological outsiders; this is true of their teachers in particular, because digital media and technologies were not a part of those adults' early life experiences, nor have they integrated them into their lives currently as the participants in this study and their peers have done. The multimodal literacy practices of those who participate in digital popular culture are those of producers and/or consumers of culture. These practices enable youth to navigate a postmodern digitally and globally-networked world. These sentiments as well as practices align with anthropologist Margaret Mead's (1970/1978) description of a pre-figurative society. In Mead's words, a pre-figurative society exists "without models and without precedent" (p. 7), and "the culture that had shaped [young people's] understanding – their thoughts, their feelings, and their conceptions of the world – [is] no sure guide to the present. And the elders among them, bound to the past [can] provide no models for the future" (p. 8). Within this anthropological model, it is the youth who must rely on the informal curriculum within popular digital youth culture because it is often more in tune with contemporary literacy than the institutionalized notions of literacy that have been driving educational policy decisions and still continue to focus on the literacies of previous generations.

Methodology

This qualitative study was grounded in ethnography as the research method and explored the online literacy practices in which a group of teenagers participated throughout their lives. Pink's (2001), definition of ethnography situates this study as "an approach to experiencing, interpreting and representing culture and society that informs and is informed by sets of different disciplinary agendas and theoretical principles...[It is] a process of creating and representing knowledge (about culture and individuals) that is based on ethnographers' own experiences...[It] does not claim to produce an objective of 'truthful' account of reality...[but rather] versions of ethnographers' experiences of reality that are as loyal as possible to the context, negotiations and intersubjectivities through which the knowledge was produced" (p. 18). Ethnography as a methodology enables thick description (Geertz, 1973) of the data provided by the study participants in order to allow analysis of aspects of social life with the understanding that social practices are constructed within the context of available discourses. Adolescents often feel unheard and without power or agency within the institution of education (Dyson, 2003). Rather than creators of knowledge and facilitators of their own educational experiences, students are often positioned solely as recipients. However, within the context of this study, students have the opportunity to tell the story of their experiences as both consumers and producers of digital media, as well as facilitators of their own educational experiences.

Clarke's (2005) Situational Analysis formed the base of the analytical strategy employed throughout the study. Clarke describes situational analysis as grounded theory after the postmodern turn. Traditional Grounded Theory employs a systematic approach in analyzing qualitative research data. Though many scholars working with grounded theory have embraced constructivism, its roots in 1950/60's style American positivism often manifest in what Clarke (2005) describes as grounded theory's recalcitrancies against postmodernism. These recalcitrancies include lack of reflexivity regarding research process as well as product, oversimplification (i.e., emphasis on commonalities, or viewing single rather than multiple social processes characterizing a social phenomenon), interpreting variations in data as negative cases, and a belief in objectivity. Situational analysis provided a structure for synthesizing the data from a broad range of factors within the cultural ecology encompassing student multiliteracy practices within computer-mediated popular culture activities. Following Clarke and data analysis involved both the habits of mind proposed above as well as the cartographic strategy she advocates to help disrupt usual ways of seeing and inspire fresh thinking by visualizing the data in different ways. This type of data analysis included looking for multiple intersecting social discourses, student multiliteracy practices and experiences with digital media and technologies. Clarke's cartographic strategies were also helpful in conceptualizing the interrelation between the various aspects of the study found in the data including student multiliteracy practices and engagement with computer-mediated popular culture.

The study participants included five teenagers from a small co-educational college preparatory school in a midwestern section of the United States. The students chose to participate in the study based on their interest in the research topic. All students were under 18 years of age; therefore, they as well as their parent or guardian gave written as well as verbal consent for their participation in the study. The primary sample criterion for involvement in this study was participation in informal extracurricular digital technology and media based online activities. The primary focus of data collection within this study was to generate descriptions of students' multiliteracy practices and activities through their engagement with the informal curriculum they have encountered through computer mediated popular culture discourses outside school. Ethnographic methods employed within this study including open-ended questions and observation of their activities within digital youth culture facilitated a situated understanding of the discourses surrounding their digitally mediated practices. Conducting this study as ethnography allowed the participants' stories to unfold as narrative rather than following more

