

Special Section

Old Communication, New Literacies: Social Network Sites as Social Learning Resources

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This study examined the role of a social network site (SNS) in the lives of 11 high school teenagers from low-income families in the U.S. We conducted interviews, talk-alouds and content analysis of MySpace profiles. Qualitative analysis of these data revealed three themes. First, SNSs facilitated emotional support, helped maintain relationships, and provided a platform for self-presentation. Second, students used their online social network to fulfill essential social learning functions. Third, within their SNS, students engaged in a complex array of communicative and creative endeavors. In several instances, students' use of social network sites demonstrated the new literacy practices currently being discussed within education reform efforts. Based on our findings, we suggest additional directions for related research and educational practices.

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Recent studies (Lenhart, Arafeh, Smith, & McGill, 2008; Lenhart, Madden, & Hitlin, 2005), commentaries (Prensky, 2001), and anecdotes from U.S. national digital learning initiatives (e.g., www.macfound.org) have painted an image of today's adolescents as 'digital natives' and 'millennial learners:' young people who are constantly online, perceive themselves as Internet-savvy, and prefer technology-enhanced communication channels. Popular media accounts, however, tend to portray young people's media practices as deficient or deleterious to academic learning, often linking them to an "overriding sense of moral panic about declining standards of literacy" (Thurlow, 2006, para. 23) or a "threat to societal values" (Herring, 2007, p. 4) without acknowledging the full complexity of students' experiences (Thurlow, 2003). This discrepancy between adult perspectives on new media and youth's experiences can be explained, in part, by a "generational divide" (Herring, 2007, p. 1; Lankshear & Knobel, 2006; Warschauer, 2007) between

young people of the Internet generation (born in the late 1980s and 1990s) and adults (teachers, parents, grandparents) in terms of their technology skill, use, and experiences such that young people are portrayed as “other” (Thurlow, 2006) and their uses of information and communication technologies, seen as separate from school-sanctioned practices.

In this paper, we argue that adult-driven discourses ought to consider not just ‘academic’ literacies (i.e., literacy practices generally emphasized and tested in schools) but also young people’s ‘nonacademic’ communicative literacies typically practiced outside of school as part of their overall development of new literacies. To engage in an increasingly Internet-mediated and participatory culture, students need a solid understanding of traditional print-based literacies, *21st century skills* (Partnership for 21st Century Skills, 2008) and digital literacies of online reading, writing, and communication (Coiro, Knobel, Lankshear & Leu, 2008; Greenhow, 2008; Greenhow, Robelia & Hughes, 2009; Leu, O’Byrne, Zawilinski, McVerry & Everett-Cacopardo, 2009; Thurlow, 2004). This may be especially important for low-income students who, in poorer school districts, are typically subjected to infrequent, drill and practice type instruction with the internet rather than the kinds of constructivist-oriented experiences enjoyed by their more affluent peers (Warschauer, 2007) and associated with higher academic outcomes (Wenglinsky, 2005). As Coiro et al. (2008) put it, “The cruelest irony of this public policy [*No Child Left Behind* legislation in the U.S.] is that students who need to be prepared the most at school for an online age of information, those who may not have Internet access at home, are precisely those who are being prepared the least” (p. 9).

To open up this conversation, we seek to examine what literacy and learning as a social practice look like within the context of young people’s activities in social network sites. Research has shown that the meaning of social network site practices varies across sites and individuals (Donath & boyd, 2004; Lange, 2007). Building on efforts to accurately characterize social network site usage among different groups of users (Hargittai, 2007), this research explores social network site uses and perceptions among high school teenagers from low-income families in the United States. This subgroup of adolescents is rarely featured in either the scholarly or popular discourse. With over a third (35%) of children ages 13 through 17 years—7.4 million teens—living in low-income families in the U.S., the proportion of these children attending our nation’s schools is significant (Douglas-Hall, Chau, & Koball, 2006). Understanding their experiences, communication, and literacy practices in out-of-school online social contexts is essential to building on them within schools.

Therefore, we present findings from one study, within a larger effort, to examine low-income students’ perceptions, activities, and conditions in using the Internet. This study focuses on social network sites and their role in young people’s lives. We sought to explore the nature of low-income students’ participation in a popular social network site, MySpace (MS)—concentrating on what functions MS played in their lives and what practices they employed in using the site. Therefore, we

examined MySpace use among 11 high-school age young people (ages 17–19). Three questions guided our investigation: How do young people themselves talk about their social network site and its role in their lives? How are social network sites seen to be supporting young people's interpersonal needs? How are young people using social network sites for creative and communicative purposes, if at all? We were particularly interested in how students' communication, in form or function, demonstrated "new literacies" being debated within K-12 and higher education. We wanted to draw attention to how the students themselves thought and spoke about these practices in relation to school practices.

In order to address these questions, we begin with a brief overview of social network sites, including a definition and history. Next, we describe the theoretical and empirical work that suggests the interplay of communicative and literacy practices in social network sites and illustrates how young people's activities within such sites can be examined using new literacy frameworks. Using a three-part approach to data collection and analysis, we identify three major themes that have implications for future research on computer-mediated communication and learning and literacy in online environments. An important goal of this paper is to articulate how the insights from this research might help us make education more engaging for all students and more meaningful to their present and future lives in a technologically mediated world.

Background

According to boyd & Ellison (2007) an online social network site (SNS) is a "web-based service that allows individuals to (1) construct a public or semipublic profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (p. 1). What distinguishes SNSs from other forms of virtual communities is that they allow users to articulate and make visible their social connections, similar to allowing others to view your Rolodex and interact with it online. In this way our connections potentially become the connections of our "friends." Boyd & Ellison (2007) suggest that these "friending" behaviors through social network sites can result in more and different types of connections between individuals that would not otherwise be made. In addition to individual profiles, SNSs may include profiles of bands, companies, nonprofits, or political parties (Childnet International, 2007). SNSs can help users maintain or forge new relationships around shared professional goals, political views, a common language, or racial, sexual, religious, or cultural identities (boyd & Ellison, 2007; Ellison, Steinfield, & Lampe, 2007).

Since their introduction in the late 1990's, SNSs have attracted millions of users. Recent reports suggest that a majority of online teens (55%) in the U.S. have created a personal profile on a social network site like MySpace or Facebook (Lenhart & Madden, 2007) and visit their social network site daily, devoting an average of 9 hours

a week to the network (National School Boards Association [NSBA], 2007; Rogers, et al., 2006). A study of U.S. college students (18–24) found 85% of respondents use SNSs, and most, on a daily basis to keep in touch with others (Salaway, Borreson, Nelson, 2008). Some speculate that young people's participation in such sites crosses ethnicity and income boundaries as teens once disconnected from the Internet (e.g., low-income African-American, Latino and other low-income students) now largely have access (College Access Marketing, 2008; Lenhart, Arafeh, Smith & Macgill, 2008). Our surveys with 600 urban high school students from low-income families in the upper Midwest (i.e., median family income at or below \$25,000), revealed that 82% go online regularly from home and 77% have a profile on a social network site. The majority use MySpace (65%) with Facebook (37%) being the second most popular site, and many students belong to more than one network (Greenhow, Kim & Robelia, 2009; Greenhow & Kim, 2009).

Although much of the published research on the use of SNSs is still emerging, the handful of studies that exist stem mostly from communications, information science, sociology, cultural studies, and computer science and are both conceptual and empirical in nature (boyd & Ellison, 2007). Few studies explore the link between social network site use and education (boyd & Ellison, 2007). A few studies have looked at how college age students feel about having their professors on Facebook (Hewitt & Forte, 2006) and how faculty presence on Facebook impacts student-professor relationships (Mazer, Murphy, & Simonds, 2007) but missing from this research are the voices of middle and high school adolescents. Given the popularity of SNSs among high school young people and the emphasis on developing peer relationships, communication skills, and creativity for academic success in the digital age, SNS use among high school students seems an important topic for researchers and educators to examine (Coiro, Knobel, Lankshear & Leu, 2008; Partnership for 21st Century Skills, 2008). This paper represents an empirical study meant to fill that gap.

Conceptual Framework

Old Communication: Interpersonal Interactions and Social Network Sites

Although public accounts have portrayed Internet-mediated communication as impoverished and antisocial compared to face to face (Thurlow, 2006), communication scholars have documented that, on the contrary, online communication can be *hyperpersonal*, even more friendly, social, and intimate than face-to-face communication (Walther & Parks, 2002). Concerned with processes of online social interaction such as identity construction, relationship formation, and community building (Thurlow, Lengel & Tomic, 2004), computer-mediated communication scholars have demonstrated the potential for online social interactions to enhance self-presentation, relational maintenance, and social bonding (Chandler, 1998; Ellison, Steinfield, & Lampe, 2007; Kraut et al., 2002; Walther & Parks, 2002; Wellman, Haase, Witte & Hampton, 2001).

Chandler (1998), for instance, discussed the process of self-presentation in personal home pages on the Web. Blending the professional/academic and personal in both content and form, personal home pages, he argued, can be contexts for multimodal identity practices. Through processes of *bricolage*, or writing, presenting, and adapting materials (e.g., text, favorite graphics, sound, code, links to others' pages), an author can display biographical information and preferences and shape oneself "in relation to any dimension of social or personal identity to which one chooses to allude" (para. 3). A form of *self-publishing*, personal home pages also can be viewed as online multimedia texts constructed through a process of "inclusion, allusion, omission, adaptation, and discovery" (para. 11) and shaped by one's associations, connections, and conventions in Web subcultures.

