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Instant messaging, literacies, and social identities

CYNTHIA LEWIS
University of Iowa, Iowa City, USA

BETTINA FABOS
Miami University, Oxford, Ohio, USA

Everybody does it. It's like I've grown up on it. It's like how you felt about stuff when you were growing up.

—*Sam*

Sam, a 14-year-old girl, was one of seven participants in this study of young people's uses of Instant Messaging (IM). We want to take a moment to consider Sam's comment as a way of providing a conceptual framework for this study. To Sam, IM did not feel like *technology*, a term associated in many people's minds with objects that are complicated and difficult to understand or operate. When technology becomes "normal" in this way, it is no longer complicated, nor is it notable to its users. It is a fact of life, a way of being in the world, a producer of social subjects that find it unremarkable—so unremarkable that it seems "everybody does it."

The social subject that develops in relation to this invisible technology is one who expects access, expects to be connected to friends at the stroke of a key, and expects to read and write in particular ways that lead to fulfilling connections with those friends. As Bourdieu (1997) put it, "The experience of a world that is 'taken for granted' presupposes agreement between the dispositions of the agents and the expectations or demands immanent in the world into which they are inserted" (p. 147).

Sam's dispositions and the expectations placed upon her were in agreement. But it is important to note that these expectations did not emanate from her world at home. We suspect that because of Sam's assumption that "everybody does it," readers are imagining Sam to be middle class with economic resources that would locate her on the advantaged side of the digital divide. This was not the case. Sam happened to live in a community that had very inexpensive, municipally owned cable access, making home Internet access possible across class lines. Sam's parents

ABSTRACTS

Instant messaging, literacies, and social identities

THIS STUDY examined the functions of Instant Messaging (IM) among seven youths who regularly used this digital technology in their daily lives. Grounded in theories of literacy as a social and semiotic practice, this research asked what functions IM served in participants' lives and how their social identities shaped and were shaped by this form of digital literacy. To answer these questions, we conducted interviews and videotaped IM sessions, adapting a verbal reporting procedure to document the IM strategies used. Data analysis involved using qualitative coding procedures informed by grounded theory (Strauss, 1987; Strauss & Corbin, 1990), which led to three patterns related to the functions of IM: language use, social networks, and surveillance. On the level of language use, participants manipulated the tone, voice, word choice, and subject matter of their messages to fit their communication needs, negotiating multiple narratives in the process. On the level of social networks, they designed their practice to enhance social relationships and statuses across contexts. And on the level of surveillance, they circulated texts across buddies, combated unwanted messages, assumed alternative identities, and overcame restrictions to their online communication. These functions revealed that the technological and social affordances of IM, particularly related to patterns of circulation and the hybrid nature of textuality, give rise to a performative and multivoiced social subject. Based on our findings, we discuss new conceptual directions for envisioning the teaching and learning of literacy in digitally mediated times.

Mensajes instantáneos, alfabetización e identidad social

ESTE ESTUDIO examinó la funciones de la tecnología de los mensajes instantáneos (IM) entre siete jóvenes que usaban regularmente esta tecnología en su vida cotidiana. Sobre la base de las teorías de la alfabetización como una práctica social y semiótica, esta investigación se preguntó qué funciones cumplía IM en las vidas de los participantes y cómo su identidad social conformaba y era conformada por esta forma de alfabetización digital. Para responder a estas preguntas, condujimos entrevistas y grabamos en video sesiones de IM, adaptando un protocolo de registro verbal para documentar las estrategias de IM usadas. El análisis de los datos incluyó procedimientos de codificación cualitativa basados en la teoría fundamentada ("grounded theory," Strauss, 1987; Strauss & Corbin, 1990) que condujo a tres patrones relacionados con las funciones de IM: uso del lenguaje, redes sociales y vigilancia. En cuanto al uso del lenguaje, los participantes manipularon el tono, la voz, la elección de palabras y el tema de los mensajes para satisfacer sus necesidades comunicativas, negociando narrativas múltiples en el proceso. En el plano de las redes sociales, diseñaron su práctica para promover relaciones sociales y estatus en los distintos contextos. Finalmente en el nivel de la vigilancia, hicieron circular textos entre amigos, deshecharon mensajes no deseados, asumieron identidades alternativas y superaron restricciones a la comunicación online? Estas funciones revelaron que los recursos tecnológicos y sociales de IM, relacionados particularmente a patrones de circulación, así como la naturaleza híbrida de la textualidad, dan lugar a un sujeto social performativo y con diversas voces. Basados en nuestros hallazgos, discutimos nuevas direcciones conceptuales para concebir la enseñanza y el aprendizaje de la alfabetización en los tiempos mediados por la digitalización.

Instant Messaging, Schreib- und Leseausbildung und soziale Identitäten

DIESE STUDIE untersuchte die Funktionen von Instant Messaging (IM) unter sieben Jugendlichen, die regelmäßig diese digitale Technologie in ihrem täglichen Leben benutzten. Fundiert in Theorien der Schreib- und Leseausbildung als soziale und semiotische Praxis, befragte diese Forschung welche Funktionen IM dem Leben der Teilnehmer diente und wie sich durch diese Form des digitalen Schreibens und Lesens ihre sozialen Identitäten gestalteten und sie geprägt wurden. Um diese Fragen zu beantworten, führten wir Interviews und Videoaufzeichnungen der IM Treffen durch, indem wir eine mündliche Berichterstattung zum Dokumentieren der angewandten IM Strategien festlegten. Die Datenanalyse umfaßte die Anwendung qualitativer Kodierungsprozesse, instruiert durch grundlegende Theorien (Strauss, 1987, Strauss & Corbin, 1990), welche zu drei Verhaltensmustern bezogen auf die Funktionen von IM führten: Sprachgebrauch, soziale Verknüpfungen, sowie Kontrollübersicht. Auf der Ebene der Sprachanwendung manipulierten die Teilnehmer Ton, Stimme, Wortwahl und Thema ihrer Mitteilungen in Anpassung ihrer Kommunikationsbedürfnisse, in deren Verlauf sie vielschichtige Schilderungen umsetzten. Sie gestalteten ihre Verhaltensweisen auf der Ebene sozialer Verknüpfungen zur Festigung sozialer Beziehungen und Statusverbesserungen quer durch die Kontexte. Und im Bereich der Kontrollübersicht verbreiteten sie Texte untereinander zwischen Freunden, bekämpften unerwünschte Mitteilungen, nahmen altenative Identitäten an und überwanden Einschränkungen ihrer Online-Kommunikation. Diese Funktionen ergaben, daß die technologischen und sozialen Möglichkeiten von IM, besonders bezogen auf Verbreitungsmuster und der Zwitterart in der Textualisierung, auf einen leistungssteigernden und vielstimmigen sozialen Inhalt schließen lassen. Basiernd auf unsere Erkenntnisse, diskutieren wir neu konzipierte Richtlinien für zukünftiges Unterrichten und Erlernen des Schreibens und Lesens in digital-mediabezogenen Zeiten.

インスタント・メッセージング、リテラシーズ、社会的アイデンティティーズ

本研究は、日常生活でインスタント・メッセージング(IM)を定期的に使用する若者7人間でそのデジタルテクノロジーの機能を調べた。社会的且つ記号的実践としてのリテラシーの理論に基礎を置き、本研究は、参加者の生活でIMがどのような役割を果たしていたのか、また彼らの社会的アイデンティティーズが、どのようにこの形態のデジタルリテラシーを形作り、それによってどのように形作られるのかを問うた。こうした疑問に答えを見出すため、インタビューを行い、IMの様子をビデオ撮影し、使用されたIM方略に関して証拠を提供するため、言葉による報告手順を改作した。データ分析は、データに根ざした理論(Strauss, 1987; Strauss & Corbin, 1990)に基づいた質的符号化手順を含み、その結果、言語使用、社会的ネットワーク、監視というIMに関連した３つのパターンに至った。言語使用のレベルにおいて、参加者達は、自分達のコミュニケーションニーズに適応するためにメッセージのトーン、ボイス、単語選択、そして内容を操作し、その過程で多重ナラティブを交渉した。社会的ネットワークのレベルにおいて、彼らは、状況を越えて社会的関係や地位を高めるために、自分達の実践を設計した。そして、監視のレベルにおいて、彼らは、仲間を越えテキストを回し、不必要なメッセージに抵抗し、別のアイデンティティーズを装い、オンラインコミュニケーションへの制限を克服した。こうした機能は、IMの技術的及び社会的アフォーダンス、特に循環のパターンとテキスト性の混淆的性質に関連したものが、遂行的で多重声を持つ社会的主体を生み出す。こうした結果に基づき、私達は、デジタルによって媒介された時代におけるリテラシーの教授と学習を描くための新しい概念的方向を議論する。

Messagerie instantanée, littératies, et identités sociales

CETTE ÉTUDE porte sur les fonctions de la messagerie instantanée (MI) chez sept jeunes qui utilisent régulièrement cette technologie numérique dans leur vie de tous les jours. Cette recherche, qui repose sur les théories de la littératie en tant que pratique sociale et sémiotique, interroge les fonctions de la MI dans la vie des participants et la façon dont leur identité sociale façonne et est façonnée par cette forme de littératie numérique. Pour répondre à ces questions, nous avons conduit des entretiens et vidéoscopé des séquences de MI, en adaptant une procédure de rapport verbal pour avoir des informations sur les stratégies de MI utilisées. L'analyse des données comportait l'utilisation de procédures de codage qualitatif reposant sur les théories de référence (Strauss, 1987 ; Strauss & Corbin, 1990), ce qui a fait apparaître trois patrons liés aux fonctions de la MI : l'utilisation du langage, les réseaux sociaux, et la surveillance. Au niveau de l'utilisation du langage, les participants manipulent le ton, la voix, le choix des mots et le contenu de leurs messages pour s'adapter à leurs besoins de communication, en négociant des histoires multiples dans ce processus. Au niveau des réseaux sociaux, ils organisent leurs pratiques de sorte à améliorer leurs relations et leurs positions sociales selon le contexte. Et, au niveau de la surveillance, ils font circuler des textes entre copains, combattent les messages indésirables, assument des identités alternatives, et viennent à bout des restrictions relatives à leur communication directe. Ces fonctions révèlent que les apports technologiques et sociaux de la MI, liés particulièrement aux patrons de circulation et à la nature hybride de la textualité, donnent naissance à un sujet social performant et pluriel. A partir de ces résultats, nous discutons de nouvelles directions conceptuelles pour envisager l'enseignement et l'apprentissage de la littératie en ce temps de médiation numérique.

Сетевое общение, грамотность и социальная идентификация

Настоящее исследование посвящено общению с помощью мгновенных сообщений (Instant Messaging – IM) семи молодых людей, которые используют эту цифровую технологию ежедневно. На основе теории грамотности как социальной и семиотической практики рассматривались вопросы: какую функцию выполняет IM в жизни участников исследования и как формируется их личность с помощью этой формы грамотности. Чтобы ответить на эти вопросы, мы провели интервью и делали видеосьемку общения в “аське”, сопровождая ее устным комментарием, описывающим стратегии, которые используют участники IM общения. Анализ полученных данных включал в себя использование качественных процедур кодирования, имеющих серьезное теоретическое обоснование (Strauss, 1987; Strauss и Corbin, 1990). В итоге, функции IM были подразделены на три группы: использование языка, социализация и отслеживание происходящего. В плане использования языка участники манипулировали интонацией, настроением, выбором слов и тематикой своих сообщений в соответствии коммуникационными потребностями, общаясь одновременно с разными людьми. В плане социальных связей они действовали так, чтобы упрочить свои социальные отношения и статус в разных контекстах. В плане отслеживания происходящего, они пересылали тексты своим приятелям, боролись с нежелательными сообщениями, писали от чужого лица и преодолевали ограничения в он-лайн связи. Эти функции IM показали, что технологические и социальные возможности такого общения, особенно связанные с различными типами распространения текстов и их смешанной смысловой структурой, развивают активную и многогранную социальную личность. На основе полученных результатов обсуждаются новые концептуальные направления развития обучения и формирования грамотности в эпоху электронных технологий.

were custodians who placed high value on their children's education and managed to purchase a computer to provide Sam with what they perceived to be a school advantage. Her mother found the computer to be mysterious and confusing—in other words, technological. Her father was an avid Internet user, but with concerns about Sam's interest in IM. Our point, for now, is that through the happenstance of living in a community with inexpensive cable access, through daily use, through peers who stayed connected, through generational and other social identities that we will discuss in this article, and through all the social codes and practices that come with these social identities, Sam was positioned as a social subject who took IM for granted—one who had ways of reading and writing that were natural to her as part of her daily practice with IM. These ways of reading and writing through a technology that she did not view as technological were different than ours, and, we suspect, different than most of her teachers.