prescriptive paths established by other forms of research. Semi-structured interviews with and observations of the students provided varied opportunities to investigate aspects of digital youth culture in ways that were as close to their authentic environment as possible. As a data collection tool, semi-structured interviews with open-ended research questions provided the structure necessary to ask common sets of questions while allowing contextual follow up questions during the interview sessions. In addition, the flexibility provided opportunities for student input into the design of subsequent interviews and observations. Throughout the six-month data collection period there was prolonged engagement with students. This occurred in the form of multiple interviews and observations of the students using digital media and technologies as a part of their daily practice as well as the effects of their interaction with digital media. The research questions, which form the foundation of this study, were designed to enable descriptions of the multiliteracy practices in which the participants engaged relative to their participation in digital youth culture. The overarching question guiding this study asks "How do young people's informal literacy-based practices within digitally mediated youth-oriented popular culture (digital youth culture) activities interrelate to enable them to cultivate contemporary multimodal literacy?" In order to answer my guiding research question, I explored the following sub-questions as well: "In what digital youth culture activities, such as social networking and gaming, have the study participants engaged throughout their lives?" and "In what multimodal literacy practices, such as reading and writing hypertext, within digital youth culture have participants been participating throughout their lives?" The guiding research question, as well as sub-questions in this study, are important because they make clear the evolution of multiliteracy practices in which the participants in my study have engaged throughout their lives. These questions enabled me better to address the primary research question by looking more deeply into the central aspects of the question.

The interviews were conducted via audio/visual web conferencing using iChat or SKYPE. By participating in the interviews via web conferencing tool, the interviews could take place in the space where the participants generally took part in their informal online learning activities. Being able to see their study environment, particularly those aspects the participants chose to point out, added to the richness of data. In addition to the synchronous data-gathering activities, this study draws from asynchronous activities as well. In addition to the data collection sites, which offered synchronous interactivity with the participants, this study also included observation of their online asynchronous interactions within virtual communities (i.e. Myspace.com and Facebook.com). The study participants' digital media artifacts to which they allowed access during this study included their social networking site profiles as well as screen shots of their desktops and bookmarks. This prolonged engagement with students both synchronously and asynchronously allowed for rapport building and data acquisition related to the research questions. Though there was prolonged engagement with the study participants both synchronously and asynchronously, one weakness of this study is that the triangulation points were all grounded in the participants. Interviewing student's parents and mentors could potentially have provided additional data to triangulate with student interviews and observation data. Member checks were included within the research design as an opportunity to gain participant feedback and interaction in terms of data and interpretations as well as an opportunity for formative evaluation of the study's trajectory. These data provided the basis for an exploration of the students' multiliteracy practices through which they cultivate contemporary literacy. These practices may provide the context necessary for understanding whether and how educators provide opportunities within formal curricula for students to enact the multiliteracy practices cultivated through digital literacy practices outside school. Insight gained through this study may also provide ideas for conceiving a more effective formal curriculum in schools, in particular in online education, for today's youth within the formal educational system.

Findings

Analysis of the interview transcripts and observations indicates that throughout their lives the study participants had cultivated new multimodal literacy practices as they encountered new digitally mediated situations. Each of the study participants began using their computers by interacting with characters and features in their digital games. When they encountered difficulty in learning some new section of the game, they quickly began relying on friends within their peer group who played the same game. This affinity group then became a community of practice as they reinforced and increased their understanding of the learning strategies embedded in their digital games. As their online navigation skills matured, the study participants developed strategies for constructing new knowledge through their participation in online networks and activities in order to learn to play their digital games. They began with strategies they developed in their gaming communities and built upon those strategies as they began playing more complex games. This early cultivation of learning strategies within affinity groups among communities of practice provided the base of skills and knowledge they used to develop learning strategies as they encountered increasingly complex online learning situations. When additional methods were necessary to gain proficiency in more unfamiliar multiliteracy practices, they relied on the foundational skills and knowledge they had gained as a young child to conduct informed and strategic trial and error strategies and/or look for helpful strategies from peers in the form of personal interaction, tutorials, or help forums.

The multiliteracy practices and learning strategies that the study participants had developed during pre-kindergarten and elementary school enabled them to venture into cyberspace with increased autonomy during middle and high school. As young adolescents, the study participants and their friends began to shift their focus from digital games to socializing with their peers. Creating communities online through instant messaging (IM) and social networking through sites including Facebook, MySpace, and DeviantArt, became an important aspect of these young people's social experiences. The teenage years in American culture, are discursively constructed as a developmental period where youth focus increasingly on peer relationships as a high priority (Hine, 1999). Though the study participants all mentioned having good family relationships, they increasingly began to seek interaction and validation with others within their age range as they entered their pre-teen and teenage years. During that period, digital communication media and technologies became so much a part of these teens' lives that they began to blend into the background of their daily routine (Bruce & Hogan 1998; Hawisher & Selfe, 2004). Increasingly throughout middle and high school the study participants all engaged in multiliteracy practices within a variety of affinity-grouped communities of practices. All study participants noted that when they began using instant messaging, they typed very slowly. Due to the fast paced nature of their conversations with peers, they learned to use the computer keyboard very early on so that they could type their messages to each other very quickly and efficiently. They also became adept at multitasking as they socialized in multiple forums often simultaneously. In order to create interactions through their online social networking profiles, the study participants all employed online learning strategies and skills they had cultivated, for example, to edit and upload photos and hyperlink documents. They taught each other and themselves how to research through search engines to find entertainment media to which they could link or embed in their social media profile pages.