Extending such earlier work, scholars have recently been examining presentation of self, relational maintenance, and social bonding within social network sites. Jones, Millermaier, Goya-Martinez, and Schuler (2008) and others (Gross and Acquisti, 2005), found that SNS profiles reveal a "great deal of personal information" through the presence of text, images, and communication features (e.g., identifying images, gender, age, purpose for using the site, relationship status, sexual orientation, ethnicity, geographic location, interests, education, occupation, comments feature, etc.) (p. 8). Some of this information is automatically requested when users sign up while other information is intentionally displayed (or omitted) as users craft their self-presentation. Within SNSs, participants can find information about one another before a connection is made by looking at various elements of profile pages. Through what they learn about others' situations, interests, or contacts, common ground can be established and new connections formed (Donath & boyd, 2004). For instance, Lange (2007) found that online media circulation (e.g., video-sharing) through SNSs can support existing and generate new interpersonal connections. When someone circulates a video to a dispersed, unknown audience on YouTube viewers may request to "friend" the producer or comment on the video, and in turn, the producer may go looking for the respondent's online work, accept the friend request, and so begin a new relationship.

boyd (2006), however, describes how the meaning of "Friend" connections in MySpace differs from traditional conceptualizations of "friendship" offline. Within social network sites "Friendship" can mean a variety of different relationships (e.g., actual close friend, lover, acquaintance, colleague, schoolmate, family member, public figure, someone whose network you want to access, etc.). Similarly, Ellison, Steinfield, and Campe (2007), drawing on social capital theory, found that both strong and weak social ties are sustained on SNSs. In surveying college undergraduates (n = 286), they found that intensive use of Facebook was associated with higher levels of three types of social capital: *bridging* capital or our "friends of friends" that afford us diverse perspectives and new information; *bonding* capital or "the shoulder to cry on" that comes from our close friends and family; and *maintained* social capital, a concept the researchers developed to describe the ability to "mobilize resources from a previously inhabited network, such as one's high school" (Ellison, 2008, p. 22;

Ellison, Steinfeld, & Lampe, 2007). The researchers found that bridging social capital was the most valued use of Facebook. They suggested that networking through these sites may help to crystallize relationships that “might otherwise remain ephemeral” (p. 25), encouraging users to strengthen latent ties and maintain connections with former friends, thus allowing people to stay connected as they move from one offline community to another (Granovetter, 1973).

In these ways, interpersonal connections are forged by users’ publishing about themselves and their lives and interacting with the publications of other users and their networks through the social and technical features in the environment. Such online communication is important for young people, especially those from low-income families, because it can foster peer-to-peer connections based on very specific personal characteristics and interests rather than based on geography and thereby, improve access to relevant or influential information and relationships from which to draw in making important life decisions (e.g., career or college selections or initiation into a college going culture). Moreover, it is well established that low-income and first-generation college students benefit from initiatives, frequently offline, that increase their connections to peers and community resources, leading to a greater sense of social belonging, persistence and success in school (Tinto, 1998; Zhao & Kuh, 2004).

In addition, the various processes of reading, writing, and appropriating digital materials to craft one’s online self presentation may allow young people who have felt marginalized, the opportunity not only to reflect and transform the way they think of themselves, but also to communicate who they want to be to a mass audience, an opportunity previously afforded only to the privileged, and so extend the reach of their own influence.

New Literacies and Social Network Sites

Complementing the work of communication scholars, a growing number of scholars in education and its interdisciplinary subspecialties of learning technologies, learning sciences, and New Literacies, are concerned with shifting notions of learning, literacy, and new media as shaped by social and cultural practices. For instance, Buckingham (2007) argues that as new media (e.g., the internet, mobile phones, computer games) have become a “significant dimension” of most young people’s lives, and their relationship with these digital technologies no longer formed primarily within school but “in the domain of popular culture” (p. vii), we as educators need to move beyond customary views of these media as simply curriculum-delivery devices, teaching aids or “neutral” tools for learning (p. viii) to find ways of engaging with them more critically and creatively as ways of *representing* the world, of *communicating*, and as *social* and *cultural* processes (p. viii): “We need to move the discussion forwards, beyond the superficial fascination with technology for its own sake, towards a more critical engagement with questions of learning, communication and culture” (p. 13).

Similarly, John Seeley Brown (2008) argues that education must not only foster young people’s standards-based learning *about* subject matter but also focus on

understanding and fostering young people's "social learning," that is, *how* they learn and *with whom*, or their learning to be participants in a community of learners and contributors to the shaping of a local and global society (Brown, 2008, para. 3). According to social learning theories (Brown & Duguid, 2002), meaningful learning involves simultaneously developing a social identity that shapes what people come to know, feel and do and how they make sense of their experiences. Understanding better how such identity develops and how learning occurs in the social and technical contexts young people currently inhabit—e.g., how and with whom expressions are crafted, displayed and utilized, and ideas evolved and distributed through interaction and negotiation—might suggest improvements to instructional designs in formal education.

In this vein, scholars working under the umbrella of New Literacies argue for the importance of considering not just print-based literacies currently emphasized within schools, but also digital literacies shaped by social practices:

New technologies such as blogs, wikis, massively multiplayer online games, social networking technologies and video- and music-dissemination technologies have rapidly spread, by means of the Internet, each with additional, new literacy forms and functions that are reshaped by social practices. . . literacy has now come to mean a rapid and continuous process of change in ways in which we read, write, view, listen, compose, and communicate information (Coiro, Knobel, Lankshear & Leu, 2008, p. 5).

Although the theory of New Literacies has been described as emerging and multifaceted (Leu et al., in press), and at the risk of oversimplifying, we draw on the *Handbook of Research on New Literacies* to outline its four important elements (Coiro et al., 2008). First, new literacies necessarily include *new skills, strategies, dispositions, and social practices* required by the internet and new information and communication technologies (Coiro et al., 2008, p. 14).

Second, the development of new literacies is viewed as essential to *full civic, economic, and personal participation* in a world community (Coiro et al., 2008, p. 14). This was no more apparent than in the 2008 U.S. presidential election campaign where a new style of 'Netroots' politics that was open-sourced and inclusive, multiracial and multicultural allowed citizens not just to consume campaign propaganda but to help shape and distribute it via online meet-ups, blogs, videos, and social network sites (Sheehy, 2008, p. 79)

Third, new literacies are *dynamic* and *situationally specific* (Coiro et al., 2008; Hull & Nelson, 2005; Kress, 2003; Lankshear & Knobel, 2006). They change as technologies available over the internet are constantly changing. Within changing contexts, meanings are negotiated, shifting from space to space, person to person, moment to moment. Literacy, therefore, entails "knowing how and when to make wise decisions about which technologies and which forms and functions of literacy most support one's purposes" (Coiro et al., 2008, p. 5). Grounded in sociocultural and activity theories (Vygotsky, 1978; Engstrom, 1987), new literacy theorists view literacy

as *socially mediated practice* (Gee, 1992). Technologies shape social relationships and practices. They enable or constrain certain kinds of literacy practices in certain contexts. In turn, people experiment with technologies-in-use, trying to overcome their limitations and inventing new practices and modifications in the technologies themselves (Coiro et al., 2008). Gee (1999 as cited in Black, 2008) argues that whether or not individuals or groups use language and other modes of meaning are tied to their relevance to the user's personal, social, cultural, historical or economic lives (p. 601).

Fourth, new literacies are *multiple* and *multimodal* and are best investigated from *multidisciplinary perspectives* and in interdisciplinary teams (Coiro et al., 2008, p. 14). For instance, Kress (2003) argues that literacy practices are increasingly *multimodal*. Changes in media, from page to screen, make "it easy to use a multiplicity of *modes*. . . in particular the mode of image—still or moving—as well as other modes, such as music and sound" to convey one's message. The writer of multimodal texts is in essence a designer "assembling according to one's designs" (p. 6) which allows meaning to be distributed across different modes; "reading" requires making meaning from the multiple modes present in a text (p. 35). Multimodal texts can also be interactive as users can "write back" further blurring lines between authorship, readership, production and consumption, and as Kress (2003) reminds us, these shifts between "the world shown" and "the world told" or narrated, require new skills, sensibilities, social practices and new roles for us as educators.

Today, scholars across disciplines are working to define the meaning of literacy in a range of current contexts. There is keen interest in understanding naturally occurring literacy practices within young people-initiated virtual contexts and how these practices intersect with, contradict, or suggest shifts in formalized school practices. For examples of this, see Steinkuehler's (2008) studies of adolescents' gaming practices in online multiuser environments, or Black's (2008) exploration of literacy practices in online fan fiction communities, or Lewis and Fabos' (2005) examination of adolescent literacies in instant messaging. For instance, investigating cognition and literacy practices within massively multiplayer online games, Steinkuehler (2005) documented how these games are spaces for authoring identities, rich meaning-making, and construction of coherent and creative discourses valued in fields outside the game.

However, we are aware of few empirical studies that have looked at school-age young people's patterns of participation in social network sites from an educational and new literacy perspective. Perkel (2008) observed 'copy and paste' practices. Combining Jenkins' (1992) theories of appropriation and reuse of media with new literacy theories, he speculated that MySpace is an informal learning environment that fosters new literacy practices: "the expressive power found in the creation of a MySpace profile concerns a technically simple but socially complex practice: the copying and pasting of code as a way to appropriate and reuse other people's media products" (p. 1). Similarly, Erstad, Gilje and de Lange (2007) discuss young people's "remixing" practices, defined as selecting, cutting, pasting, and combining "semiotic

resources” (downloaded and uploaded files “found” on the internet) into new digital and multimodal texts. The process of “finding” and “reusing” resources, they argue, highlights the inter-relationship between analysis (reading) and production (writing) (p. 185). The notion of “remixing” can be extended to other acts of consumption and production in the service of communicating within a social network site space (e.g., video-sharing, blog-sharing, photo-sharing, etc.).