The anxiety that results from this difference has been discussed by Luke and Luke (2004):

> The perception of crisis [over perceived loss of print literacy] is an artifact of a particular generational anxiety over new forms of adolescent and childhood identity and life pathways: fundamental ontological and teleological changes in childhood traceable to global economies, cultures, and technologies. (p. 105)

Here, they make clear that the crisis is not to be found in the child or adolescent as subject, but in the teacher, researcher, and policymaker as the adult subject whose anxieties about new adolescent identities lead to the valorization and reification of print culture.

We are interested in the kind of social subject constructed through IM—the social identities that shape and are shaped by the practice of IM. To this end, we examined the uses of IM among seven youth (four females and three males) who regularly used this technology in their daily lives. We wanted to know what functions IM served in their lives: For what purposes did they use this form of digital literacy? For what reasons and under what circumstances did they find it most compelling? These are the research questions that led us to understand more about our participants as social subjects who shape and are shaped by particular technologies. It is our hope that insights gleaned from this research will help us to make school literacy more engaging for students and more meaningful to their present and future lives in a digitally mediated world.

Instant messaging (IM) came of age in 2000. Although the interactive message tool dates back to the 1970s, when researchers began to send real-time text messages on Unix-based networks, the technology became instantly popular in the late 1990s, when America Online (AOL) engineers introduced the Buddy List (Guernsey, 2001). The list basically allows users to manage multiple simultaneous exchanges and also track their buddies' appearances and disappearances. Internet users, and young people especially, gravitated to the social and playful exchange tool, and IM became a communication phenomenon. Industry insiders called IM the latest "Killer App" (Weise, 2000), and technology trackers projected that IM would surpass e-mail as the primary online communication tool by 2005 (Latchford, 2003). By 2003, 70% of online teens ages 12–17 used instant messaging. One fourth of all online teens see IM as their main communication tool (Zucco, 2003). In the United States, IM use among youth has surpassed that of other forms of Information and Communication Technology (ICT), including chat rooms (Herring, 2004). Although users typically manage three or more ongoing exchanges at once (Lenhart, Rainie, & Lewis, 2001), each IM exchange is dyadic.

In light of its popularity among youth and the fact that reading and writing are central to its practice, IM seems an important form of literacy for researchers and educators to examine. IM motivates young people to engage in decoding, encoding, interpretation, and analysis, among other literacy processes, and yet very little empirical work has focused on this form of digital literacy. The published work that is available uses data clips from the findings of larger IM studies in order to make conceptual arguments (Lewis & Fabos, 2000; Lewis & Finders, 2002) or methodological ones (Jacobs, 2004). This research represents an empirical study meant to fill that gap.

Theoretical framework

This study is grounded in theories of literacy as a social practice, especially as such literacies have been shaped by digital technologies (Kress, 2003; Lankshear & Knobel, 2003). Often referred to as the "New Literacy Studies" (Barton & Hamilton, 1998), "social literacies" (Gee, 1996; Street, 1995), or "situated literacies" (Barton, Hamilton, & Ivanic, 2000), theories of literacy as a social practice have shifted attention away from models based in psychology that emphasize individual cognition to models based in

sociology, linguistics, literary theory, and anthropology that focus on the social, cultural, and political contexts of literacy.

Whereas New Literacy Studies informed our view of the dynamic, socially inscribed nature of IM activity, it did not provide a theory of identity to help us understand how our participants used IM to enact particular versions of self at particular times. Hall's (1996) take on identity as temporary attachments constructed within discursive practices has served this purpose. According to Hall, identities are positions we take up as though they are stable and cohesive. In a similar vein, Moje (2004) referred to identity positions as enactments of who we might be at a given time, in a given context, within a given set of social, economic, and historical relations. In this sense, at the same time that attachments or enactments of identity are generative and creative, they also instantiate economic and social structures.

Our identities shape and are shaped by what counts as knowledge, who gets to make it, who receives it, and so forth. As Kress, Jewitt, and Tsatsarelis (2000) pointed out in an article on the effects of new representational modes on educational practice, it is at the intersection of identity, knowledge, and pedagogy that social subjects are formed. The production of social subjects related to print literacies has been well established (see, for instance, Luke, 1992, 1994). Given the central role that identity plays in teaching and learning, we are interested in the kind of social subject constructed through IM practices and, moreover, how social identities shape the nature of IM practices.

This research is about a representational mode that blurs the boundaries of what many consider to be literacy. It is important that we define what we mean by the term. For the purposes of this article, we define *literacy* as the range of practices involved in the alphabetic coding of socially and culturally relevant signs and symbols (de Castell & Luke, 1986; Kress, 2003; Warshauer, 2002). Along with Kress (1997) and others, we view all signs, including all uses of print, as multimodal. The last two decades have brought important shifts in the meaning of literacy, underscoring its connection to orality (a position with a long history, of course) and ideology (Street, 1995). Yet those who have been most responsible for these shifts have continued to use literacy to refer to reading and writing in all of their social, cultural, political, and historical resonances (Heath, 1983; Street). We continue in that tradition of using the term as it relates specifically to reading and writing, in part because literacy when used to refer to all forms of knowledge (i.e., math literacy) or modes of communication (i.e., visual literacy) is too vague to be useful to educators and researchers. Our interest is quite specifically in how reading and writing (albeit in consort with other modes) are used within a specific computer-mediated communication (IM).

The term *literacy practices* has a special meaning among those who study the social nature of literacy within the framework of New Literacy Studies. These researchers are careful to distinguish between literacy events and literacy practices (Barton & Hamilton, 1998; Street, 1995). Literacy events are defined as any event involving a written text. Literacy practices, on the other hand, are what can be inferred from observable literacy events as embedded within broader social and cultural norms. Practices, the focus of our attention in this study, are more abstract, related to matters of codes and conventions, beliefs and attitudes, and legitimation and control. The next section reviews literature that points to changes in the nature of literacy practices as they relate to digital literacies.

Digital literacies and changing practices

Although a number of studies include IM among discussions of other digital literacies or practices (Chandler-Olcott & Mahar, 2003; Holloway & Valentine, 2003; Snyder, Angus, & Sutherland-Smith, 2002; Young, Dillon, & Moje, 2002), there are very few studies as of yet that directly examine the social, textual, or pedagogical implications of IM (Jacobs, 2004; Lenhart et al., 2001; Lewis & Fabos, 2000; Lewis & Finders, 2002). Given the dearth of research directly related to IM, the following literature review will focus on two central features of digital literacies that informed our understanding of our participants' IM practices—social mediation and multimodality.

A caveat is necessary before we begin our review. Much of the scholarship having to do with digital literacies has focused on the differences between print and digital technologies, the resulting epistomogical shifts, and the need for educators to rethink what it means to teach and learn in light of these shifts (Alvermann, 2002; Kellner, 2002; Lankshear & Knobel, 2003). Meanwhile, some scholars (Kellner; Manovich, 2001) point to important continuities as well, arguing, for instance, that features typically attributed to digital literacies—that they are more interactive, lateral, and multimodal—can also

be attributed to print literacies. Both the discontinuities and the continuities informed our study of IM users. We were interested in how our participants' online reading and writing included practices unlike those they ordinarily engaged in offline and offscreen. However, we were also interested in the ways that their online reading and writing practices may have been shaped by their print practices, thus providing through regular IM activity more experiences with the reading and writing processes and skills valued in school.

Digital literacies are socially mediated

All writing is socially mediated, but the social aspects of IM are writ large. Indeed, the maintenance of social relationships has been found to be a central function of online communication networks in general, both for the purpose of sustaining close friendships and for establishing and maintaining casual ties. However, unlike face-to-face social groups, in which one can passively participate just by being present, online communication networks require active participation if one is to receive social benefits (Wellman, 2001). In addition to fostering relationships online, another well-documented function of online networks is the maintenance of offline social networks (Holloway & Valentine, 2003; Leander & McKim, 2003; Valentine, Holloway, & Bingham, 2000). Early fears aside, online communication appears not to have displaced face-to-face interactions and may well play a role in sustaining them (Baym, 2002; Wellman, 2004).

It is clear that technology and sociality are intertwined in the case of online communication networks, but the socially mediated nature of technology in all its forms is less obvious. Literacy has always employed available technologies—stylus, pen, printing press, and now digitized code. However, once a technology becomes commonplace, people tend not to think of it as technological (Lankshear & Snyder, 2000). As Herring (2004) pointed out, young people with Internet access have come to naturalize IM and chat as an ordinary part of their lives. Bolter and Grusin (2000) used the term *remediate* to describe the process by which new technologies incorporate elements of established technologies. IM incorporates elements of phone exchanges and note passing, for instance, but its status as a new technology is already evolving. It is not the computer or the Internet itself that is central to literacy but the way that these tools of technology shape social relations and practices (Bigum, 2002; Bruce, 1997; Holloway & Valentine, 2003). It follows, then, that IM would enable particular kinds of literacy practices and constrain others, therefore shaping and being shaped by the social identities of its users.

Digital literacy is multimodal

IM, like other forms of digital literacy, is inescapably multimodal and becoming more so with the increasing availability of mobile phones, short message services, photo attachments, video-streaming capabilities, and interactive video. Although literacy has always been multimodal (relying at the very least on visual and aural cues), contemporary literacy practices rely on an increasingly complex range of modalities. The visual mode is particularly salient, with writing displayed alongside image (or with writing displayed graphically as image), demanding a set of semiotic skills that is not commonly part of the reading repertoire in today's schools. As Kress argued (2003), the linguistic elements of texts are becoming less complex (e.g., fewer embedded clauses) while the visual elements are becoming more so, shifting the focus from linguistic features to elements of design. Even linguistically, IM is multimodal at its core in that it blurs the distinction between speech and writing (Luke, 2003). As with other forms of chat, "talk" in IM is a written performance (Baym, 2002; Kress, 2003).

Some scholars suggested that these changes in textual form and function come with a change in literacy practices (Leu, 2000; New London Group, 1996, 2000; Reinking, 1998; Reinking, Labbo, & McKenna, 2000). From this perspective, readers and writers regularly make meaning across modes, laterally. They sample the multimodal resources available to them (often on the screen), creating coherence from the panoply of surface features and the juxtapositions of texts and genres and modes (Luke, 2003). With the focus on design, the process of critical analysis centers on intertextual reading, not only across texts but also across genres and modes (Buckingham & Sefton-Green, 1995; Leu, 2000; Myers, Hammett, & McKillop, 1998). In this move "from page to screen" (Snyder, 1997) deep analysis or reflection—the sort of reading we suspect many readers of this article will find most comfortable—can be viewed as one way of reading, rather than the only way to be a competent reader (Kress, 2003).

Although it is the case that lateral reading has always been part of the reading repertoire (skimming a textbook chapter, for example), these scholars have suggested that typical online formats require reading (and writing as well) across modes and genres as a central, rather than peripheral, skill. Given an

increasing dependence on digital reading and writing for professional, community, and household purposes, the reading and writing instruction common to most classrooms may be inadequate to prepare students for a wide range of reading and writing purposes and practices.

Lankshear and Knobel (2003) argued that new literacies have led to new social practices related to producing, representing, and consuming knowledge. They describe these changing epistemologies as "more performance- and procedure-oriented than propositional, more collaborative than individualistic, and more concerned with making an impact on attention, imagination, curiosity, innovation, and so on, than with fostering truth, engendering rational belief, or demonstrating their justifiability" (p. 176).

This being the case, educators may want to promote flexible ways of knowing through literacy practices that work to foster such epistemologies. For instance, Lankshear and Knobel (2002) suggested "scenario planning" (pp. 25–27), a method of problem solving, decision making, and strategic planning for imagined futures. The emphasis in their work is on learning as an imaginative, divergent process that mixes modes, genres, roles, and environments. Other literacy scholars believe that what is needed in these times of multitasking and information overload is to slow down. Rather than worrying about covering works of literature, for instance, Sumara (2002) eloquently articulated the benefits of deliberative, reflective readings of literature in ways that invite readers to reinvent themselves as reading subjects. Burbules and Callister (2000) and Fabos (2004) argued for careful, critical readings of Internet sites and texts to uncover the politics of representation and commercial sponsorship. None of the work on digital literacies (or on new literacies, more generally) advocates for what anecdotally appears to be commonplace in many schools. That is, none of the scholarship argues for leaving new literacies outside the classroom door for fear that they might interfere with preparation for high-stakes tests, or that they are fraught with too many controversies, or simply that young people are doing quite well with these practices on their own time and the job of schools is to focus on more traditional forms of literacy.

This theoretical and empirical work on the socially mediated and multimodal nature of digital literacies informed our understanding of IM practices but also suggested avenues to us in need of research. Because so little empirical research on IM has been conducted, and few of the chat room studies (the closest cousin to IM) have focused on educational or literacy-related issues, we have much to learn about what compels many young people to spend a good chunk of time every day reading and writing IM messages.