The multimodal literacy practices and learning strategies the study participants had cultivated enabled them to move from being strictly consumers of digital media and technologies becoming producers of communal knowledge within the communities of practice they participated. One of the strengths of this study lies in framing social life with the understanding that social life as constructed within the context of power relationships. Rather than creators of knowledge and facilitators of their own educational experiences, students are often positioned solely as recipients of knowledge. However,

within the context of this study, students have the opportunity to tell the story of their experiences as both consumers and producers of digital media, as well as facilitators of their own educational experiences. Several recent studies and articles have highlighted youth as producers of digital media and communicating online (i.e., Alvermann & Hagood, 2000a/2000b; Chandler-Olcott & Mahar, 2003; Kellner, 2002; Knobel & Lankshear, 2002). These studies indicate that the process of producing digital media and communicating online holds potential for adolescents to see themselves as social agents while offering 21st century educators some insight into school-based curriculum possibilities. The students who took part in this study all interacted with and contributed to the growing body of knowledge and resources located within the global digital communication network. Further, this global network is shifting the way we are communicating and therefore is creating a need for new literacies that have an increased capacity to enable individuals to participate in the social, economic, and political arenas of this digital age. Participants in this study have done this largely outside their formal classroom experiences. As learners, their self-guided learning experiences within popular culture have in many ways taken the place of formal education in facilitating the learning activities through which youth become literate within contemporary American culture. Through their participation in digital popular culture the study participants have learned to navigate online environments necessary to participate in contemporary American society.

Discussion

It is only recently that schools have begun to make profound and widespread changes to shift educational spaces and pedagogical strategies from the logic of print and physical classrooms to the logic of the screen, digital networks and cyberspace. Many institutions of higher education are now developing teaching strategies specific to teaching and learning online. Early online courses often followed the logic of print literacy, they were often teacher-centered structures in which the primary communication existed exclusively between the student and instructor and the printed texts. In higher education, these courses were often implemented and conducted through a learning management system such as WebCT or Blackboard. These systems would use email as the primary medium of communication during the course and generally occurred between instructors and students. Students in early online courses generally had very little if any contact with other students. Many early online classes were developed and implemented very linearly with a cognitive focus on and little attention to the social and multimodal aspects of learning. However, within the past decade, with the advent of Web 2.0 and the widespread interactive functionality of the Internet, digital media and technologies within contemporary communication networks have expanded to facilitate and encourage one-to-one as well as one-to-many forms of digital communication within online communities. It is becoming increasingly easy for faculty developing online courses to take advantage of multimodal and multi-linearity of the digitally networked environments within which their courses are implemented by employing the social interaction functionality inherent within Web 2.0. In order to facilitate learning experiences designed for constructing knowledge within the contemporary learning environment defined by the Internet, it is important that faculty developing online courses leverage the informal learning strategies participants in digital popular culture commonly employ. Further studies might build upon the finding that students construct the bulk of their multiliteracies practices within communities of practices. Additional studies could explore how identity development within communities of practice might impact multimodal literacy development.

Learners in this digital age develop strategies for constructing knowledge through and often because of their desire to participate in the informal curricula of digital popular culture. The learning tasks they undertake are authentic, they construct knowledge because they have a personal desire to understand or know something that is meaningful to them. Like their peers, the students who participated in this study have been cultivating contemporary literacies as well as the strategies for

learning in digital environments through their daily life literacy practices within digital popular culture, much more than in school. Contemporary literacy acquisition is part of everyday life for those who have access to global digitally networked culture and economies. One major implication that may be inferred from this study is that co-opting the learning strategies these young people have developed through their participation in the informal curricula within digital youth culture activities may be beneficial to educators as they integrate digitally-mediated multiliteracy practices into their curricula. Incorporating learning strategies common within digital popular culture into course design may be a useful strategy to begin to bridge the gap between the formal curricula of school and the informal curricula of students' daily lives in popular digital culture, thus rendering school based learning more meaningful to students.

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