If as educators, researchers, and citizens, we want all students to be fully literate and able to communicate to be successful in a global community, we ought to attend especially to those students from low-income families who may be more likely to experience lower levels of online participation at home or at school, compared to their more affluent peers, and therefore, have fewer opportunities to practice new literacies. Looking at these teens’ use of social network sites through the lens of new literacy theories raises interesting questions, such as: What are the unwritten rules, expectations, or strategies for self-presentation and network production, maintenance and development? What role do different modes (e.g., language, images, music, etc.) and other forms of communication play in the development of the social network? How do the practices participants demonstrate fit with or depart from school practices? This article will attempt to speak to these questions.

Methodology

Students participating in the study were all 17 to 19 years of age, living in the upper Midwestern United States, and from families whose incomes were at or below the county median income (at or below \$25,000). Students were identified through their participation in an after-school program aimed at increasing college enrollment for low-income students. We conducted surveys and focus groups with students in the winter of 2007 ($n = 852$) and spring of 2008 ($n = 600$) to discern their internet access, use, and capacity, the findings of which are reported two forthcoming publications (Greenhow, Walker & Kim, 2009; Greenhow, Kim, & Robelia, 2009). As mentioned above, this most recent survey data revealed that 82% of these students go online from home. Most use the internet daily or every other day (76%), and over three-quarters of students have a profile on a social network site, with the majority using MySpace (65%). Students reported using their social network site for a number of reasons, including strengthening connections with friends they see often or rarely see, making new contacts, getting advice on school/career, and promoting their ideas. It also appeared that the more intensely young people used their social network site, the more likely they were to view it as space for learning (Greenhow & Kim, 2009). The kinds of competencies (Partnership for 21st Century Skills, 2008) young people felt they were developing within their social network site included technology skills, creativity, and communication skills (Greenhow, Kim, & Robelia, 2009).

To further investigate trends we were seeing from students’ self-reports and answer our research questions above, we conducted a series of qualitative case studies with students who all used MySpace as their primary social network. Eleven participants

(8 women and 3 men) were selected who varied along several dimensions. Our participants ranged in age from 17 to 19 years old and in ethnicity, self-identifying as Asian, African American, or Latino. They were all public high school students living in a large metropolitan area (population of 3.3 million). We were interested in how students of varying activity levels integrated MySpace into their lives. Therefore, student-participants were evenly split between “high” users, defined as using the social network site for an average of thirty minutes or more every day, and “low” users, defined as using MS at least twice per week for an average of 30 minutes. The higher proportion of women in our sample may have been due to the higher proportion of women overall in the college access program. However, we wanted to ensure that we were studying young people who had enough experience with MySpace to illuminate its practices. Therefore, all students in the study had an Internet-connected computer at home and had been using MySpace regularly for at least a year.

To understand how participants used MySpace and the role it played in their lives, we triangulated multiple data sources including semistructured formal interviews, talk-aloud observations, and content analyses of participants’ MySpace pages. First, we interviewed students in order to determine the characteristics of their social network site use and their beliefs and perceptions regarding the role MySpace played in their lives. All interviews lasted 60 to 90 minutes and included a preinterview survey on demographic background and media use. All interviews were conducted in-person and audiotaped. The interview protocol was designed to elicit responses related to our research questions on role, interpersonal connections, and communicative uses of MySpace. Therefore, we posed questions related to three broad categories: (1) SNS conditions, routines, and purposes (such as time spent on MySpace); (2) interactivity and relationships; and (3) methods of communication and expression. The interview was also tailored for each individual, incorporating follow-up and probing questions as well as questions specific to the participant’s background and interests. Interviews included questions such as:

- On a typical day, when you login to your MySpace what do you usually do there? Why? How much time do you spend?
- What are your reasons for using MySpace?
- Who do you communicate with on MySpace? How?
- When you visit other people’s spaces, what kinds of activities do you do? Why?
- If you receive a “friend” request, what determines whether you accept the request or not? Whom do you “friend”? Why? Are these people you know, barely know, don’t know but would like to? Please explain.
- Does your use of MySpace impact or relate to your relationships offline/outside of MySpace?
- Can you give me an example of some of the ways you get your ideas, interests or emotions across on these sites? What do you typically “talk” about?
- Do you see any problems or difficulties with using MySpace? Any benefits to using MySpace (e.g., educational, social, or otherwise)?

We transcribed each interview after it occurred and analyzed the typed transcripts using open-ended and then, focused thematic coding (Strauss & Corbin, 1998).

Second, students engaged in a think-aloud, also known as a talk-aloud or verbal protocol analysis, a technique that involves asking a study participant to report his or her thoughts related to performance of a task as it is unfolding (Clark, 1997). In our adaptation of the talk-aloud procedure, we asked participants to talk aloud as they engaged in their MySpace site and audiotaped their responses as they explained their actions and choices; we simultaneously observed and wrote field notes about the things they were describing on the screen. These intensive, detailed sessions lasted from 60 to 90 minutes. Think-aloud sessions were fully transcribed, including participants' comments and explanations. These, combined with our field notes, gave us insights about young people's uses of MySpace, what they do on a typical day there and the technical features that appealed to them.

Third, to complement interview and talk-aloud data, we adapted Jones et al.'s (2008) content analysis protocol to code and analyze the actual content of students' MySpace profile pages. For instance, we documented the frequency and types of personal, identifying, and contact information they included (e.g., identification of real name, hometown, gender, sexual orientation, ethnicity, interests, and identifying image). We also examined their use of various technical features, such as their frequency of blog use (if applicable) and blog topics as well as the presence of various visual media (e.g., videos, photos, music player). We noted others' comments on their pages, including the number of comments, topics commented on, and number of friends in their network. We also noted the design, look, and functionality of their profile pages, including what communication features (e.g., IM) and MySpace applications were displayed. Some of these analyses were simple counts (e.g., number of Friends, comments, or photos) that revealed which SNS features participants used most for what purposes. This three-part approach to data collection and analysis distinguishes our study from those that rely on self-reports or observation data alone.

Findings

Next, we report the common themes that emerged from our analysis of students' use of MySpace, organized into three sections with each section corresponding to one of our three research questions. We use the following three categories to discuss these findings: perceived role of social network site, social learning, and communicative and creative practices, and their related subcategories. However, these are merely analytical conveniences; in practice, these categories and subcategories overlap as people perform things simultaneously (e.g., communication is social, relational, and emotional).

Pseudonyms are used in place of actual names and supporting evidence from students' interviews, talk-alouds, and MySpace profiles is presented wherever possible. Line numbers listed at the end of quotations correspond to line numbers in our transcripts where the quotation begins.

Role of Social Network Sites in Students' Lives

Students believed that their social network site was “essential” to their lives.

They logged into MySpace daily or several times per week to engage in four main activities: updating their online profile, monitoring updates to their “friends” pages, interacting with changes in the system, and initiating contact with others. MySpace functioned as a virtual phone, a photo album, an MP3 player, a diary, a notebook, a storage place, and in the words of one student, “Sometimes a therapist, even.” Students mentioned becoming less flirtatious and merely play-oriented and more strategic in their use of MySpace over time for “getting to know my peers.”

Furthermore, each student emphasized their experience with MySpace somewhat differently. One group of family members shared a single site and used it to connect with mutual friends. Others emphasized its value as an academic resource, using it to ask peers for help with assignments, while some emphasized its entertainment value. However, among these students three themes emerged regarding the role this SNS played in their lives, each of which will be discussed below. MySpace served as a space for: (1) emotional support, (2) relational maintenance and (3) self-presentation.

(1) *Emotional support.* MySpace provided an outlet for students to express their emotions, as one student commented: “It’s kind of me venting” (Brandy, line 180). Another student remarked, “I let out steam. . . . sometimes friends are on[line] at the same time and we just message each other back about how stressful . . . [the] homework or the project or whatever we’re doing” (Katherine, age 18, line 40). Often, such emotional venting involved students’ positive or negative feelings related to school assignments:

If it was really exciting it [*sic*] would post about it. . . . I remember the second I was done I got on MS and I was like [in his post]: ‘I just finished my extended essay and . . . its awesome’ (Jeremy, age 17, line 543).

Students expressed their emotions in numerous ways. All students used the status and mood update feature on their main profile page to choose single word descriptors and emoticons to express themselves (e.g., Status: Sick Mood: Sad☹). Changes in status and mood indicators are aggregated across the network; by clicking “status and mood” under “Friends” in the menu bar, students could monitor how others in their network were feeling and respond. For example, comments on the profile page of the participant who portrayed herself as “sick and sad,” included expressions of love and support: “Don’t be sad!! Kim, if you think that no one loves you, it not true. I love you tons.”

Students distinguished between the affordances of online versus offline communication for revealing emotions. They reported feeling more comfortable expressing themselves online compared with the lack of emotion they felt compelled to display face-to-face: “I feel more comfortable while I am online to tell people stuff; when I am offline I don’t really say as much as I can on MySpace or any social network” (Kate, age 17, line 545). They also noticed others were more at ease

sharing emotions online. One woman spoke about how she discovered more about her “friends” true feelings by reading their blog posts:

I get a better feel of who they are with their personal blogs, that sometimes they're really stressed out, they don't show it at school, but, you know, they'll tell about it on, like, the internet and so it's just kinda like oh, you get to know that person a little better (Katherine, age 18, line 125).