Methods

Research participants and site

There were seven primary participants in this qualitative study (four girls and three boys), and they were all European American and between the ages of 14 and 17 (see Table 1). Sam (female), Karrie, Andy (male), Brian, and Abby were 14 during the time of our interviews; Carla was 15, and Jake was 17. (All names are pseudonyms.) Studies of computer-mediated communication often focus on middle class users. Our study includes two participants from working class families. Sam's and Abby's parents held blue-collar jobs. The families of the other participants were middle class, with parents working in the professional or business sectors.

Six participants—all but Carla—were from a midsize midwestern university town in the United States. Because the town was also adjacent to a larger city, the participants lived in a diverse metropolitan area of over 100,000 people. The town is unique from a technological standpoint because it boasts

TABLE 1
PRIMARY RESEARCH PARTICIPANTS

Name	Sex	Social class	Age	School type
Abby	F	working	14	Public high school, 9th grade
Andy	M	middle	14	Parochial junior high, 8th grade
Brian	M	middle	14	Parochial junior high, 8th grade
Carla	F	middle	15	Public high school, 10th grade
Jake	M	middle	17	Public high school, 12th grade
Karrie	F	middle	14	Public junior high, 8th grade (in another state)
Sam	F	working	14	Parochial junior high, 8th grade

one of the few municipally owned cable systems in the country. In 1994, town residents approved the creation of a new fiber-optic cable network that would compete with cable conglomerate TCI and make both cable and high-speed Internet services a public utility. Residents, businesses, and public institutions in this town have thus enjoyed speedy Internet connections for over half a decade. Because of this low-cost cable connection, we were able to include participants at different socioeconomic levels who had cable access.

We identified our first three participants, Sam, Abby, and Carla, through purposive sampling. We wanted participants who were avid and dexterous IM users with Internet access in the home and some degree of rapport with one of us. Avid participation and home access seemed important, given the scarcity of empirical research on this topic. We wanted to be certain that we were studying young people who would have enough experience with IM to shed light on the practice. Bettina, coauthor of this article, knew Sam and Abby as occasional babysitters for her daughter. She was aware of their regular IM use and had an established rapport with both girls. We reasoned that an easy rapport would be essential to this study, given that the participants were being asked to share with an adult researcher an activity they often did not share with their own parents—one that sometimes included language and topics they would not want an adult to know about or in any way control. Our participants used IM to communicate with their peers, not with adults. It was important, therefore, that the interviewer be someone with whom the participants felt comfortable, someone whom they might view as not quite adult, a quasi-peer of sorts. Bettina, who had spent time chatting with Sam and Abby (not part of the same friendship circle) about school, boys, family, and other areas of their everyday lives, fit the bill. Carla was also an avid IM user with home Internet access. Although neither of us knew her before the study, her mother was a colleague of Cynthia (first author), thus making rapport easy to establish. The fact that Carla lived with her mother in a small town of 1,900 isolated from a metropolitan area also interested us in that it distinguished her from the other participants.

The four remaining participants, Andy, Brian, Jake, and Karrie, were selected through snowball sampling by way of Sam as our initial contact. Initial informal exchanges and frequent e-mail exchanges about IM between Sam and Bettina led us to Sam's best friend Karrie and their good friend Andy. Andy then led us to Brian. A year and a half later, when Sam had a boyfriend, Jake, we interviewed him as well. We wanted another male participant and hoped that having an older participant (Jake was 17) would provide a wider range of user interests and goals. All met the most important criteria of avid use of IM, home access, and the potential of easy rapport (due to Bettina's connection to Sam).

When we began the study in the spring of 1999, Sam attended eighth grade at a parochial junior high school. Karrie, her best friend, had just moved to another state but was visiting during the time of the interview with Sam. Sam was about to move to the public high school for ninth grade, the only public high school in this town of 35,000. Andy and Brian were eighth graders at the same parochial school. Abby was in ninth grade at the public high school. When we interviewed Jake over a year later, he was a twelfth grader at the public high school. Carla was enrolled as a tenth grader at the public high school in her small town. This study did not involve data related to participants' school experiences, but we know from self and parent reports that none of the participants had major difficulties at school. Abby's mother reported that Abby was an average student who was not especially interested in school, but all the other participants were viewed as good students. Sam and Karrie enjoyed writing and had in the past collaborated on a first chapter of an online book that was a spinoff of the TV series *Dawson's Creek*. Sam also mentioned that when she couldn't see Karrie on a regular basis, she would sometimes keep a notebook of her thoughts with the intention of sharing it with Karrie.

Data sources and procedures

We audiotaped semistructured interviews with our participants in participant homes. Because some of our participants were friends—Sam and Karrie; Andy and Brian—we interviewed them in teams, assuming that their collaborative responses might provide for richer data. This worked very well in the case of Sam and Karrie. In the case of Andy and Brian, however, the tandem interview was a bit thin, so we decided to follow up with an individual interview with Andy that proved to be more productive in addressing our research questions. Abby, Jake, and Carla were interviewed individually. All interviews lasted from 60 to 90 minutes. Our interview questions were divided into three categories (see Table 2) meant to elicit responses related to our research foci on uses and compelling features of IM: (1) general appeal and procedural matters (such as time spent IMing), (2) peer and parent issues, and (3) style (such as word choice and tone). We used the same interview

TABLE 2
PROTOCOL FOR SEMISTRUCTURED INTERVIEW

General questions

1. What are your reasons for using IM?
2. How did you learn about IM?
3. Who do you communicate with on IM. Why these people?
4. How much time each day do you typically IM?
5. Have you altered the amount of time spent on other activities because of your use of IM?
6. What kind of IM chats are the most satisfying to you and why?
7. What kind of IM chats are the least satisfying and why?
8. What are the IM topics you are most likely to focus on and why?
9. How many windows do you have open at a time?
10. Does IM require daily face-to-face contact?
11. Do you have access to your profile? If so, have you made any changes?
12. Do you see any problems with IM use? (If no answer, follow up by asking about marketing devices, cookies, and so on. Ask also about sexual harassment.)
13. What sort of computer facilities do you have at school? Any IM activity there? Why or why not?
14. What sort of computer facilities do you have at home? (Follow-up with questions about access and control.)

Peer and parent issues

15. How typical is it for students in your school to use IM?
16. How would you describe the kids who use IM?
17. How would you describe the kids who don't use IM?
18. Do kids talk about IM chats from the night before when at school?
19. For the kids who do not IM, does this have any affect on their lives in school or out of school? If so, please explain.
20. Are IM chats different than communicating by e-mail? By phone? By note? Face to face? By letter? If so, how? Which do you prefer?
21. How central is IM to your social life and friendships?
22. Does it affect your social life if you can't IM? How?
23. Who is it easiest and most satisfying for you to chat with on IM?
24. Is there anyone who is difficult to chat with on IM?
25. Do you ever pose as someone else in your IM chats? If so, how does this work? (Follow-up by asking if one gender does this more than another.)
26. How long do you wait before you respond to an IM message?
27. How many do you have on your buddy list?
28. Do you have more than one list meant to serve different purposes? If so, tell me about the purposes.
29. Have you ever received a message from someone you would rather not communicate with? Why would you rather not communicate with this person? What did you do?
30. What kind of parental guidelines support or restrict your IM use?
31. Are any of your friends barred from IM use by their parents?

Style

32. Do you think about your word choice during an IM session?
33. What makes a good IM writer? What makes a bad IM writer?
34. Do you use emoticons? Which are most important to you?
35. Do you do anything with your writing style to try to engage your reader?

protocol across participants so that we could easily look for similarities and variations in their responses. However, as described in the methods section, during follow-up informal exchanges and during the video-taped sessions, we were able to ask specific questions geared to individual participants.

We also interviewed Sam's parents and younger sister as secondary participants. Her case was particularly interesting to us because we wanted more information about her family context given the family's modest income but major commitment to Sam's computer access. In addition to formal interviews, Bettina had many informal exchanges with Sam and Abby about their IM use. Although not audiotaped, these exchanges were recorded in reflective research memos shared with Cynthia throughout the study. We also followed up with one recent 30-minute interview with Abby and with Sam (separately), now both 18 years old, to ask them about any changes in IM technology in the last few years.

In addition to our audiotaped interviews, we conducted interviews on videotape with Sam, Abby, and Andy *as they engaged in IM*. Karrie was not videotaped because she had moved to another state, but she was an active IM buddy during Sam's videotaped session. By pointing the video camera at the computer screen rather than our participants, we recorded students' voices as they explained their actions and choices while simultaneously documenting the complex exchanges on the screen. These intensive, detailed sessions lasted from 60 to 90 minutes.

This procedure, sometimes known as protocol analysis—but also referred to as a think-aloud, a verbal report, or a verbal protocol—has been used as a means for understanding the process of cognition (e.g., Afflerbach, 1990; Haas & Flower, 1988). Researchers have typically given participants a certain text to read and asked them to verbalize their thoughts as they worked their way through a document. These verbal reports are audiotaped and used to understand how readers construct meaning from text. Unlike most researchers who have used the protocol analysis method, however, we were less interested in knowing what students' internal thinking processes were than we were in documenting their IM strategies.

Documenting our participants' IM strategies by watching them engage in these strategies at the same time that they tried to talk through them for our benefit came with advantages and disadvantages. The main advantage was that we were able to learn a great deal about the strategies employed by these IM users. Each think-aloud provided important illustrations that we could call upon when we analyzed our data. Because they involved actual IM exchanges and on-the-spot problem solving, these think-alouds also prompted our participants to explain aspects of IM that did not come up in our previous interview sessions. The main disadvantage was that the sessions sometimes felt more like interviews that involved demonstration than they did authentic IM sessions. For both Sam and Andy, the interviewer's questions sometimes became part of the IM exchanges with their buddies. Much of the data from the actual IM sessions told us more about our participants' strategies as IM users than it did the content of their messages. Thus, we learned both from the interviews and from talk surrounding the IM session that "meatier," more complex discussions were valued, but we did not witness any that we felt matched that description. As we discuss in the next section, Abby did not follow the pattern just described; she appeared to be completely immersed in her IM exchanges and less affected by the researcher's presence.

We did not videotape IM sessions with Brian, Carla, or Jake. We strongly felt that the only way that the videotaped think-aloud session would be useful would be if the rapport between researcher and participant were close and comfortable enough to allow for frank exchanges about topics that are not often shared with adults. Bettina had this kind of rapport with Sam and Abby. Her rapport with Andy was sufficiently comfortable to conduct the videotaped session, but not nearly as close as her relationship with Sam and Abby, and that difference revealed itself in ways that we explain in the next section on researchers' positions. We decided it would be best not to videotape Brian, who had become a participant through Andy rather than Sam and was a level more distant in terms of rapport. Cynthia attempted to videotape Carla at a time when Carla thought she would find buddies online, but, as it turned out, no buddies were online at that time. Because Carla used IM to chat with a smaller number of close friends, a time without online buddies was not entirely unusual. Scheduling problems kept us from trying again. We interviewed Jake to get an older, male perspective from someone who had once been an avid IM user but was now looking back on the experience. Videotaping an IM session with him would have detracted from the reflective, more distant stance he provided.

All interview and think-aloud sessions were fully transcribed. We transcribed the actual IM exchanges on the video screen, using bold font. We also transcribed the often simultaneous participant comments and explanations. Both kinds of data were essential to answer our research questions about these young people's uses of IM and the features of this communication technology that made it so compelling. In addition to the written IM exchanges and spoken explanations, we also transcribed nonverbal visual data and verbal data outside the think-aloud or IM parameters. This included gestures, postures, and actions such as laughing or eating as well as speech that included reading aloud parts of IM messages.

Researchers' positions

Although we both share an interest in digital literacy practices in a digital age and use them extensively in our own professional and personal lives, neither of us is an avid IM user. We have used IM on occasion to communicate with each other, but when the exchange turned substantive, we gave up and shifted to the phone. Cynthia IMs her son now and again but prefers e-mail or the phone because she

finds it difficult to use IM for important exchanges. As our findings show, our participants made similar distinctions about selecting appropriate technology for their needs but, in general, their comfort level and expertise with IM technology far exceeded our own.

In keeping with Luke's (2003) depiction of new media literacies, our participants' IM practices could be characterized as lateral (across windows) rather than penetrating (depth within one exchange). As Kress (2003) argued, the practice of deep, reflective reading and writing is but one kind—albeit, one often privileged by schools, academics, and generations of adults schooled in such reading and writing practices. We readily admit that for both of us, the shoe fits. In our own lives, we value and enjoy deep reflective reading and writing, and despite our interest in what compels new generations of kids and our own substantial uses of digital literacies, we still see ourselves as peripheral to the world our participants were sharing with us. Moreover, when the study began in 1999, we knew little about how to practice IM or how the technology worked. We believe that our peripheral status worked well in terms of our relationship with our participants. As people who did not regularly practice IM, our status was such that participants had much to teach us. And so they did.