Dwyer (2007) notes that computer-mediated communication in social network sites results in delayed social cues and feelings of anonymity which can facilitate unguarded and self-focused sharing compared to the “carefully managed” and “other-focused” communication we display face-to-face. Many students felt the intense emotions displayed online seeded stronger relationships.

(2) *Relational maintenance.* Students' believed their social connections were actually stronger after prolonged MySpace membership. They felt MySpace encouraged openness and sharing, creating a space where they could learn more about the internal lives of close and extended contacts:

[I learn] more things and deeper things about their personality. Like at school we wouldn't be, like we won't tell. . . really close or too personal about ourselves. But on MySpace they are more comfortable to share it on there” (Bobbi, age 18, line 168).

Similarly, Andrea commented that increased communication online through her social network site, when she could not meet with people offline, contributed to more meaningful relationships: “. . . as we talk more [within MySpace] we grow more, and we learn more about each other. So I think MySpace does help in a way to get to know my friends better” (Andrea, age 18, line 141).

Moreover, students revealed that “talking” through MySpace could actually result in different relationships than would emerge through other media. For instance, seemingly shy students maintained a different sort of relationship with those in their MySpace network than they demonstrated offline, as Brandy explained:

I know girls that like don't really speak to people in school but then, you'll see them on MySpace and they have all these different friends, and it's fun to see, because people just get to step outside themselves when they go on this type of Web site (Brandy, age 19, line 383).

Students also saw MySpace as helping them strengthen family relationships. Many participants were from families new to the United States or had family members living far away. They viewed MySpace as an inexpensive means of staying connected. A young man explained how MySpace helped him stay abreast of changes in his brother's life: “My brother, he lives in Texas. So I often go to his [MySpace] site to see if he has anything new” (Ned, age 18, line 347). Similarly, Kate discussed how checking in with her sister, now away at college, was part of her daily MySpace

routine: “I usually just check my messages and then I usually go to my sister’s page” (Kate, age 17, line 105). Others explained how, through MySpace, they had reconnected with classmates who had moved away.

Even if friends were just across town, students felt that MySpace helped strengthen relationships because it enabled them to “stay in the social loop” during time spent apart:

I feel that it has [contributed to my relationships] because if you’re out one night and not with your friends, you don’t really know what is going on with them but then they post blogs, bulletins, pictures. . . so you get to know what they are doing and can follow-up on that even if you don’t really see them. (Gerry, age 18, line 198)

For teens involved in part-time jobs, caretaking duties, or other responsibilities, the online social network keeps them participating in their social sphere when they are not physically present. Moreover, boundaries between the actual and virtual are blurred as social interactions offline are represented in the virtual world, and vice versa.

Interestingly, MySpace profiles revealed that the majority of participants (9 out of 11) possessed between 50 and 150 “Friends.” This is consistent with findings reported elsewhere (Jones et al., 2008; Ellison, Steinfield & Lampe, 2007). Students’ possessed a nuanced understanding of “friendship,” indicating that MySpace made socializing “easier” overall:

I think MySpace is just an easier way to communicate to people who you’re not very close to because when you call them, they’d be like, why did you call me? Or, I don’t even know you like that. On MySpace. . . people have friends that are really “Friends” and they comment them, so it’s okay to talk to people on MySpace that you don’t really know (Andrea, age 18, line 320).

Similarly, Jeremy described how MS asynchronous communication channels help avoid potentially awkward exchanges, thereby keeping relationships going: “Especially as time has progressed it is a little awkward to just call up someone and say, ‘Hey what’s up?’ whereas if you leave someone a comment or a message and say, ‘Hey, haven’t seen you in awhile. What is up?’ and therefore, you don’t have that awkward sort of forced conversation” (Jeremy, age 17, line 33).

These examples indicate that students saw themselves enriching and developing a complex array of relationships in their social network site—from close friendships or family relationships to those extended and maintained relationships that others have identified (Ellison et al., 2007). MySpace functioned as a *social lubricant* (Ellison, 2008), smoothing paths to relationships by providing a low-cost way of broadcasting life events, feelings, values, and connections, and interacting with other users’ information.

(3) *Presentation of Self.* MySpace also served as a “platform” for multidimensional self-presentation. Students saw MySpace as providing a multimedia palette and the occasion for demonstrating various dimensions of their personality:

It [MS] gives people a platform to discuss themselves and share themselves. And a lot of times people feel like they can't. . . because people don't feel like the opportunity [to express themselves] is available in the real world. . . with social networks you can create the person you want to be. . . you can share different sides of yourself that you would never do otherwise. It just gives people ever more opportunity to be who they are. . . your interest in poetry, music, photographs; they might not have known otherwise (Brandy, age 19, line 209).

We were surprised by the importance students assigned to representing themselves in visual media, as this is underexplored in the research literature surrounding social network sites (Jones et al., 2008). Participants explained how they used photographs, backgrounds, layout, and music to represent their mood, preferences and affiliations. Visual media found within others' profiles also provided the occasion for interaction (e.g., identifying and commenting on someone's photograph or tagging and distributing it through the network).

Images were prominent on MySpace profiles. Participants described how digital photographs helped them portray who they are and with whom they affiliated. All but two students had uploaded an identifying image associated with their user name. This was either a self-portrait or photograph of the student with one other person. All but one student maintained a public or semipublic online photo album. Their picture captions suggested a range of topics (e.g., self-portraits, school events, travel, friends' pictures, family pictures, sports teams, nature, dormitory life, etc.). Photo-editing, tagging, and sharing capabilities within MySpace make it easy for students to visually represent themselves and their networks. One student described how she used MySpace to show off her creativity: “I have this Photoshop program where I can like cut out pictures and make it really, um like all extra pretty and paste it up [on MySpace] and look what I did!” (Bobbi, age 18, line 99). She displayed over 700 photographs in her online albums, second in size to only one student who displayed 1000 images. The majority displayed 50 to 150 images. Throughout these albums we saw not only documentary evidence of major life events (e.g., school dances, vacations, birthdays) but artistic expression with photographs ranging in tone and style from the comedic and playful to the abstract and bizarre. Across a 3-week period we observed the types of “updates” participants made within their MySpace accounts; activity around photographs was the most frequently performed activity ahead of adding “profile songs,” making “Friend” connections, blogging, and uploading videos.

Often the images students created were incorporated into the background “wallpaper” of their profile. All participants had a unique background that was not the default. Nine of the 11 students also personalized their space with a unique banner title or motivational quote, such as: “Living the height of my life♥” or “Never

let success get to your head, and never let failure get to your heart.” The dominant color displayed was black. Warm shades of green, brown, and red were also popular. Background graphics depicted romantic scenes, leaves, musical notes, hearts, urban life, and black-and-white flower images. Asked what role profile backgrounds play, one student described how she used background colors and graphics to represent her mood: “Like if I’m in a happy mood or cheerful mood you want bright colors. If you’re in a gloomy mood, it’s gonna be like gloomy colors” (Katherine, age 18, line 112). Another explained how she manipulated her background to present an image of youthfulness and femininity:

Sometimes when I feel kind of kiddish I will put on pastel looking backgrounds or if feel like serious than I put on black backgrounds but I must remain feminine, so what I have right now is a black background with pink flowers (Katherine, age 18, line 219).

The majority of participants (8 out of 11) also incorporated music into their profile. Through the “my music” feature, MySpace users can browse and listen to the playlists of their “Friends” and other users within the system (e.g., bands and professional musicians). With a few clicks, users can add songs to their playlist and make these private or public. Public songs show up on the profile page where others can listen to it, comment, and add it to their own playlist or click to learn more about the artist. One student commented that “you can learn a lot about a person from the music they play.” Another explained that music allows her to portray what she is experiencing in that moment: “I put on music. Usually it describes my mood or what I am going through” (Katherine, age 18, line 189). Ned told us that music was one of the most important ways MySpace helped him communicate: “There are [other] ways MySpace does help you communicate but not as much as through your song” (Ned, age 18, line 605).

Half of the profiles we examined displayed creative writing, usually within their blog, in the form of original verses, excerpts from published authors, or song lyrics. Blogs were noticeably text-based; no images or other visual media were embedded within blog entries. One student had started a video blog, and through the bulletin feature, invited his network of 150 “friends” to come “watch, and comment? Also if you have a YouTube account you should subscribe to my channel so it looks popular! lmao” (Jeremy, age 17).

About a third of participants embedded videos they had produced or downloaded into their profiles. For instance, Andrea embedded a video of her dance performance on her profile. Gerry embedded a video clip he had downloaded of the Motorsport 2008 Pro Winner. Clicking on the video within Gerry’s profile, the viewer watches the car race from two perspectives, as if sitting in the stadium and as if actually in the front seat with the driver. Interactive third-party applications, or “Apps,” were least common within the profile pages we observed. Of the three students who displayed Apps on their profile, two had a movie rating/sharing application called “flixter” and one displayed a “celebrity look alike” application. In these

ways, MySpace served as a rich platform for users to represent their multi-faceted selves.

Social Learning

Data analysis also revealed that their social network site supported students' social learning in three important ways. MySpace provided: (1) validation and appreciation of creative work, (2) peer alumni support, and (3) school-task related support.

(1) *Validation and appreciation of creative work.* Students used their MySpace pages to display photography, writing, background and layout designs, and videos; many also sought and received validation for their work. For instance, in the following blog excerpt titled "Quotes make you think," Jeremy interprets a quotation about love. He invites his "fellow" readers into the reflection:

Quotes make you think

I was reading a book of quotes recently and I came across a quote that I would like to share with my fellow readers.

"Love—is giving someone the ability to destroy you. . . but trusting them enough not to."

I felt like at first this seems weird. I mean. . . if someone loves you why would they want to destroy you. . . right? Then after deeper thought I realized. . . that well, if you love someone then you would not think about them wanting to destroy you. So, I guess this is saying that you will tell the person that you love everything. Does this mean that if you love someone then you will tell them everything? Or just like a lot, all of which can be put together and used to destroy you? Well, what is to say that by telling them everything you don't destroy them? (Jeremy, age 17).

In response to this blog entry Jeremy received five comments and six "kudos." MySpace allows users to comment and rate others' work (e.g., click a radio button for "2 kudos" or "1 kudo" or "no kudos"). The comments Jeremy received, such as this one from Dara, demonstrate validation and appreciation of what he has written:

haha, i used to ALWAYS say that quote. lmao
you see, that's where the quote comes into play though, if you have these best friends, or really good friends, you are able to talk to them about everything. . . no matter how big or how small, yanno, because you trust that they want to talk to you. . . that's the "and trusting them not to" part, but by talking to them . . . and being honest, you give them the power to destroy you yanno? . . . it's a good quote. :]

Bobbi similarly described how she displayed her poems and other creative writing "I am really proud of" for others to read and respond to within MySpace:

I . . . put things [in my blog] that are more embarrassing for me to talk about. . . I put things where my close friends they come and read it so usually I post things for them—poems or an essay or something I am really proud of (Bobbi, age 18, line 265).

Kate, found such poetry to be “inspiring and motivating” and appreciated the chance to browse others’ work: “I am not an artistic person but I love art so love listening to and seeing people’s dances, their music and stuff. So I always go on people’s pages to just watch and comment on stuff” (Kate, age 17, line 136). The student who initiated his video blog received written praise in the form of comments such as “omg! i love your youtube clips. it makes me miss you a thousand times more.=!/: D” Generally, comments in response to creative work were approving (“i love this!”), affirming (“i have also felt like this”), reflective (“I never saw it this way”), critical (“i think you are overanalyzing here”), or encouraging (“ur so talented!”).

(2) *Peer alumni support.* Students also got alumni support within MySpace, reaching out to former classmates to get or give help regarding managing the ups and downs of school/college life and planning for college. We found several written exchanges of outpouring and support between current and former high school students. Ned described how he provided emotional support to a friend who had moved to a college in California: “On her blog she said, ‘I am having a bad day.’ So I commented her, ‘What’s wrong? . . . Are you doing well? How is school?’ (Ned, age 18, line 518). Gerry spoke about helping a friend through a turbulent break-up, “Like one of my friends broke up with a guy and she was really depressed. . . . I just talked to her [through MS] and comforted her” (Gerry, age 18, line 143).

One former classmate, now in college wrote, in a comment to Mimi about his sadness away from home, “I remember my first week here in Ohio 700 miles away from home. i mean I felt like i was in prison and i cried like a lil baby. . . .” (Mimi, age 18). Written comments also revealed high school students insecurities about college planning: “i have no clue where i wanna go for college and it’s a big ass stress. And about my major, i have no clue either . . . idk anymore. things are getting harder and harder.” Former classmates, now undergraduates, both encouraged and solicited emotional support, as demonstrated in this comment from a college freshman displayed on the profile page of one of our participants still in high school:

Hey bobbi!! your soo funny!! your message totally made my day! But I totally know what you’re talking about. Senior year during that time is soo stressful, looking for scholarships, colleges and those exams.. but after may its going to be really laid back so dont worry too much. . . College. Omg I can really kill myself right now, my major is killing me and so is the work load. . . Im not suprise if i drop out of college next year. other then that I love living the free life in the dorms, Im not really homesick. . . I dont know if thats a good thing or not. . . so do you have a major in mind?

Interestingly, participants envisioned themselves using a social network site as part of their college transition strategy, as Katherine describes:

It's going to suck going out there by myself [to college far from home] so I'm gonna need to message people about how I'm feeling. . . So, and, it's nice to have both [Facebook and MS] cause then you can keep the contacts with like, people who use only one (Katherine, age 18, line 377).

From their surveys with undergraduate Facebook users, Ellison and colleagues (2007) found that Facebook usage interacted with measures of psychological well-being; Facebook intensity predicted increased levels of maintained social capital, which they interpreted as college students' ability to "to stay in touch with high school acquaintances" and possibly "offset feelings of 'friendsickness,' the distress caused by the loss of old friends." Evidence from the MySpace profiles of our participants align with these observations; however, high school seniors amidst their own college planning and transition also appear to rely on maintained and extended contacts, those "friends of friends" now in college, for help in managing the stress and complexity of the application process. Using such networks in this way may be especially important for students from low-income families, many of whom are the first in their families to go to college, and therefore, depend on modeling, advice and encouragement from similar peers who have succeeded.

(3) *Support for school tasks.* As the former examples suggest, interactions within MySpace revealed a greater blending of social and education-related "talk" than prior studies have discussed (NSBA, 2007). MySpace socializing entailed frequent discussions involving educational pursuits. This may be explained, in part, by the fact that all of our participants were high school seniors, a time when postsecondary anxiety and educational decision-making are prevalent. In addition, many participants were first-generation college students enrolled in an intense program that expected them to succeed; therefore, it seems natural that these pressures would take center stage within their MySpace.

However, transcripts and profile analyses also revealed that MySpace provided participants with school task-related support. This took several forms, some more direct than others, such as "chatting" online to mitigate school-related stress, asking questions about instructions or deadlines, planning study groups, broadcasting or requesting educational resources from the network (e.g., "if they know a site that would help me in my project, they'll post it up and I can go see it"), gathering project materials, brainstorming ideas, sharing written work, and exchanging feedback. For instance, Katherine explained how she reached out through MySpace to collaborate on a writing assignment:

I was really stressed out . . . some project we were doing in school, and one of my guy friends [an online friend in MS] said, "Oh well, you know, this would help," and he just gave me advice about how I could improve my project, or sometimes

we even talk about, “Oh, an essay’s due tomorrow, would you mind reading my essay and, you know, peer editing it?” (Katherine, age 18, line 377).

Similarly, Andrea described how she gave and received advice on a school assignment using MySpace:

I was online and I opened up my Word document to type it up and he [a MS online friend] was saying how he was doing too and it was really comforting because I knew I was not the only one doing it. And then, he would ask, “What did you write for Chapter 6?” And I would ask, “What are you writing for Chapter 11” and kind of share ideas that way (Andrea, age 18, line 255).

One group of students posted sections of their writing to combine ideas on how an assignment should be completed: “When we have big projects and stuff we’ll put little pieces of our essays so people will know like how [it should] go” (Kim, age 18, line 201). Weeks before the senior group project was due, Jeremy and Gerry posted bulletins to MS soliciting photographs, writing, videos, and other artifacts from high school contacts in their network. They wanted to combine these into a multimedia show to represent their high school experience. Brandy also described how MS provided academic support:

Everybody’s always working on projects at like the same time [online] and so, we’ll [post online]: ‘How long did you take on your essay.’ or ‘How’d you begin in there? How’d you write it?’ So then sometimes we’ll share that and everybody kind of does it, at least in our SLC [small learning community] (Brandy, age 19, line 189).

While studies of instant messaging among high school students (Lewis & Fabos, 2005) and other forms of online communication have concluded that student exchanges do not generally pertain to academic life, our findings suggest this may not be true for all students. More research is needed to determine the frequency, duration and nature of students’ school-oriented MS exchanges and what impact they may be having, if any, on students’ academic persistence, sense of competency and achievement.

Communicative and Creative Practices as New Literacies

Although the popular media and other adult-driven discourses tend to overlook young people’s novel and articulate media practices, as the examples above suggest, our participants engaged in an array of communicative and creative practices within their social network site. Their beliefs about network production, maintenance, and development and the social and technical possibilities of the environment influenced these practices. Students used MySpace to craft a multidimensional self-presentation amidst an unfolding and complex social context. To do so they enacted multiple roles as actors, authors, producers, fans, and critics. Their communication within

MySpace demonstrated school-related literacy practices as well as unconventional digital practices.

(1) *Creative performance as social currency.* Participants believed that creative performance within MySpace was social currency. As Bobbi explained, to draw people into your space “you gotta be creative:”

To attract attention . . . you gotta be creative on how to like make your layouts or what you’re going to post up for people on your page. . . the more creative you are the more you can update your page and attract more people to be your friends and attract more of your friends to continue coming on your page (Bobbi, age 18, line 342).

The expectation was that continually updating and designing an interesting profile would produce social value—page visits, recognition, imitation, admiration, critique, and new connections. Students believed it was relatively easy to be creative and effect change within MS. Technical features facilitated invention and revision in multiple forms (writing, designing, drawing, singing, and filming); interactive rating features (comments, bulletins, kudos, tags, friend requests) enabled the ongoing social interaction our participants craved; and network effects allowed them to browse or receive news of others’ performances, thus motivating and sustaining their own interests. For instance, Kate described how MS encourages users to be creative in a variety of forms and genres:

[MySpace encourages creativity] in website designing, yes, (laughs). Creative in terms of writing, yeah, depending on if you’re writing a blog or a poem, or things like that, yeah you want to be creative. And you want to show your talent. . . And it comes down to photography too, like, you know if you put pictures up, yes (Kate, age 17, line 821).