The fact that Bettina was a graduate research assistant at the time also played into the researchers' positions related to participants. At times, she presented herself as doing the bidding of her professor who was conducting this research (Cynthia), which served to align her with the participants. On one occasion, during Sam's IM session with Karrie, which included discussion of some interview questions, she jumped in to send a message to Karrie, resulting in the following exchange ([text] indicates descriptive text added to clarify elements of the transcript; ellipses indicate extracts edited out of the transcript; / indicates interrupted or dropped utterances; = indicates latched utterances.)

Interviewer:	Hi K, [Interviewee's initial] here, sorry these are dumb questions but my professor wanted to know don't ask me why.
Karrie:	lol, that's alright.... I figured you probably didn't write those up. I'll answer them.... it's alright.
Sam:	:)
Karrie:	;) [wink icon]

When typing the transcript, Bettina included a note to Cynthia saying that she had a moment of "social panic" and wondered if "maybe I'm trying to be as 'cool' as my cool neighbor girls." In general, however, she did not work to achieve peer status, other than to pepper her talk with genuine exclamations about savvy IM moves (e.g., "You're rockin' honey."). In fact, at other times during her conversations with participants, she drew attention to her age relative to a participant's technical know-how: "I feel like an old person! I feel so naïve." Cynthia's interview with Carla revealed a similar move to accentuate the generational divide.

The think-aloud IM sessions and actual IM exchanges were shaped by the presence of a researcher in other ways as well. For instance, we think that Andy quickly closed a window when an IM response from a girl included swear words. Noted throughout this transcript were times when Andy seemed unable to talk and explain his actions at the same time that he engaged in an IM exchange. And, as in the earlier example of the interviewer joining an IM exchange, sometimes the topic of an IM exchange turned to the research itself. Sam told Karrie about the research situation, so many of the questions and probes that came from Bettina were in turn volleyed to Karrie and her other IM partner, a male, during the session. Bettina asked Sam to ask the male partner if he had ever pretended to be a girl on IM. "No Way!" he shot back. Sam replied "haha :) it was her question" [meaning Bettina's question]. And during one of the first IM sessions, Bettina, who couldn't keep up with the pace of Sam's IM activity, told her, "Hold on, you're going too fast. You're going way too fast!" On the other hand, the transcript of Abby's IM exchange showed no overt signs of researcher influence.

These researcher positions—the peer and the naïve adult—may have worked to make participants feel more comfortable, able to connect with the peer researcher through a common interest, or able to instruct a naïve adult researcher who is not a member of the digital generation.

Data analysis

Data analysis involved using qualitative coding procedures informed by grounded theory (Strauss, 1987; Strauss & Corbin, 1990). Our unit of analysis was the episode, a series of turns that all relate to the same topic (Florio-Ruane, 2001; Marshall, Smagorinsky, & Smith, 1995). We began the process of developing a coding system after a close reading of the first set of interviews and video session with Sam and Karrie. At that time, we noted that most of what the girls reported and demonstrated about their use of IM was related to its social function. This was true

not only based on their answers to questions about peers and parents (about which one would expect them to make social connections) but also based on their answers to questions about IM topics, amount of time spent on IM, and word choice. For instance, Sam told us that she used a "softer, sweeter tone" with her best friend Karrie than with others. Another function of IM that emerged early on was related to what we viewed as surveillance. Sam and Karrie brought up many ways that their parents monitored their IM behavior and that they themselves monitored the IM behaviors of others.

We kept the categories of "social" and "surveillance" in mind as we collected and began to analyze more interview and IM session data. However, not wanting to limit our thinking about the transcripts, we decided to choose, at this point, a categorical rather than conceptual way of coding the transcripts after our first passes through all of the interview data. We did this by providing a context-specific category label for each episode. For example, one episode in the transcript with Carla was labeled "subjects" because all the speaker turns in that episode revolved around the kind of subjects one might talk about in an IM exchange.

Our next step was to read the interview episodes and the IM exchanges for their most prominent conceptual themes related to our research questions. The themes that were most salient throughout the transcripts again were the social and surveillance uses of IM. In addition, we decided to code for language play and other language features that our participants frequently shared with us. In the next section on findings, we include a subsection on language that highlights its foundational relationship to the social and surveillance functions. Through language use, the social networks were enhanced and the drama of surveillance unfolded.

Our final step in the process of analyzing interview and IM transcripts was to refine the three broad codes, which led us to examine the transcripts for distinctions among "social," "surveillance," and "language" functions for IM use. This selective coding procedure (Strauss & Corbin, 1990) resulted in distinctions within each category (e.g., social status, social connection, and gender relations within the "social" category) that are used to frame our findings section where we discuss them in terms of their thematic salience.

Due to the think-aloud nature of the IM sessions, the actual IM exchanges were frequently difficult to analyze separate from the think-aloud data in which they were embedded. Thus, the IM exchange was often coded in the same way as its surrounding turns. For example, during Andy's think-aloud, he received an IM that included loads of smiley faces in green, followed by a huge laughing face. When Bettina saw this, she exclaimed, "Oh my God. What did that person just do?" This led to the following exchange between Andy and his friend, whom we'll call "M."

Andy: What is that, M?

M: My friends

M: The Smilels

Andy: I think he spelled smileys wrong. He's not a very good speller.

In addition to this IM exchange, however, there were related comments and explanations between Andy and Bettina. For instance, after Andy's first turn above, he told Bettina "...and I guess he was getting bored and stuff and he just typed a whole bunch of letters." After M's first turn, Bettina noted, "Aren't they all a bunch of people? Look, they're all people," and Andy followed with "Oh, geez. He has time on his hands." This entire episode, including the IM message itself and the accompanying commentary, was coded as "language play."

In contrast, some IM exchanges were isolated from the think-aloud commentary. This was true of some exchanges for all three participants whose IM sessions we videotaped. However, Abby's IMs were entirely autonomous and needed to be coded separately. Abby negotiated the most windows of the IM sessions we observed—10 windows in all. Because the exchanges jumped quickly from one to the next and then back to an earlier one, with unrelated think-aloud explanations in between, it was very difficult to discern the thread of each conversation. In order to code this data, then, we produced one transcript of Abby's IM conversations in the order they occurred (chronologically jumping from one window to the next) and another transcript of her IM conversations organized by buddy (and, spatially, by window) as though each exchange were separated and without interruptions from other buddies. The contrast between the two transcripts reveals the challenge for IM users to keep track of the narrative thread of their exchanges with each buddy as they juggle multiple conversational threads. Even from a research perspective, it was far easier to code the second transcript, with Abby's exchanges with each of her buddies typed separately.

These procedures, which involved triangulating across interviews, video sessions, and both of our

interpretations, led to the patterns discussed in the next section on findings.

Research findings

In the following sections, we report our findings related to the language, social, and surveillance functions of Instant Messaging. Underlying these functions, however, are the distinctions participants made between the functions served by IM as compared to other forms of communication, such as e-mail, telephone, note passing, and online chatrooms, and so we begin with these distinctions.

In general, these young people favored IM over all other kinds of communication. IM offered the excitement of successfully staying on top of the information flow. IM was convenient: Most friends were constantly online and available (no busy signals). If they weren't online, they would often identify through "away" messages where they were and when they would be back. Moreover, IM users could avoid long-distance phone bills when talking to friends who lived far away (as in the case of Sam and Karrie). IM also assuaged social relations, making all potentially threatening exchanges (such as face to face or telephone) less so. E-mail certainly had its value for telling longer stories and using, as Karrie said, "big words." In Jake's case, e-mail was useful in those situations when he needed more time to think about what he wanted to say. In this context, e-mail is a close relative to the passed note—one can be thoughtful, but the process of composing and delivering it takes more time. Overall, IM also trumped chat rooms. For our participants, chat may have been a fun diversion when life slowed down on the IM screen, but communicating with strangers was not nearly as engaging as communicating with one's peers.

We think it's important to introduce our findings section in this way because our participants' clear analyses of the differing functions of various technologies speak to their strategic and thoughtful approach to popular technology as it affected their lives. These young people were not duped by technology. Instead, they used it with a sense of purpose and informed participation that may be surprising to many adults concerned about the influence of computer-mediated communication on the lives and literacies of the younger generation.

This sense of purpose and agency is in keeping with what the New London Group (1996, 2000) meant when they argued that literacy involves the designing and redesigning of social futures. The core concept here is that in order to make meaning, one must have access to available resources for designs (semiotic systems), ways to engage in design (semiotic processes), and the means to transform designs (a combination of received meanings and the agency to redesign them). Design is a concept we find useful in understanding our participants' linguistic and social uses of IM. As the findings will show, the young people in our study accessed all the resources that IM afforded as well as those that they brought to the practice and used these resources to improvise and redesign their semiotic and social worlds.

Language as design

As we analyzed our findings, it became clear that IM literacy was, in part, an extension of schooled literacy practices and, as such, reflected a level of literacy engagement that may be encouraging to educators. Our participants used language strategically and creatively in their IMs to initiate and sustain satisfying exchanges. As mentioned earlier, "talk" is a written performance in IM. The guiding tropes of the medium are "chat" and "conversation," indexing a sense of the spoken that must be achieved through writing. Participants used linguistic features to manipulate the written tone, voice, word choice, subject matter, and structure of messages in order to sustain interesting conversations and cut off those that were not of interest. However, beyond these uses of language within IMs, the young people we studied used language in complex ways in order to negotiate multiple messages and interweave these conversations into larger, overarching story lines.

Language use within messages

If the popular press suggests that all IM discourse is inane or incomprehensible, the participants in our study were clear that it was these kinds of exchanges that they wished to avoid. Unsatisfying conversations, to them, were ones that "don't go anywhere" or "just stop." These "boring" conversations, they said, often had to do with a user maintaining a conversation (while juggling many others), but they also pointed to lack of creativity. Carla, for example, had no patience for IM conversations "where you end up talking to someone and they answer you in monosyllables. 'Uh.' 'Oh.' 'Cool.'" Satisfying IM chats, on the other hand, were ones where conversation flows—where creativity is apparent. "There are those people who I've talked to for

over an hour," Abby reported. "A lot of people can come up with things that I never thought of."

Consequently, our participants consciously resorted to various narrative strategies to generate more interesting and flowing conversations with their peers. Andy appreciated the chance to converse with Sam over IM because he found her to be especially good at asking questions. "She's always ready for a question that she has for you," he said. "She doesn't sit there and ask you a question that she's already asked three times...all her questions are like brand new." Sam also commented on her language techniques, admitting that she was purposeful in her use of metaphors. As she noted, IM "enhances my depth of thought, the way I think now, 'cause you can't explain things with your hands, you have to tell them, like using metaphors."

Our participants found other ways to experiment with language online as well. Jake recalled one IM discussion that was all word play:

> Sam and I last night, we just started out, she said "I want...." and then I wrote "I want...." and then we just went on for a whole exchange, for ten minutes all we started out with was "I want" and just anything that came to our heads.

Another exchange between Jake and a friend involved communicating solely through song titles.

Our participants also used nonlinguistic visual elements to supplement language in ways that served their needs. These elements either added to the drama of their individual exchanges or served as place holders so that buddies would wait to hear more rather than thinking the message was complete. For instance, we frequently saw our participants use ellipses to indicate that they were thinking rather than finished with the message. Sam withheld information to purposefully add tension to a conversation, noting that this was common practice in IM. In a similar vein, Sam and Karrie would often type "well" followed by an ellipses to function as a verbal pause.

Another important visual cue involved spelling, which, interestingly, mattered quite a lot to our participants. Afraid a buddy would infer that they weren't good spellers, Sam, Karrie, Carla, and Abby all used the code (*) to indicate that they spelled something wrong accidentally, demonstrating a skill for self-monitoring that teachers try to promote in students as they write for school purposes. ("A" in the following exchange is one of Abby's buddies.)

Abby: I'm here ☺

A: Your computer said u were away

Abby: ohh but it lyed.

Abby: *lied

Abby: ☺

Abby: I'm a nerd!

A: liar

Our participants were especially spelling conscious with those individuals they were trying to impress. For example, Sam noted that she paid more attention to her spelling when she considered the person she was addressing to be "smart." Andy tried to use correct spelling on IM, but paid attention to spelling primarily if he was having an IM exchange with one of his teachers who was on his buddy list. Punctuation was less important, although at least one of our participants felt better when she used proper punctuation and capital letters in appropriate places. What was most surprising was that abbreviations, like "lol" for "laughing out loud" and "brb" for "be right back"—which have been highlighted so heavily in the popular media as an example of incomprehensible teenspeak (e.g., Gray, 2002; Von Sternberg, 2002)—were almost nonexistent among our older participants. As Jake commented, "I used to [use abbreviations].... Now I've started to type out 'you' and 'are'.... I don't know. It looks better. I don't know, maturity. You just seem smarter."