Andrea stated that “you could change so many things. . . the outlook of your whole profile. And it’s so easy. . . because of that, I think people do try to be more creative and alter things” (line 196). Katherine commented that because there are so many “different” and “artistic” layouts she could experiment with “it opens my mind to creativity. Like, hey, let’s try this layout. . . be different from the norm” (line 698). In these ways, participants’ expectations and technical features reinforced the notion of communication as creative performance, what boyd (2007) described as the “construction of cool” (Kress, 2003 Lewis & Fabos, 2005).

Moreover, such creative performances can serve as powerful forms of symbolic and social capital (Bourdieu, Passeron & Nice, 1990). That is, honor, prestige, and recognition (i.e., symbolic capital) are afforded to creative individuals within the system, and connections within and between networks of people as well as connections among individuals (i.e., social capital) can be activated through creative performances (e.g., people can be invited into the system to view one’s work or work can be tagged and shared within it). Of course, whether these forms of

symbolic and social capital actually translate into tangible benefits (e.g., increased educational/career opportunities) is a topic for future study.

(2) *Constructing social networks through multimodal “texts.”* Communicative performances within MySpace demonstrated aspects of ‘academic’ literacy practices as well as unconventional practices. For instance, students’ written comments demonstrated consideration of word choice, tone, subject matter and style—all elements of formalized writing valued in school—and perhaps especially important in SNSs where communication can be persistent, searchable, replicable, and viewed by invisible audiences (boyd, 2007). For instance, Brandy described how she is more thoughtful in communicating within MySpace than elsewhere:

I consider my words, more so when I am typing something. Like I can say something jokingly and when it’s just typed out and there’s no syntax to it and you don’t know how a person’s saying it or the way a person looks while saying it, it can come off like a totally completely different way than you intended it to mean. So when I type things, and I might be saying something as a joke, I’ll stop, and I’ll consider the way this might be taken, and I’ll edit or adjust it to get my meaning across (Brandy, age 19, line 407)

We found several examples within the transcripts and in MS of students’ demonstrating awareness and concern for their audience. Andrea maintained that “posting” within MS “improves my writing because then I know how people feel about such things. I can tell based on people’s comments whether I’m communicating what I intended, and sometimes, I’ll try to make it more neutral” (Andrea, age 18, line 202).

In addition to considering word choice, tone, and style, students also adjusted the subject matter of their writing based on what they felt would be most appealing: “I find myself writing based on things we’ve all shared. Like somebody will write me and tell me ‘I’m going through this.’ And I wrote a poem for a friend because she and her boyfriend broke up, and that’s just probably one thing I wouldn’t have done [written the poem] if she hadn’t written me about it on MySpace. . . sometimes I write for other people, sometimes I write to express things that were going on, on MySpace (Mimi, age 18, line 474). Another student maintained, “Whenever I write, I proofread everything. Like if it does not make sense then I tend to fix it all the time and I don’t like writing slang. . . because I am doing that [proofreading] a lot on MS it also helps me in school” (Kim, age 18, line 250).

Interspersed with the written elements of students’ pages were visual and audio elements that could “bring attention.” As previous examples from MS profiles reveal, students used unconventional visual elements in their “comments” and blog entries, such as IM abbreviations (e.g., IMAO for “In my arrogant opinion”), emoticons (e.g., :)), breaks in spelling/punctuation, and font size in all caps to indicate emotion or emphasis (e.g., “haha, I used to ALWAYS say that quote”). Moreover, students stressed the importance of “pictures:” Looking at them, making an effort to develop, edit, and post them, and identifying new social connections through them. As Jeremy,

age 17, put it this way: “Pictures are a way of starting a conversation. . . a comment is more formal. . . it goes picture, comment, message,” implying there was a strategy to interweaving these different modes and genres together to communicate within MySpace. Interestingly, as Jeremy’s comment suggests, communication strategies varied depending on degrees of separation. Another student explained, “if I don’t know them. . . you leave a [short] message there such as ‘Nice background.’ or ‘I like your music.’ or ‘Where’s your music?’ Nothing too personal” (Gerry, age 18, line 239).

Moreover, to communicate effectively requires the ability to read one’s audience. As MySpace blurs distinctions between writing and speech, between composing and graphic design, and between reading and viewing, the task of “reading” one’s audiences becomes considerably complex (Kress, 2003). Kate reveals how “reading” in MS is a multi-faceted process of “looking,” “kind of” seeing, “figuring out,” “sneaking,” and “invading” others published work:

I look for what other people commented to them. Basically if I read those I can figure out what they’re up to and what they are doing. It is not just necessarily the blogs or the pictures or the comments, too, by what they say to each other. I can sort of sneak in there and kind of see what they are talking about. By that I figure out what they are doing. Sometimes I feel like I am invading what they are going through, what they are talking about. . . (Kate, age 17, line 311)

From these and other comments, it appears the young people from low-income families we studied had a sense of their core network of close (big “F”) Friends on MS and these intimate connections overlapped tightly with their face-to-face and school-based networks. However, they also had a sense of a peripheral, broader network of acquaintances or new contacts (little “f”) friends, sometimes relating how they differentiate their communication accordingly. In addition, these networks are dynamic and overlapping as people turn to acquaintances or strangers for help with problems they could not solve or reveal to close friends and close friends can fall out of favor and become distant over time. Moreover, as Katie’s comment above suggests, young people can feel invited to connect and voyeuristic simultaneously, based on the multimodal and public-private nature of these social network spaces. More research is needed to understand the connections between these various relational networks and the complex nature of learning and literacy practices students demonstrate.

(3) *MySpace literacy practices and school.* As we have tried to demonstrate in the examples above, students use MySpace as more than a play space. In many ways, their literacy practices within this SNS—proofreading, continuous revision and updating, and consideration of word choice, tone, audience interests, and style—aligned with writing practices valued in school. However, they also assembled multimodal “texts” characteristic of “new literacy” practices and well suited to the dynamic, interactive features of the MySpace social world. They created, assembled, or “remixed” images, music, background/layouts, and other elements into their overall presentation.

Not surprisingly, students saw little overlap between their literacy practices within MS and those recognized and valued in school. Such findings are consistent with other studies reporting the digital disconnect (Levin et al., 2002) students frequently experience between in-school and out-of-school practices with new media (DeGennaro, 2008; Lenhart, Arafah, Smith & MacGill, 2007). Students in our study perceived communication within MS as “more relaxed,” “you can mess around,” and “write like you would talk. . . but like school, there’s a certain format you have to follow.” Only one student felt that MS writing actually reinforced and improved school writing, and only one student commented that MS writing can actually “ruin” school writing because “they blend in every now and then, so it causes trouble” (Katherine, age 18, line 633). Most young people we interviewed perceived these as entirely separate literacy practices, as one student argued in distinguishing between “high diction” and “low diction:” “at school they write all formal and with normal or like high diction. On MS they go LOL [laugh out loud] and use like low diction words” (Bobbi, age 18, line 259). Katherine defined the difference in these terms:

With school you’re always writing formal things like essays and you have to stick to standard English. . . when you go on MS, it’s more relaxed. You can use slang, create your own words, like seriously, I’ve had friends who create their own words on there. . . funny words, you can mess around” (line 633).

Implications and Conclusions

This paper examined how high school students (ages 17–19) from low-income families used an online social network for social and communicative purposes. A main goal of this work was to uncover what makes this technology so engaging for these students that they have woven these sites into the social and academic fabric of their lives despite, what some would argue, are significant challenges not experienced by their more affluent peers. These challenges include: having to share technology resources with family members, intermittent, itinerant patterns of internet use, and lack of computer resources and internet use at school. Our findings reveal that SNSs served important roles for these students, such that the benefits outweighed the costs. They facilitated emotional support, relational maintenance and provided a platform for self-presentation where students could “be more relaxed,” “mess around,” and perform on their own terms with the social, cultural, and technical tools at their disposal. Students used their online social network to fulfill essential social learning functions, meeting a range of interpersonal needs, including validation and appreciation of creative endeavors, peer support from current and former classmates, and targeted help with school-related tasks. Within their SNS, students engaged in a complex array of communicative and creative endeavors that demonstrated attention to audience, tone, style, subject matter, and writing process. Their ability to craft an online performance and “read” the multimodal, multilayered “texts” of those they sought to communicate with required cognitive skill and visual acumen

that educators (and researchers) are still trying to understand. Moreover, the fact that students identified important academic support and life-transition functions for these technologies but perceived them as little valued by or connected to “school” suggests that we have some work to do. Specifically, we need to understand better the overall formal and informal *learning ecology* (Barron, 2006) such young people inhabit if we are to progress in evolving educational practices and literacy frameworks that are meaningful, relevant, and connected to kids.

At this point SNS-related research is still emerging. Scholarship that exists has focused on such topics as identity construction, impression management, “friending,” network structure, online/offline connections, and privacy issues but has failed to examine young people’s use of these technologies in the complex context of educational experiences (boyd & Ellison, 2007). Our work in this vein is a start and suggests new avenues for researchers in education, communication, and new media studies to explore. For instance, we need further study into how social network sites possibly contribute to students’ academic persistence, achievement, and social well-being in their secondary-to-postsecondary school years. Such research is especially relevant for low-income, first generation college students, and those who aim to improve college access, as these are the student most in need of support, who do not graduate from high school, persist in college, and succeed in higher education at the same rates as students from more affluent, college-educated families (Tinto, 1998; Zhao & Kuh, 2004).

Indeed, prior research suggests disparities among print-based literacy rates of low-income and middle-to-upper income students, with young people from low-income families typically underperforming their more affluent peers (Lee, Grigg & Donahue, 2007). Where technologies are integrated into school curriculum, offering opportunities for students to practice and develop new literacies, differential uses of technology among high- and low-socioeconomic status (SES) schools exist. As previously mentioned, students who are low-income are more likely assigned to using computers for drill and practice activities (Becker, 2000), and such practices threaten to intensify these disparities among literacy rates. To alter such practices, additional research is needed which examines: young learners’ ways of representing themselves and the world in such new media spaces, their ways of communicating and relating, and how these can intersect with and reinforce the kinds of competencies we value in education.

In addition, we need to understand better how young people’s media practices might facilitate—and be designed to facilitate—the kinds of social-academic resources and networks that can support students’ journey toward becoming an educated and fully contributing member of our society (Lessig, 2004). For instance, Kuh (2007) discusses several ways in which to engage nontraditional (i.e. low-income, first-generation) students in postsecondary education and to help them succeed (Kuh, 2007). These include providing students with opportunities to: connect with friends on a meaningful level; receive prompt feedback on academic questions or performances; use their peers as mentors; derive enjoyment from being part of

something larger than themselves; encounter diverse perspectives; and apply what they learn in formal schooling to tackling meaningful problems in their everyday lives. We might capitalize on the kinds of self-made communities of learning students' demonstrate in their social network sites. For instance, we as educators might engage students in reflective discussions on how to more intentionally use existing social networks to further their education and academic/career preparation and promote their academic and professional accomplishments. Such efforts and modeling may be especially important for female students and those from low socioeconomic backgrounds. For instance, in surveying college undergraduates in Illinois, Hargittai and Walejko (2008) found that engaging in the creation of digital content, and sharing what one has created, is related to a person's socioeconomic status; students' from college-educated families were significantly more likely to create original content, either online or offline, rather than simply view what others had created. The researchers concluded: "While it may be that digital media are leveling the playing field when it comes to exposure to content, engaging in creative pursuits remains unequally distributed by social background" (p. 14).

Furthermore, as educators and researchers, we might design and seed youth-initiated niche networks, focused on a particular learning goal or topic or on fostering specific learning strategies and communicative practices. These might be located within or outside of existing social networks. Two examples of this are *Hot Dish* (<http://apps.facebook.com/hotdish>) and *MN Daily* (<http://apps.facebook.com/mndaily>); these student-driven social media publications are located within Facebook.com. They possess social and technical features with which students are largely familiar, as Facebook users, and additional features designed to highlight and encourage content creation, sharing, and play. Although research on each site is currently in progress (Greenhow, 2009), the spaces are designed to facilitate online reading, writing, and networking around a topic of interest, and each features the articulation, display, and use of members' social connections (e.g., Hot Dish is focused on sharing environmental science news, knowledge, ideas and daily experiences, and fostering activism offline and online; MN Daily is focused on college community news and engagement in the college/alumni community).

Finally, we need research that looks at the relationship between students' practices in online environments such as social network sites and their social, emotional, and intellectual development. Here we must go beyond grades and GPA to include alternative forms of assessment such as portfolios, and to examine how what students are doing in such informal learning spaces may relate to, contradict, or suggest new approaches to pedagogy and formal education curriculum. We see our examination of students' communication and literacy practices as a small but important step in this direction that suggests more work is needed to develop research tools and frameworks for future endeavors. For instance, young people's "assemblage" of *multimodal* and *collective* compositions in dynamic online contexts challenged our processes of data collection and analysis. In order to examine young people's development over time, we needed a better plan for how to document and map the flow of text, music, sound,

video, images, layout design, etc. *through the network*. In addition, we felt ill-equipped ourselves to “read” these performances, especially the visual and audio elements that students themselves felt were so important to the message they were trying to convey. We also encountered research design and ethical issues in the conduct of this internet research that warrant further examination (Ess, 2006). For instance, we question whether or not it is important for researchers to “friend” students in order to have data access over time and if it is, what sorts of interactions, presence, or transparency should we enact in these environments to be effective-participant observers. These are just some of our emergent questions. We feel that these emergent technologies hold great promise and challenges for transforming educational research and practice and look to our colleagues to join us in advancing the conversation.

References

- Black, R. W. (2008). Just don't call them cartoons: The new literacy spaces of anime, manga and fanfiction. In J. Coiro, M. Knobel, C. Lankshear, & D. Leu (Eds.), *Handbook of research on new literacies* (pp. 583–610). New York: Lawrence Erlbaum Associates.
- boyd, d. (2006). Friends, friendsters, and top 8: Writing community into being on social network sites,” *First Monday*, **11**(12), (December), Retrieved October 15, 2008 at http://www.firstmonday.org/issues/issue11_12/boyd/.
- boyd, d. (2007). Why youth ♥ social network sites: The role of networked publics in teenage social life. In D. Buckingham (Ed.), *The John D. and Catherine T. MacArthur foundation series on digital media and learning: Youth, identity and digital media* (pp. 119–142). Cambridge, MA: The MIT Press. Retrieved October 9, 2008, from <http://www.mitpressjournals.org/toc/dmal/-/6?cookieSet=1>.
- boyd, d. m., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, **13**(1), article 11.
- Bourdieu, P., Passeron, J.C., & Nice, R. (1990). *Reproduction in education, society, and culture*. New York: Sage.
- Brown, J. S. (2008). How to connect technology and content in the service of learning. *Chronicle of Higher Education*, **55**(8), Retrieved January 24, 2009, from <http://chronicle.com/free/v55/i08/08a12001.htm>.
- Brown, J.S. & Duguid, P. (2002). *The Social Life of Information*. Cambridge: Harvard Business School Press.
- Buckingham, D. (2007). *Beyond technology: Children's learning in the age of digital culture*. Malden, MA: Polity.
- Chandler, D. (1998 September 9). *Personal home pages and the construction of identities on the Web*. Retrieved March 5, 2009, from <http://www.aber.ac.uk/media/Documents/short/webident.html>.
- Childnet International (2007). *Young people and social networking services: A Childnet International research report*. Retrieved September 25, 2008, from <http://www.digizen.org/socialnetworking>.

- Clark, D. A. (1997). Twenty years of cognitive assessment: Current status and future directions. *Journal of Consulting and Clinical Psychology*, **65**, 996–1000.
- Coiro, J., Knobel, M., Lankshear, C., & Leu, D. (2008). Central issues in new literacies and new literacies research. In J. Coiro, M. Knobel, C. Lankshear, & D. Leu (Eds.), *Handbook of research on new literacies* (pp. 1–21). New York: Lawrence Erlbaum Associates.
- College Access Marketing (n.d.) *Achieving college access goals: The relevance of new media in reaching first-generation and low-income teens*. Retrieved September 30, 2008, from http://www.collegeaccessmarketing.org/campaignresourcecenter_ektid232.aspx.
- DeGennaro, D. (2008). Learning designs: An analysis of youth-initiated technology use. *Journal of Research on Technology in Education*, **41**(1), 1–20.
- Donath, J., & Boyd, D. (2004). Public displays of connection. *BT Technology Journal*, **22**(4), 71–82.
- Douglas-Hall, A., Chau, M., & Koball, H. (2006). *Basic facts about low-income children: Birth to age 18*. New York, NY: National Center for Children in Poverty.
- Dwyer, C. (2007). Digital relationships in the 'MySpace' generation: Results from a qualitative study. *Proceedings of the 40th Hawaii International Conference on System Sciences*, USA, 1–10.
- Ellison, N., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends": Exploring the relationship between college students' use of online social networks and social capital. *Journal of Computer-Mediated Communication*, **12**(3), article 1. Retrieved July 30, 2007, from <http://jcmc.indiana.edu/vol12/issue4/ellison.html>.
- Ellison N.B. (2008). Introduction: Reshaping campus communication and community through social network sites. In G. Salaway, J. Borreson, & M.R. Nelson (Vol. Ed.), *The ECAR study of undergraduate students and information technology, 2008: Vol 8*. (pp. 19–32). Educause Center for Applied Research. Boulder, CO: Educause.
- Engestrom, Y. (1987). *Learning by expanding: An activity-theoretical approach to developmental research*. Helsinki: Orienta-Konsultit Oy.
- Erstad, O., Oystein, G. & de Lange, T. (2007). Re-mixing multimodal resources: Multiliteracies and digital production in Norwegian media education. *Learning, Media and Technology*, **32**(2), 183–198.
- Gee, J.P. (1999). *An introduction to discourse analysis*. London: Routledge.
- Granovetter, M. (1973). The strength of weak ties. *The American Journal of Sociology*, **78**(6), 1360–80.
- Greenhow, C. (2008). Commentary: Connecting formal and informal learning in the age of participatory media: A response to Bull et. al. *Contemporary Issues in Technology and Teacher Education*, **8**(3), Retrieved February 28, 2009, from <http://www.citejournal.org/vol8/iss3/editorial/article1.cfm>.
- Greenhow, C. (2009 April). *Connecting youths' social, civic, and educational lives through action-oriented Facebook publications*. Presentation to the third annual HASTAC Conference "Traversing Digital Boundaries." University of Illinois at Urbana-Champaign, April 19–21, 2009.
- Greenhow, C. & Robelia, E. (2009). Informal learning and identity formation in online social networks. *Learning, Media and Technology*, **34**(2), 119–140.