What seemed cool when they were younger now seemed immature, so they limited their usage, although Sam and Abby (younger than Carla or Jake) both regularly used abbreviations. Emoticons, especially smiley faces, remained quite popular though, indicating pleasure in the material shared, teasing, or listening patiently and enthusiastically. With IM's limitations as a written communication, these tools were one more way to express emotion and engage the reader. "I end up smiling and stuff when I'm talking," Carla reflected. "I'll like scream and laugh at it and I know they can't hear me. So I put in a smiley face, and I really use it."

Font color and size were also used to create visual effects that enhance the linguistic component of the IM message. Andy and his friends experimented with color, font size, and icons such as smiley faces to express their creativity, and Abby tried a variety of combinations of fonts and colors for the same purpose. Carla pointed out that a drawback of IM compared to phone conversations, for instance, is that it's difficult to communicate sarcasm and other "voice tones." However, she felt that using different colors and font sizes could help the writer express more emotional content.

> All caps is usually if you're yelling. You can make it smaller if you're like unsure or you're whispering, and there are smiley faces you can put in and stuff but it's still hard to tell.... Well, I mean if you're talking almost you get littler...it's kind of like that's a projection of your voice. It's the way your voice looks, so if it's big, you're yelling, if it's small, you're tighter....

Beyond language style, word choice according to different audiences also mattered, and we found a high level of thoughtfulness in this regard. For example, the young people we interviewed were conscious of choosing different tones and language styles depending on who they were IMing. In discussing her online relationship with Karrie, Sam observed that she was able not only to talk about a richer variety of topics with her best friend due to the many reference points they shared, but also to discuss these topics in a "softer and sweeter" tone. She noted her tendency to give shorter, more pointed answers to peers she had less interest in talking to. Karrie said about her special Internet relationship with Sam, "The only reason I really use Instant Messages is basically to talk to her. I mean, I talk to everyone else, but the only person I *really* like to talk to is her." The girls felt that their bond influenced the breadth, depth, and tone, of their Internet messages. By way of contrast, Abby was less attentive to language with her best friends. As she put it, those were the people she "can talk about just whatever...dumb things, or inside jokes, and just mess around and not really have exchanges." Talking to best friends meant not having to worry about being clever or witty. It's different, she told us, "if you're getting to, like, know someone" or when "flirting" with a guy.

Other audiences resulted in a different set of language negotiations. Sam even copied the "voice" of an IM correspondent who accidentally got onto her buddy list, in order to maintain the connection. We discuss this conversation further in the section on surveillance, but we wish to point out here the language play that Sam noted relative to this exchange: "I'll use the same exclamations where she uses them and I'll try to talk like they do." In adapting the tone and content of the anonymous correspondent's message, Sam had to analyze how the girl's tone worked—how it accomplished its purposes. Besides adapting her tone, Sam was also careful to adjust her subject matter according to her particular audience. In order to convey to a popular boy in another school that she was "cool," Sam paid attention to his choice of words and topics so as to "get into his little group of friends." In general, Sam observed the kind of language people were using online and appropriated language cues for specific purposes. "It's just the fact that I have access to it, and I get on every night," she said, "and I watch other people talk to people."

Sam's reference to "talk" underscores the hybrid nature of the medium, incorporating, as it does, elements of spoken and written discourse. This feature—the written nature of a medium that often feels more like speech—is important because it means that participants must find ways to have communicative competence (Hymes, 1972) in quick, sometimes overlapping, dyadic interactions with different audiences. As the data in this section suggest, different buddies come with different norms and expectations for style, tone, and content. The hybrid spoken/written nature of IM discourse demands hybridity in user performance. IM users have to be good at sounding as though they are speaking in written texts. They must use the textuality of writing to perform the textual qualities of speech. In this way, as the New London Group suggested, convention is always in tension with improvisation. Our participants needed to understand the conventions associated with writing and with speech in order to successfully use writing to perform speech.

Language use across messages

We found our participants' approach to language use much more thoughtful than we had imagined. Yet there is more to IM than creative language use within a given message. In watching our participants deftly manage multiple messages, and then interweave these messages into the larger storylines of their lives, we became aware that the drama, the story, and, indeed, the enjoyment of IM comes from the entire session itself: its flow, its arc, and various aspects of narrative tension across messages.

The young people we interviewed routinely negotiated at least four windows simultaneously, and often many more. To organize the separate conversations, some users spread the five or so windows out across their screen, four in the corners and one in the middle. Because Abby juggled so many conversations, she liked to stack her windows and file through message after message, methodically "dealing" with each conversation as she brought it to the surface of the stack. In general, the strategy was for our participants to focus on a few key narratives while managing the rest. Some of the managed conversations would quickly emerge as key narratives, however, just as some of the key narratives degenerated or stopped abruptly as a buddy left his or her computer.

IM cannot support long sentences because a buddy can quickly take the conversation in another direction. If our participants wanted to sustain a thought without interruption, they often typed partial sentences, hammering out five or six returns before their longer thought was conveyed. Commentators often refer to these partial sentences derisively, suggesting that the use of IM does damage to "proper English," but our participants made it clear that using partial sentences was a strategic move to keep their buddies from moving on to other conversations. Once the thought was out, they then could leapfrog into another exchange. Most of the time, they were challenged to respond to their buddies quickly to keep an exchange moving forward, respond intelligently to keep it interesting and impress their peers, spell words correctly (also to impress their peers), and keep track of all the other exchanges going on simultaneously.

This is no easy feat. One look at Abby's videotaped IM exchanges with 10 buddies illustrates how complicated it can be to carry on multiple exchanges at once. The exchanges were separate, yet of a piece. Read together, they gave us a sense of Abby's social world, online and off. Although the next section focuses specifically on the social aspects of IM, we include here a segment of Abby's IM session in order to provide a glimpse of what it was like for her to use language to manage multiple messages that together created a web of meaning related to things central to her world. We have labeled her 10 buddies with letters of the alphabet, from A to J. The storylines central to this IM session ran the gamut from friends (Buddy A felt snubbed by one of Abby's friends), school (Buddy H wanted to know if there were any rumors at school that day; Buddy I asked about school pictures), social activities (Buddy A wrote about going to a concert; Buddy G talked about meeting at a restaurant and going to play baseball), jobs (Buddy C mentioned work), and emotional states (Buddy A discussed his bad day).

Abby's most extensive conversation was with Buddy A, who kept returning to the topic of the girl who snubbed him. But in between his comments and responses, Abby was holding up her end of many other conversations. When we first read a transcript of her IM session arranged chronologically (temporally) rather than by window or conversation (spatially), it was difficult to see any cohesive threads because we were not accustomed to piecing stories together as they began to cohere across conversations. So, for instance, the beginning of Abby's IM session (as she's acquiring buddies to talk to) arranged chronologically looks like this (exactly as written, but not separated by buddies/windows):

A: so have u talked to barb?
Abby: yeah but she didn't really say
Abby: much
C: hey
Abby: hey
D: hey
Abby: hey
C: what's going on?
Abby: nothing much.
Abby: just got home from tanning
A: ohh I see
Abby: she said we could prolly do something
Abby: but u guys should go ahead and make other plans
Abby: b/c knowing her we probably won't be able to do anything
A: ok then
A: no offence but I can't stand people like her
Abby: yeah I know....
Abby: I emailed u back [Abby is writing to E]
E: yes!
Abby: ☺
Abby: it was long
F: hey
Abby: hey
A: about a month ago I IMed her just to say hey and stuff but she didn't talk so
B: talking on the phone [answering an earlier question from Abby]
B: u?
Abby: nothing much
Abby: just chattin'
Abby: yeah she does that to david too I think [written to Buddy A]
A: im surprised hed still talk to her, I haven't talked to her since
Abby: I don't think they talk much tho

This may not be the most stunning example of language use, but we include this chronological transcript of a small portion of Abby's IM session to show how challenging it can be to manage the continuing threads of these conversations as they occur

in time. When arranged spatially, however, with each buddy (and corresponding window) in its place in the stack, as Abby had them, she was able to manage the conversational flow with each of her buddies, and juggle the story lines that shaped her social world. (See Appendix for an example of the same transcript organized spatially, with separate exchanges organized by buddy/window.)

As several of our participants reported, one storyline often takes precedence while others take on less importance. During this IM session, for instance, the constant thread from beginning to end was Buddy A's negative feelings toward Barb (pseudonym). This narrative tension began with the section we include here but surfaced throughout the session. Examining this IM transcript, we found out firsthand what scholars of digital literacies mean when they point to the skills needed to be a successful online reader and writer. Abby had to be able to scan across windows, spatially, to do the work of this kind of writing. She had to read and write quickly across surfaces, delving deeper only when a particular conversational thread kept surfacing, and thus demanding a more developed response. Thus she quickly said "hey" to several friends, told Buddy C she had been tanning, and dipped in and out of a more pressing exchange with Buddy A. Making on-the-spot decisions about where to focus one's attention is critical to managing the flow across messages. This is an act most of us are accustomed to performing in conversation, but one that the IM user must master in writing.

As we videotaped our three young IM writers, all were anxious, fearing that there would not be anyone online who would be interesting to talk to. In other words, they would not be able to demonstrate what a good session, with complex, interesting interactions, would look like. Indeed, we didn't witness the most successful sessions, according to our participants, in part because of the nature of the think-aloud (as described in the methods section). However, it was clear that interesting word choice, audience sensitivity, and a well-managed narrative that offered tension and excitement were what made IM worthwhile, and that some, like Sam (whose IM skills were revered by Andy), were better at this than others. It was also clear, however, that while Abby used these features to fluidly move through a range of social stances from sympathetic friend to casual acquaintance, she also was used by the discourses that were available to her. That is to say that the linguistic and semantic resources Abby draws upon are those typically associated with middle class white teens in the United States (and other Western countries). Tanning and e-mail, friendships and rivalries were the topics at hand, all in the talky, casual vernacular often expected of teens. Thus "teenhood" could be said to be inscribed in the text of Abby's IM talk. We had to look closer to understand how she managed the narrative flow of the conversation and attended to the demands of the rhetorical situation. As will become clear in the next section, the social context of IM is what drives the narrative and, at times, raises the language bar.

Social networks as design

Besides juggling language styles and message flow, we found that our participants were actively engaged in designing their social worlds through their IM use. Moreover, their social networks in turn enhanced their language use, providing the context for a richer and more satisfying writing session. In this section, we focus on two aspects of their social networks that repeatedly surfaced in the data: *social status* and *social connections.*

Social status: Insider knowledge and audience awareness

Most of the young people we talked to felt that IM enhanced their social status. Sam, Karrie, and Abbie, for example, believed that IM enabled them to establish a kind of social currency. According to Karrie, "I wouldn't be as cool to some friends if I didn't talk on the Internet." Indeed, not having Internet and IM access was the recipe, in our participants' minds, for social upheaval. Simply put, the online social world was contingent upon the offline social world at school. In fact, being "in the know" and knowing the inside jokes from the IM session the night before were seen as essential for social relations at school. Here, Abby vividly describes her social need for IM, given that, in her words "Everybody's always on!":

Abby: I'll talk to my best friends, and me and my friends, it's like, "Oh it's 9 o'clock, I gotta get on the computer!" And it's like, if we can't, it's like, what am I going to do?! ...I don't know. It's just part of my night.

Interviewer: So what happens if you don't get on, if you miss a night. Do you feel /

Abby. Well, I'll always feel that I don't know what's going on or I'm left out of something or, you know.

Interviewer: So do you think you're kind of addicted to it?

Abby: [laughing] Yeah, I think so.... If I have any free time, it's like what I want to be doing.

[A few turns later in the interview]

Abby: If I don't get on, like if it's broken, like if the Internet's not working, I'll, I'm like ahhhh! So I'll call my friends, and I'll be like "Who's on? What are you talking about?!" ...I'll be like, "Get on my name and pretend you're me for a little bit!"

The fusion between Abby's online and offline worlds is palpable here. What is often thought of as a simulated or virtual world is, for Abby, a place where the stuff of real life takes place (Ito, n.d.). Perhaps more intriguing, however, is that the spaces of virtual and real flow in reverse as well. Her real life is steeped in virtuality, whether or not she's online, complicating the online/offline binary as it is often represented.

For IM to enhance one's social status, users must be attuned to their audiences and strategically control the IM interaction. There are those buddies who need subtle reminders that they are not a priority and therefore not worth a rapid response. Withholding attention is also a way to avoid appearing like a loser to high-status buddies—with no other windows to juggle. Sam thus chose to wait a certain amount of time before typing her responses and was careful not to send messages to the same person in succession.

Sam: Yeah, and if you're talking to the people from [her new school] that have tons of people on their buddy lists, and they're talking to five or six people, you can't be...like "hello hello hello," like that, try to get them to talk to you, 'cause you know they're talking to all these different people and it gets annoying....

Interviewer: And how do they know how many people you're talking to?

Sam: They don't, they just assume, 'cause I'm not, I don't saying anything for a while, I don't answer their question.

In addition, if someone from Sam's buddy list suddenly appears online, she sometimes waits until she is IMed first, especially if this person is someone she intends to impress. In general, we found that our participants would withhold responses for certain people even if they had only a few windows on their screen and ample time to respond. Withholding a response in this context is not considered an insult but a status symbol. Timing is therefore a crucial signifier in the IM multimodal environment.

Social connections

Every one of the IM users we came to know felt that it was more fulfilling to connect on IM with people who were already friends. This meant, in part, learning about "their inside jokes and stuff" and other pertinent social gossip, like who is popular and who is going out with whom. As we pointed out in the section on language use, it is important to remember that the inside jokes Sam wanted to learn and, perhaps, take up in her own language play will become part of the textual worlds she writes her way into. Again, we think this relates to the need and desire to participate in an ongoing story. The ongoing story does not seem to have much to do with academic life at school, according to our participants, other than the most basic concerns about what the homework assignment might be. Instead the story these kids have in mind is a social one, and it is one that consumes them to the point that some find themselves watching less TV in order to catch the ongoing story on IM.

Interviewer: And when you were at the height of your IM use, did you sacrifice activities that you normally did?

Jake: Yeah, I'd stop watching a lot of TV. That's what I used to do a lot of in the evenings. I just got on the computer at night instead because there were people I could talk to. It's kind of like being with your friends but not really, because you can talk to all of them.

It's interesting to note that when these young people have less freedom in their social lives, their use of IM seems to increase. For instance, all of them said that IM use decreases in the summer when they are able to see their friends face-to-face more often. During the school year, most of these kids were expected to stay home during the school nights and, thus, were looking for a way to connect with their friends. This finding is corroborated by a study of young people's uses of ICTs based on interviews with 40 children in the United Kingdom, which found that ICT use was seasonal, increasing in the winter and decreasing in the summer when the children preferred to be in offline public spaces (Valentine et al., 2000).

Whereas Abby said she would just talk with her girlfriends about anything, others were more concerned about the depth of the discussions. For instance, Jake noted that even though he sometimes peaked an IM session at 13 or 14 windows, many conversations would drop off as he focused more on 5 windows or so in order to have deeper exchanges

with a few people. As was true for the others, he found the ongoing stories to be important, and if he took too long before responding to someone, he would lose the story. Carla liked IM exchanges "where you actually feel like you got something accomplished, like those exchanges where you made a connection and you're interested in something." She mentioned that she had talked to a close male friend over IM about their belief systems related to religion, continuing an exchange that they had begun face to face. She said that it was easier to have these kinds of exchanges if they were part of an ongoing story, something they have talked about before. For Carla and for Sam as well, it was easiest to have these exchanges with people they knew well—best girlfriends with whom they had storied histories. Carla did not appreciate IM buddies who gossip. These buddies, she placed on her "frown" buddy list. (She had a "smiley" list, a "frown" list, and a "straight face" list, for people who were just casual acquaintances.)

All of our participants except for Abby and Jake talked about the pleasure of tandem IM sessions, during which they would pair up with a friend and IM their friends (sometimes another pair) together. For instance, Andy and Brian, who at the time had crushes on Sam and Karrie, would IM the girls as a pair. Andy commented that he felt more confident with Brian there to help him know what to say to Sam. Again, social context enhanced language use. Carla, who had spoken so eloquently of the importance of IMing about ideas, sometimes IMed in tandem with her best friend, just to be silly and have fun with words. Our participants valued context: an ongoing storyline between individuals, a shared school environment, or a familiar rivalry between schools. Knowing to whom they were talking meant that they had that much more detail to draw upon, and thus could create more interesting dialogue.

The online social connections that our participants often valued were romantic, and they were quick to point out the ways in which IM fostered these relationships. Jake told us that getting hold of someone's screen name could start a relationship in much the same way as acquiring someone's phone number may have in the past (What's your screen name?). In fact, Jake met Sam, his girlfriend at the time of his interview, over IM. Carla pointed out that IM could also work well for breakups, claiming that it was easier for her to communicate with her ex-boyfriend online than in person because the virtual nature of the experience served as a "kind of shield, a way to hide."

Our participants (all of whom identified as heterosexual) talked about IM as a way to feel more comfortable talking to the opposite sex—easier than on the phone or in person. They claimed that a lot of the awkwardness of these settings was erased online—no awkward silences, blushing faces, or sweaty palms. Several mentioned that it was easier to use IM to contact someone you don't know well enough to call.

> Karrie: Yeah, I don't like the long pauses, like we don't really have pauses, like for people that I really don't know as well, then you just sit there [when talking in person] and go, "Uhhhhhhh"=
>
> Sam: And you don't know what to say.
>
> Karrie: And [it] gets a bit awkward.

Without having to worry about unwieldy, gaping silences, Sam says she not only talked to friends more via IM, but also did so with more ease than she could muster on the phone or in person. IMing encouraged a kind of openness not apparent with telephone calls and face-to-face interaction. The appearance of intimacy allowed boys to tell Sam and Karrie more than they normally would:

> Sam: You get more stuff out of them. Yeah. They'll tell you a lot more, 'cause they feel stupid in front of you. They won't just sit there and /
>
> Interviewer: So it's a different medium and they can test themselves a bit more and /
>
> Sam: So they know how we react and they don't feel stupid cause they don't have to think about the next thing to say. I can smile [using an emoticon] or I can say something to them.

Turkle (1995) related similar findings in her discussion of a 14-year-old boy who felt online flirting far surpassed the real-life equivalent. On the other hand, the illusion of anonymity that ICTs provide can encourage some individuals to take risks they wouldn't ordinarily take (Gumpert & Drucker, 1998). Indeed, the illusion of anonymity that computer-mediated communication provides encouraged Abby to take more risks than she would have taken in a face-to-face exchange. As she emphasized, IM allowed her to risk flirty comments and then hesitate a moment before deciding whether or not to hit "send."

Again, as was the case with Abby's IM session analyzed in an earlier section, one can see how the acts of designing and redesigning exist in tension with one another. On the one hand, Sam and Abby use what this technology affords to redesign new social relationships—new ways of talking to boys. On the other hand, the available designs determine the

direction and extent of their innovation. The act of redesigning social relationships with boys exists within a certain set of available discourses about boys and who they can be in relation to girls. It exists within a set of available discourses about gendered identities and relationships, the kind of discourses, for instance, that position girls as communicative and relational and boys as oblivious, impenetrable, or resistant.

Nonetheless, the generative, improvisational nature of IM was strong in this section on designing social networks. These IM users were busy navigating between conversations, building upon conversations, merging conversations, dropping and adding conversations, delaying conversations, and creating a larger storyline. In these ways, IM messages were circulated, sometimes across buddies, in the IM landscape (explored further in the next section). Participants enacted particular identities through IM: that they were busy, had lots of friends, were doing multiple things, and were interesting as a result. They would catch up, and then immediately fall behind as new windows opened and new conversations began that may or may not have affected the ones they were already having. They made some people wait to indicate their own popularity, while spitting out answers to others.

Of particular interest to us is the way that IM disrupts the virtual/real binary. The identities that these young people enacted online were not necessarily more or less real than those they enacted offline. The disembodied world of IM, its textual nature (through written and visual modes), made it conducive to slipping in and out of new identities and storylines, but as this section reveals, IM identities and storylines very much intersect with lives offline. Social networks enhanced the IM experience, but various surveillance opportunities added a layer of drama to the online and offline worlds of IM.

Surveillance in the IM landscape

Being both the agent and the object of surveillance played a central role in our participants' IM practices. These young people revealed their intricate understanding of how they could use the technology for their own surveillance purposes related to power and identity. They also understood the ways in which they were monitored by their parents and friends, and were often able to confound these monitoring attempts. In discussing this aspect of IM use, we focus on four mechanisms related to surveillance of or by others: IM features, circulation, posing, and parental regulation. As might be expected, most of our participants enjoyed being able to monitor the messages and locations of others but attempted not to be the object of surveillance.

IM features

Surveillance features are built into the IM platform. Particular features enable users to monitor their buddies' online and offline activities and identities as well as to enable monitoring of their own. All of our participants understood how to use their profiles, buddy lists, user or screen names, and away messages to best serve their surveillance purposes. For instance, all the participants were adept at using the buddy list indicator to monitor their friends online and control the message flow. To combat excessive or unwanted messages, they would sometimes turn off their buddy list indicators so friends could no longer tell they were simultaneously online. Blocking particular people from the buddy list, so that these people would not know the user was online, served as another strong tactic. Other monitoring functions of the buddy list include a pop-up window that appears when the user clicks on a name. This pop-up provides information about the person on the buddy list such as the length of time in minutes that she or he has been online, a feature that several participants noted. All but one of our participants had divided their buddy lists into categories. Abby, for instance, divided hers so that she had a category for boys, girls, and "don't talk to's," allowing her to monitor who was online at a glance. Because gender relations were particularly central to Abby, these gender-inflected categories served her purposes.

Multiple user names were also employed by all of the participants, several of whom gave their very best friends access to all of their user names. As Carla explained,

Carla: Well, I have different buddy lists.... I have about 45 people on one list. Some of them are doubles, like I have three screen names for one person.

Interviewer: Why would that be?

Carla: Well, because [best friend's name] has three screen names and so I can tell when she's online and she can block other people but not me.

Interviewer: Because you're good friends you gave them all of them.

In most cases, however, these multiple user names served the purpose of keeping IM buddies

from recognizing when our participants were online. In other words, our participants would go online with a user name that they had not given to many people. This allowed them to remain online without being inundated with messages and instead be contacted only by good friends familiar with the user name. Later, if there were others whom they would like to IM, they would get online with a more widely distributed user name. Abby, for instance, had about 10 user names and often signed on with a user name that almost nobody knew just to see who got on before she switched to her usual user name.

The buddy list, always in view, carried the important information concerning who was active—at home and on or near a computer *and* receptive (being online but blocking their availability). As this list was constantly changing with the comings and goings of buddies, it contained a wealth of other information: when buddies got online, how long they'd been on, and whether they were "away"—online, but somewhere else in their house for a short period.

Away messages, frequently used to let others know where the IM user could be found, were especially useful in the summer when kids were rarely at home. As Jake explained,

> Like during the summer, you write "I'm down the street at such and such's house, stop by if you want to." Or some people say "call me." So you can find people that way. "I'm cleaning my room, stop by."

He added that those who did not have access to IM would not know where to find their friends as easily as those with IM access. Users clicked on these away icons and called up away messages. These messages were often succinct (e.g., "I am watching TV"). But the young people we talked to took great pleasure in reading them, not just to find out where that person was (hyperconnectivity being one of the reasons the technology is so attractive) but to find out how witty and clever their friends were in constructing them. During one session, for example, Abby enjoyed her friend's away message, "I'm being a good boy and helping my mom with the dishes, so leave a message." Although Abby admitted she had boring away messages, she appreciated her friend's efforts to write longer, and quite clever, ones.

In a similar manner these young people used their profiles to list their cell phone numbers and to announce graduation parties, again to remain hyperconnected and, in a sense, monitored at all times. An interesting example of self-monitoring is evident in Carla's wish to keep her profile sparse. She realized that a singular profile, unless it was very sparse, would not attract all the different friends she had. When asked to talk about her concerns about writing a longer profile, she said, "It would worry me because I know different people in different ways. I feel like this person would think it was stupid, and this person would...." Carla had a sophisticated understanding of her multiple audiences in the IM landscape and carefully considered how best to address them all.

The categories that the participants listed in their IM profiles (e.g., student, female, midwest, likes horses) could be accessed by anyone and result in receiving IMs from people they did not know. Although this sometimes resulted in unpleasant instances of what Carla referred to as "cyber sex" messages, she did not want to block her profile because she enjoyed getting occasional messages from people she didn't know. In general, our participants did not seem overly concerned about the media hype they had heard about the dangers of the Internet. We had the sense that they did not see themselves as "innocent" and in need of protection, but were, instead, savvy about the cyber sex phenomenon and able to control what happens in this online geographic space. As Valentine et al. (2000) argued, based on their study of ICT use, young people did not assume "an artificial distinction between the corruption of on-line space and the sanctuary of the home" (p. 159) given that anything that might be available to them online was also available offline (e.g., sexually explicit images in magazines and on television). The buddy list, away messages, and profiles all added to the variety and drama of an IM session, while offering a means for these IM writers to define their online presence and mark their identities.