- Greenhow, C., Robelia, E., & Hughes, J. (2009). Web 2.0 and classroom research: What path should we take *now*? *Educational Researcher*, **38**(4), 246–259.
- Greenhow, C., Robelia, E., & Hughes, J. (2009). Research on learning and teaching with Web 2.0: Bridging conversations. *Educational Researcher*, **38**(4), 280–283.
- Greenhow, C. & Kim, S. (2009). *Examining low-income students' access and use of online social network sites as social learning spaces*. Manuscript in preparation.
- Greenhow, C., Kim, S. & Robelia, B. (2008 March). *Examining the intersections of online social networks, pedagogy, and engagement among low-income students*. Paper presented at the American Educational Research Association, New York, New York, March 24–28.
- Greenhow, C., Walker, J.D., & Kim, S. (2009). *Millennial learners and net-savvy teens?: Examining internet use among low-income students*. Manuscript submitted for publication.
- Gross, R., & Acquisti, A. (2005). Information revelation and privacy in online social networks. *Proceedings of WPES'05* (pp. 71–80). Alexandria, VA: ACM.
- Hargittai, E. (2007). Whose space? Differences among users and non-users of social network sites. *Journal of Computer-Mediated Communication*, **13**(1), article 14. Retrieved September 29, 2008, from <http://jcmc.indiana.edu/vol13/issue1/hargittai.html>.
- Hargittai, E. & G. Walejko. (2008). The participation divide: Content creation and sharing in the digital age. *Information, Communication and Society*.
- Herring, S. C. (2007). Questioning the generational divide: Technological exoticism and adult construction of online youth identity. In: D. Buckingham (Ed.), *Youth, Identity, and Digital Media* (pp. 71–94). Cambridge, MA: MIT Press. Retrieved January 30, 2009, from <http://ella.slis.indiana.edu/~herring/macarthur.pdf>.
- Hewitt, A., & Forte, A. (2006 November). *Crossing boundaries: Identity management. student/faculty relationships on the Facebook*. Paper presented at the the Computer-supported Cooperative Work Conference, Banff, Alberta, Canada.
- Hull, G. A., & Nelson, M.E. (2008 March). *Youth-designed social networking: Literacies, identities, and relationships at the intersection of online and offline experience*. Paper presented at the meeting of the American Educational Research Association, New York, NY.
- Hull, G., & Nelson, M.E. (2005). Locating the semiotic power of multimodality. *Written Communication*, **22**(2), 224–62.
- Jenkins, H. (1992). *Textual poachers: Television fans and participatory culture*. London: Routledge.
- Jenkins, H. (2006). *Confronting the challenges of participatory culture: Media education for the 21st Century*. White paper for the MacArthur Foundation. Retrieved on July 1, 2008, from www.digitalllearning.macfound.org.
- Jones, S., Millermaier, S., Goya-Martinez, M., & Schuler, J. (2008). Whose space is MySpace? A content analysis of MySpace profiles. *First Monday*, **13**(9). Retrieved October 5, 2008, from <http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2202/2024>.
- Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). internet paradox revisited. *Journal of Social Issues*, **58**(1), 49–74.
- Kress, G. (2003). *Literacy in the new media age*. New York: Routledge.

- Kuh, G.D. (2007). How to help students achieve. *Chronicle of Higher Education*, **53**(41), Retrieved January 24, 2009, from <http://chronicle.com/weekly/v53/i41/41b01201.htm>.
- Lange, P. G. (2007). Publicly private and privately public: Social networking on YouTube. *Journal of Computer-Mediated Communication*, **13**(1), article 18. Retrieved October 15, 2008 from <http://jcmc.indiana.edu/vol13/issue1/lange.html>.
- Lankshear, C. and Knobel, M. (2006). *New literacies: Everyday practices and classroom learning*. 2nd edn. Maidenhead & New York: Open University Press.
- Lee, J., Grigg, W., & Donahue, P. (2007). *The nation's report card: Reading 2007* (NCES 2007–496). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, Washington, D.C.
- Lenhart, A., Arafeh, S., Smith, A., & McGill, A.R. (2008 April). *Writing, technology, and teens*. Washington, DC: Pew Charitable Trusts. Retrieved September 29, 2008, from http://pewinternet.org/pdfs/PIP_Writing_Report_FINAL3.pdf.
- Lenhart, A., & Madden, M. (2007 January 3). *Pew Internet Project Data Memo*. Washington, DC: Pew Charitable Trusts. Retrieved September 29, 2008, from http://www.pewinternet.org/pdfs/PIP_SNS_Data_Memo_Jan_2007.pdf.
- Lenhart, A., Madden, M., & Hitlin, P. (2005 July). *Teens and technology*. Washington, DC: Pew Charitable Trusts. Retrieved September 29, 2008, from http://www.pewinternet.org/pdfs/PIP_Teens_Tech_July2005web.pdf.
- Lenhart, A., Madden, M., Macgill, A.R. & Smith, A. (2007 December 19). *Teens and social media*. Washington, DC: Pew Charitable Trusts.
- Lessig, L. (2004). *Free culture*. New York: Penguin. Retrieved March 12, 2009, from http://www.ibiblio.org/ebooks/Lessig/Free_Culture/Free%20Culture.htm#p116#nav.
- Leu, D. J., O'Byrne, I., Zawilinski, J., McVerry, G., & Everett-Cacopardo, H. (in press). Expanding the new literacies conversation. *Educational Researcher*.
- Levin, D., Arafeh, S., Lenhart, A., & Rainie, L. (2002 August). *The digital disconnect: The widening gap between Internet-savvy students and their schools*. Washington, DC: Pew Internet & American Life Project. Retrieved October 1, 2008, from http://www.pewinternet.org/PPF/r/67/report_display.asp.
- Lewis, C., & Fabos, B. (2005). Instant messaging, literacies, and social identities. *Reading Research Quarterly*, **40**(4), 470–501.
- Livingstone, S., Van Couvering, E., & Thumin, N. (2008). Converging traditions of research on media and information literacies. In J. Coiro, M. Knobel, C. Lankshear, & D. Leu (Eds.), *Handbook of research on new literacies* (pp. 103–132). New York: Lawrence Erlbaum Associates.
- Mazer, J. P., Murphy, R. E., & Simonds, C. J. (2007). I'll see you on "Facebook:" The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. *Communication Education*, **56**(1), 1–17.
- National School Board Association (2007 July). *Creating and connecting: Research and guidelines on social—and educational—networking*. Retrieved September 22, 2008, from www.nsba.org/SecondaryMenu/TLN/CreatingandConnecting.aspx.

- Partnership for 21st Century Skills. (2008). *21st Century skills, education & competitiveness: A resource and policy guide*. Retrieved September 30, 2008, from http://www.21stcentury skills.org/documents/21st_century_skills_education_and_competitiveness_guide.pdf.
- Perkel, D. (2008). Copy and paste literacy? Literacy practices in the production of a Myspace profile. In K. Drotner, H. S. Jensen & K. C. Schroeder (Eds.), *Informal learning and digital media: Constructions, contexts, consequences* (pp. 203–224). Newcastle, UK: Cambridge Scholars Press.
- Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9(5).
- Rogers, M. C., Taylor, B., Cunning, D., Jones, M., & Taylor, K. (2006). Parental restrictions on adolescent internet use. *Pediatrics*, 118(4), Retrieved October 5, 2008, from <http://pediatrics.aappublications.org/cgi/reprint/118/4/1804>.
- Salaway, G., Borreson, J., Nelson, M.R., (2008). *The ECAR study of undergraduate students and information technology, 2008: Vol 8*. (Educause Center for Applied Research). Boulder, CO: Educause.
- Sheehy, G. (2008 August). Campaign Hillary: Behind closed doors. *Vanity Fair*, 79–86.
- Steinkuehler, C. (2008). Cognition and literacy in massively multiplayer online games. In J. Coiro, M. Knobel, C. Lankshear, & D. Leu (Eds.), *Handbook of research on new literacies* (pp. 611–134). New York: Lawrence Erlbaum Associates.
- Strauss, A. & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. London: Sage Publications.
- Thurlow, C. (2003). Generation Txt? The sociolinguistics of young people's text-messaging. *Discourse Analysis Online*, 1(1). Retrieved February 27, 2009, from <http://extra.shu.ac.uk/daol/articles/v1/n1/a3/thurlow2002003-paper.html>.
- Thurlow, C. (2006). From statistical panic to moral panic: The metadiscursive construction and popular exaggeration of new media language in the print media. *Journal of Computer-Mediated Communication*, 11(3), article 1.
- Thurlow, C., Lengel, L. & Tomic, A. (2004). *Computer mediated communication: Social interaction on the internet*. London: Sage.
- Tinto, V. (1998). Colleges as communities: Taking research on student persistence seriously. *Review of Higher Education*, 21(2), 167–177.
- Walther, J.B., & Parks, M.R. (2002). Cues filtered out, cues filtered in: Computer mediated communication and relationships, In M, L, Knapp, J, A, Daly & G, R, Miller (Eds), *The handbook of interpersonal communication* (3rd Ed.), Thousand Oaks, CA: Sage.
- Warschauer, M. (2007). A teacher's place in the digital divide. In L. Smolin, K. Lawless, & N. C. Burbules (Eds.), *Information and communication technologies: Considerations of current practices for teachers and teacher educators: 106th Yearbook of the National Society for the Study of Education, Part 2* (pp. 157–166). Malden, MA: Blackwell.
- Warschauer, M. & Ware, P. (2008). Learning, change, and power: Competing frames of technology and literacy. In J. Coiro, M. Knobel, C. Lankshear, & D. Leu (Eds.), *Handbook of Research on New Literacies* (pp. 215–240). New York: Lawrence Erlbaum Associates.
- Wellman, B., Haase, A.Q., Witte, J., & Hampton, K. (2001 November). Does the internet increase, decrease, or supplement social capital? Social networks, participation, and community commitment. *American Behavioral Scientist*, 45(3), 437–56.

- Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Zhao, C. and Kuh, G. D. (2004). Added value: Learning communities and student engagement. *Research in Higher Education*, 45(2), 115–138.

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