Circulation

Surveillance on IM is often achieved through the paths that messages travel as they are circulated. Leander and McKim (2003) suggested that examining how digital texts travel can lead to insights about the kinds of practices and relationships a particular technology affords. Our participants' IM connections and messages were often passed from one person to another in order to create a bond that depended on the surveillance of others.

One of the simplest methods of circulating participants' movements and messages online was through the commonly asked question, "Who else are you talking to?" resulting in IM buddies having indirect exchanges with a wider range of people through other buddies (e.g., "Tell her..."). This simple question allowed the questioner to have some de-

gree of knowledge about and control over the movements and conversations of buddies outside of the immediate dyad.

Far from being isolated units, conversations easily became part of other conversations within a given IM session. Participants routinely cut and pasted elements of one conversation and shared them with another buddy—often without disclosing their actions with the first buddy, who may have done the same with someone else. Some saw this kind of surveillance as representing a wish for community, a way of finding out who else is involved in their overlapping social worlds at the moment. However, others saw it as an entry into the landscape of gossip and deceit, with users lying to one another about their concurrent IM buddies. As Carla put it, "There are so many people going behind peoples' backs and lying to this person and this person knows something else, and you have to trust both of them not to talk to each other."

The sort of clandestine circulation that Carla would not want to be involved with was an intriguing part of the game for others. For instance, Andy knew that sometimes girls would pretend that their girlfriends who had a crush on him weren't with them when they asked him questions. Several of the girls also tried surreptitiously to discover who was currently talking to whom and what they happened to be talking about by IMing inquiries to friends and asking them to report back. Abby, for instance, would report to her girlfriends to tell them about her conversations with boys, sometimes cutting and pasting the most important parts for her girlfriends' pleasure. The way these texts circulated online, serving as a mechanism for surveillance, also reinforced our participants' IM landscape as a heteronormative space.

By circulating messages in this fashion, our participants cut and pasted, rearranged, and reconfigured elements of their lives to be offered up for scrutiny in the IM landscape. This kind of surveillance was expected—afforded through the technology and participants' relationships to the technology and to each other. IM produces identities that are accustomed to being both the agent and object of scrutiny and surveillance.

Posing

Posing involves the user in an attempt to take on the identity of someone else (another gender or another specific person in some of our examples). For instance, although related to chat room communication rather than IM, Karrie went so far as to track her boyfriend into a chat room, assume the male-sounding identity of snowboarder911, and try to find out what kind of exchanges he was having. Because the physical body is not present in Internet communication, these young people had more space for play, parody, and performance. They manipulated voice, tone, and subject matter to hide or transform their own identities and to monitor the interactions of others. Although our female participants were not using their IM experience to break down gendered frames of reference, they used these chats to claim some control over their position in the male/female binary. With their bodies out of view, they were able to alternately observe, monitor, and engage the words and minds of boys.

There were many examples throughout our data that revealed the pleasure most of these young people took in occasional posing. Sam's pleasure was evident in the following example:

Sam:	This girl, she thinks I'm somebody else. She thinks I'm one of her friends, and she's like "Hey!" and I'm like "Hi!" and I start playing along with her. She thinks that I'm one of her school friends. She doesn't know it's me. She wrote to me twice now.
Interviewer:	So she's this person that you're lying to, almost.
Sam:	Yeah, you just play along. It's fun sometimes. It's comical. Because she'll say something like, "Oh [a boy] did this, and we're going to the ski house," or whatever, and I'm like "Oh God!," and like I'll just respond to her. I'll use the same exclamations where she uses them, and I'll try to talk like they do.

As mentioned in the section on language use, Sam strategically analyzed this girl's voice and tone in order to accomplish this parodic performance. What's most important to our theme in this section, however, is the way that posing can expand beyond individual exchanges as a complicated narrative emerges. When Sam saw the name Junelily24 appear as an "active" member of her buddy list, for example, she immediately IMed her best friend Karrie, saying "Junelily24 is online." When Abby asked her friends to "get on my name" when her computer broke down, she was hoping for playful and vicarious inclusion in the world from which she had been temporarily excluded. In this way posing and circulation are related mechanisms for surveillance in that the thrill of posing is often connected to the circulation of details about its effects.

The girls seemed generally to engage in more posing than did the boys, perhaps because they had

more to gain by doing so. For example, Sam posed on occasion as someone who was "blond-haired, blue-eyed" because she believed having these particular media markers of beauty would extend exchanges with boys she didn't know. Given a social sphere that excludes the body, she inserted one that would work for her. However, the fact that she resorted to traditional markers of white feminine beauty in the rare social sphere where it need not be central shows that normative gender and race positions are not so easily erased, even in a space that is sometimes hailed as a new form of social existence (Jones, 1997) and multiple identities (Turkle, 1995).

Carla was one participant who was opposed to posing ("I have a big respect for the truth"). Nontheless, she was aware of the function IM could serve in this regard. As she told us, "You can portray yourself any way you want to online. You can make yourself sound all smart and sophisticated, like whatever you want. And when you're face to face, people can see you, and you really can't hide very much."

In order to pose effectively, one must be able to perform an identity in writing that will sound "all smart and sophisticated" or some other set of attributes, and one must be able to shift into this mode with little forethought.

Parental regulation

The IM practices of some of our participants were not heavily regulated by parents. Jake, at 17, had no restrictions whatsoever. Carla thought her dad might have worried a bit at first but no longer, because she rarely communicated with anyone she didn't know. Brian's parents restricted him from using chat rooms, and both Brian and Andy explained that their IM software restricted them from entering buddy chat rooms (group IM sessions). Brian occasionally worried about his parents looking over his shoulder as he IMed, mostly because he thought they might tease him if he was writing about a romantic interest or something else he wanted to keep private. Neither of them was supposed to stay online for more than half an hour or so and were expected to share the computer with siblings or parents. As the oldest child in the house, Brian had easier access than Andy, who had to contend with his older sister's extensive use of IM. Abby did not have restrictions placed on her IM activity. When she talked about her mother watching her IM, she did so in the context of her mother admiring her ability to juggle so many windows, referring to a time her mother asked her if she ever sent a message to the wrong person.

Of all of our participants, Sam's and Karrie's IM activities were most closely monitored by their parents. Because they were aware that their moves were also being watched and regulated by their parents, both girls became savvy in their ability to overcome restrictions on their online communication practices. Sam, whose father disallowed IM but allowed e-mails, had learned that she could block her buddy list every time her father was at home and never receive IM messages in his presence. She and Karrie also relied on a number code system. When Sam's father walked into the room, she typed a certain number (or the abbreviation POS for "Parents over Shoulder") and began to write about her homework so that he would not think she was wasting her time. This deception was part of the thrill of IM. As Sam put it, "It's kind of fun, 'cause your parents don't know what you mean, so if you wanted to tell them something you could make up anything you wanted to." Sam also continued to IM her friends when her father was at work, but covered her tracks by flooding the tracking device with educational sites and adding his name to her buddy list so she could track any time he was online during his workday. As Andy put it, Sam was sometimes "naughty" for clicking off her dad's privacy preference, which kept her from being able to IM, and then clicking it back on when he came home. However, her dad could access IM at work, which meant that she had to worry about him seeing her name on his buddy list and thus being found out.

Sam was computer literate to the point that she knew more about the AOL computer controls than her father. When these controls needed to be changed, he typed in the master account password but she instructed him where to go. As we were videotaping Sam during an IM session, Karrie wrote for some advice. She had successfully located her mother's password but had not been able to figure out how to change her user profile in order to include a more expansive list of interests than her mother wanted her to include. Sam directed Karrie to a number of menus, and after 30 minutes of frustrated persistence (and calm encouragement from Sam), Karrie figured it out. GTG (got to go), Karrie typed, and signed off to her best friend LULMTAS (love you lots more than a sister).

With Sam's help, Karrie was able to crack the block her parents had placed on her user profile so that she could include more information about her appearance and make herself sound more interesting and appealing to boys. On the other hand, when Sam and Karrie chose to enter chat rooms that were not age-specific, they made their user profiles more

sketchy and lied about their age so as to pursue "adult" exchanges with older people. This way, the girls felt they could control the rhetorical contexts of their interactions through careful consideration of issues related to status, age, and gender. These moves were very strategic, as was clear in Sam's comments: "See if you tell someone you're 18, you sort of have to prepare ahead of time, 'cause they're going to ask what college you go to, what classes you take...."

Despite this element of control, media attention to the dangers of Internet communication had convinced the girls that their parents had reasonable fears about the Internet and were right to block their access to chat rooms. "We've heard stories about kids where kids can get killed," Karrie said. Indeed, Sam's and Karrie's posing related to gender and age shows that the social and power relations that exist outside the Internet inhere within as well. At times concerned about and at other times seduced by the attention of strangers, Sam and Karrie self-regulated their level of disclosure in the online environment. In this section on surveillance in the IM landscape, we see again that agency exists in tension with inflexible social structures, particularly those related to gender.

Discussion and implications

Our findings about the functions of IM in the lives of our participants tell us something about the social subject constructed through IM and the changing nature of literacy practices. These changes in practices and identities have implications for the schooling of literacy. In this section, we begin with a discussion of the social identities that form around IM and then move to a discussion of implications for literacy education.

IM practices and social identities

In order to understand social identities as they relate to IM, we must return to the distinction we made between literacy events and literacy practices at the start of this article. If we limit our thinking to literacy events, we focus on the IM exchanges and the skills that young people exhibit as they engage in these exchanges. With this focus in mind, we would note that our participants often aspired to have meaningful exchanges online. They were neither absorbed nor reliant on IM lingo; in fact, they often cared about using conventional spelling and punctuation. They were also acutely aware of the various audiences they were addressing, adapting their subject matter and writing style accordingly. Moreover, our participants viewed their entire IM sessions—including simultaneous exchanges that often lasted for hours—not as individual, separate exchanges but as a larger, entwined narrative. Beyond a singular window of exchange with one buddy, IM users were engaged in a larger dialogue reliant upon their knowledge of and participation within an offline network of friends, and upon the various tools and options connected with the IM platform.

Still viewing their IM exchanges as literacy events, we would comment on the sophistication our participants exhibited as they critically analyzed the language of IM in terms of the rhetorical context within which it was framed, and in terms of what the texts could do for them. They demonstrated a degree of control (and pleasure) that emerged from their ability to make choices when using IM that gave them power in peer relationships. These conclusions, based on close analysis, are important in answering our research questions related to the functions and purposes of IM. However, a focus on IM exchanges as literacy events does not give us much leverage when it comes to thinking about how to transform our understandings of school literacy and how to make it more meaningful to students' present and future lives.

To accomplish this goal, we need to focus on literacy practices rather than literacy events, turning our attention to what we can infer from the events that might have broader social and cultural meanings. Focusing on practices draws our attention to the kinds of social identities that form around IM use and the potential consequences of these identity formations on students' lives in and out of school.

The literacy practices most evident in our findings are the performative and multivoiced nature of the IM experience. In order to be a proficient IM user, one must perform a version of one's self, shifting voices moment to moment for many audiences at once. Writers in digital environments frequently address and are addressed by multiple audiences simultaneously. To do this, users have to draw on the intertextual chains (New London Group, 1996, 2000) that exist through the textual history of each exchange and the larger textual network. Given Abby's lived understanding of these intertextual chains, she is able to shift her performances almost instantaneously; performing "sympathetic conspirator" in response to Buddy A's feelings about the girl who ignored him, "casual acquaintance" with several other buddies, and "flirtatious friend" with Buddy G who wants her to put him in her info box. "Only if I can be in yours," she replied. Although face-to-face

interaction is also performative (see, for instance, Bauman & Briggs, 1990; Conquergood, 1989; Goffman, 1959), the need to fluidly shift performances from audience to audience is unique to the dyadic yet nearly simultaneous nature of IM.

The enactment of these multiple identities calls into question what it means to have an authentic or personal voice as a writer. Envisioning voice as authentic or personal privileges stability across texts rather than the dynamic, fluid concept of voice exhibited by IM writers as they enact identities that depend upon a running analysis of complicated online and offline contexts. Identities are enacted as temporary attachments, as Hall would have it, in order to be recognized as a particular kind of person (Gee, 2000/2001) within particular histories of relationships and discursive formations. Sam uses a "softer, sweeter tone" with her friend Karrie one moment, before smoothly shifting to the voice of Junelily24 to pose as one of her crowd. In each case, the voice can be said to be authentic to the situation and audience at hand, but authenticity is not stable across these two texts.

We are not suggesting that there is no continuity of identity from one exchange to the next. Across Abby's conversations with her 10 buddies, for instance, her identity as a popular, socially adept teen who uses IM to focus primarily on her social life remains stable. She does not, by any means, seem like a different person with each exchange. And why would she want to? Her identity as a popular, social teen was a powerful one that was reiterated (Butler, 1990) with each exchange. In other words, Abby claims her identity as a popular, in-the-know teen across these conversations, thus performing a stable identity she values, one that serves her well. At the same time, however, each iteration of this identity rearticulates and fine-tunes it to the immediate needs of the particular conversational context (as already described).

One reason that Abby is able to manage these performances of self is that she is situated at once within the techno-social space of the Internet and the social-embodied space offline. In their article on the past and future of Internet research, Leander and McKim (2003) destabilized the offline/online binary that underlies much of this research and argued for methodologies that trace techno-social-embodied networks across contexts and bounded notions of time and space. Writers in the IM environment are constituted in voices, their own and others, that merge and overlap within and across contexts as the writing self is addressed by and answerable to others. Thus, it is always in process (Holland, Lachicotte, Skinner, & Cain, 2001).

The technological and social affordances of IM make visible a performative and multivoiced social subject. These affordances include patterns of circulation and textuality as described in our findings. Because IM technology affords easy circulation of texts, our participants' conversations were regularly shared across buddies, either cut and pasted or reported, and reconfigured along the way. Being an agentic participant in these patterns of circulation required quick, in-process thinking. It required that users swiftly assess the nature of the circulating text, the purpose or agenda that led to its circulation, the audiences involved, the allegiances it may foster or damage, and so forth. Participants performed selves—enacted identities—in relation to these circulating texts.

These patterns of circulation functioned to reinforce social connections, creating bonds between particular users, sometimes at the expense of others, adding the intrigue of surveillance to the IM experience, but also monitoring and reinforcing normative gender relations as discussed in our findings. Text messages circulated across class lines, with Abby and Sam, two working class participants, communicating regularly with middle class buddies. This may relate to the fact that digital technologies seem to foster affinity group connections related to common interests and shared norms over common class and race affiliations (Gee, 2002; Wellman, 2001). However, we believe that our participants' IM activity across class lines had more to do with other factors influencing friendship circles, such as attendance at parochial school and the geography of mixed-income neighborhoods, in addition to the very low cost of public utility cable access. We did not learn about any IM communication across lines of race or ethnicity in this predominately white town, reinforcing our finding that IM communication occurred primarily within friendship circles, loosely construed. The performative, multivoiced identities enacted through IM are constituted within existing discursive formations.

The hybrid nature of textuality in IM also contributes to performative and multivoiced enactments of identity. In their book on textual studies in postmodern times, Loizeaux and Fraistat (2002) had this to say about electronic textuality: "With its multimedia and networked capabilities, electronic textuality foregrounds the role played by the visual and aural elements of textuality, as well as the social and material ontologies of texts" (p. 5).

As discussed in our findings, the visual and aural elements of IM were prominent. Visually, this role was most often evident in the purposeful use of emoticons, color, and font types. The aural elements were most evident in the way that the textuality of writing was used to perform the textual qualities of speech. This blending of spoken and written textuality resulted in hybrid language forms to represent the casual, insider exchanges of informal speech through written textual features.

To achieve a speech-like quality, IM writers use syntax, vocabulary, and usage more common in speech as well as abbreviations to make for quick speech-like exchanges and to communicate paralinguistic features of face-to-face communication contexts. Using examples from Abby's extended IM exchange included in an earlier section, Abby's speech-like syntax included "I don't think they talk much tho" and her vocabulary included words with dropped endings, "just chattin'." Abby's abbreviations made for speedy responses, "Im" for "I am" and "u" for "you," as did her lack of punctuation. In other participants' IM exchanges, abbreviations such as LOL (laugh out loud) or POS (parents over shoulder) were used to communicate what interlocutors would have seen had they been communicating face to face. The textual shape that IM takes, then, is an innovative blending of speech and writing.

The textual shape of IM is significant as it relates to the kinds of social identities afforded through its use. Again, performativity and multivocality are central to this discussion. The identities our participants enacted in IM had to sound—and look, semiotically—like speech, but be accomplished through writing. Sam had to write her way into the textual worlds of the new group to which she wanted to belong, hearing the cadences of their inside jokes and trying to "sound" right in writing. She explicitly refers to her efforts to "talk like they do" when she poses as the friend of someone who accidentally got onto her buddy list. In this way, IM writers produce the sound of speech. However, according to Carla, this virtual speech takes on a life of its own with adept IM writers using the disembodied textuality of writing to "sound smart and sophisticated" in ways that go beyond face-to-face communication. The virtual, it seems, may idealize the real, becoming the way that real speech ought to sound, thus further interrupting any facile distinctions between the virtual and the real, between speech and writing. Enacting identities, then, involved performing multivocal textual repertoires with speed and flexibility, all within the boundaries of normative structures of gender and power. In spite of these boundaries, our participants were involved in the generative act of using texts in new ways, reconfiguring messages, cutting and pasting, parodying, and creating textual forms to fit their social needs.

IM practices and the schooling of literacy

The social identities and subject positions that we have found to be central to IM are important to how we think about young people and their literacy learning in schools. As we have already argued, ways of knowing and ways of being are interrelated. Epistemologies and pedagogies intersect to produce available subject positions for students to take up. A discussion of all the ways that students may resist these subject positions are outside the scope of this article, but there is much evidence to suggest that students are produced as social subjects as they are initiated into particular academic, interpretive, and social ways of knowing and being.

IM draws on practices that shape users' relationships to knowledge and identities. IM practices demand that users adopt habits of mind that are flexible, adapting across genres and modes, performing enactments of self (or identity) that relate to changing discursive and social spaces. As stated earlier, however, the knowledge and identities that users bring to IM shape the technology and how it is used as well. Recall, for instance, that Carla's self-reported identity as someone who valued honesty in all her relationships kept her from capitalizing on the circulation or surveillance features of IM. Her IM repertoire did not include posing as someone she was not or circulating the texts of others without their knowledge. It is also important to note that all of the flexibility that IM affords is very much constrained by some quite inflexible norms related to gender and race. Indeed, in some cases, even agentic acts served to reproduce social structures, such as when Sam hacked into her profile only to include descriptors she thought would mark her as a desirable female. One might also view new conceptions of what it means to be an adolescent in changing times as somewhat inflexible in that normative notions of adolescent identity now include the desire for, if not facility with, digital and media technologies.

Kress et al. (2000) argued that the social politic outside of school—the global, fast-capital economy, the communicative webs, the multiple modes of representation—are all about multiplicity, performativity, flexibility, and adaptability, while the social politic in school remains centered on notions of stability,

authenticity, and unity. It is obvious that typical ways of being in school leave out the compelling lives many young people live outside of school. Kress et al. argued further that for schools to meet the new demands of great economic and social change, educators need to begin to see learners as "remakers, constantly of the materials with which they engage" (p. 28).

Our participants were "remakers" of the textual and technological resources available to them through IM. It might be argued, however, that given their dexterity with this digitally mediated form of reading and writing, schools need not focus on such forms of literacy, but instead focus more on forms of literacy that students are less capable of mastering on their own but need to learn in order to be successful in school, at work, or as involved citizens. The logic of this argument lies in a perceived need to equip students with the skills and strategies they require to succeed in the current system and to teach them the deliberative reading and writing practices that are basic to certain kinds of analysis and critique. However, accomplishing these goals will not help prepare students for the kinds of epistemological shifts evident in our participants' practices and described in the work of scholars of new media and digital literacies.

Preparing for changing epistemologies, identities, and practices should not mean either appropriating young people's popular technologies for school use or disregarding the deep and deliberative reading and writing processes associated with analytic and critical understandings and interpretations. Although bringing IM or other forms of Internet communication into the classroom may be possible for particular projects and purposes, doing so should not be viewed as the lesson to learn from this research. In fact, such appropriation would change the objectives and motives of the activity, the roles of the young people engaging in the activity, and the group norms associated with the activity. One of the reasons that the youth we studied used IM literacy so productively is that they were very clear about these aspects of the activity. Their heightened knowledge of the objectives and motives, roles, and rules led to what is clearly a strategic and analytic use of literacy.

Some evidence suggests that using computer-mediated communication for discussions of classroom writing and reading can be useful (Beach & Lundell, 1998) and many studies (too numerous to cite) point to the promise of computer technology as an instructional medium and learning tool. However, we are particularly interested in the conceptual direction our study provides. The question we believe should be asked is not how to actually use IM in the classroom but how to apply to school settings the literacy *practices* we observed young people take up with a great deal of engagement. As we have tried to show throughout this article, the change in literacy practices is more significant than the change in literacy tools. The tools afford particular practices, but the practices themselves are producing new epistemologies. Because schools inevitably legitimize some epistemologies, it is important to introduce those epistemologies connected to literacies as they occur in a range of settings such as homes, libraries, work places, churches, and community centers, all more frequently making use of digital tools.

One way to begin this is to bring these practices to awareness by asking students to think about what it is about their out-of-school digital literacies (not just IM, but chat, fanfiction, gaming, and so on) that engages them and how these literacies differ from school literacies. Through metadiscussions of literacy practices in and out of school, students can be guided to analyze the features of the semiotic systems with which they interact across contexts—their intersections and disjunctures—as well as the semiotic processes they use to carry out these interactions. For example, discussions about conceptions of audience in IM might focus on the need to deftly shift topic, writing style, and voice from audience to audience. This may lead to a discussion of the issues of circulation and hybrid textuality that we discussed earlier as students talk about how they share messages, sometimes surreptitiously, and make up for the paralinguistic features of face-to-face conversations (e.g., LOL). This discussion can lead to a discussion about the nature of audience as it is usually conceived in school writing (often ambiguous or the teacher as audience) with points made about the intersections and disjunctures students can identify related to these different conceptions of audience. Further discussions could point to the affordances of each kind of writing, including the aptitudes fostered by each. Finally, it would be possible to apply some of the aptitudes fostered in computer-mediated communication to shape a different sort of writing at school, perhaps writing for a clearly defined and fully imagined audience, singular but highly contextualized as is each buddy in IM exchanges with close friends. If we are interested in producing students who design their social futures (New London Group, 1996, 2000), then we have to bring features and processes of semiotic systems to awareness. Students need to articulate what they know, much as our participants articulated for us the features and processes related to IM.

Although these conceptual shifts map onto writing (and the writer's voice) more readily than reading, we referred earlier to conceptual shifts related to reading that have bearing on this discussion. Scholars of new media literacies (Kress, 2003; Luke, 2003) point to the need for flexible reading practices that include reading laterally across surfaces, genres, and modes. We saw this kind of flexibility in Abby, who scanned across windows in order to perform the discourses she took up in relation to the multiple audiences that sought her attention. Reading across spaces is essential to the IM experience if one intends to keep ahead of the narrative flow. Indeed, users often arrange their windows to foreground space over time or chronology. From a reader's perspective, the enactment of self that emerges within each IM buddy's window takes precedence over the most recent phrase or sentence that appears, chronologically, on the screen. Students with flexible reading repertoires are more likely to be adept screen readers of multimodal, quick-access texts.

As Kress (2003) pointed out, the kind of reading and writing afforded by multimodal digital technologies need not replace or negate more analytic or reflective forms of literacy, the sort that requires the deliberative time to achieve depth of understanding in reading or the development of complex ideas in writing. Although our participants reported to us that they enjoyed complex conversations about weighty topics (such as the discussion of religion that Carla told us about), we did not witness these exchanges during our videotaped sessions. As explained in the section on research methods, this may have been due to the think-aloud focus of our videotaped sessions, which may have kept participants focused on our interests related to IM rather than on their usual topics and interests. We also are somewhat uncomfortable identifying our participants' conversations as lacking complexity because in some ways they were more complex than other forms of writing, dependent as these conversations were on a highly developed awareness of the audience and context for each exchange. However, it is safe to say that the IM exchanges we witnessed were not of the sort that would be considered complex in writing contexts such as school, work, or community organizations. Thus, it may be useful to apply some of the aptitudes fostered online to readings of more complex materials.

Teaching students to read fairly complex online materials that require lateral reading across genres and modes would work for this purpose. For instance, political blogs (online journals) are often sufficiently complex to lend themselves to analytic and critical reading, yet they often employ hybrid genres—such as making arguments through personal narrative writing or juxtaposing argument and narration. They also include links to other sites, streamed video, charts, and other visuals and incorporate excerpts from books or poems. In this way, blogs have a pastiche effect in that they include recirculated texts from other sites. Creating personal or class blogs related to topics of study would be equally useful as students could experiment with hybrid genres and textual forms as well as incorporate multimodal design in the service of complex topics that require careful examination and depth of analysis. Finally, through collaborative activity-based projects that cannot be accomplished without the use of multiple texts—print, media, and digital—students can use the full range of their reading and writing repertoires. Dramatic interpretations and other artistic modes of expression and response can contribute to the performative, multivoiced nature of the enterprise, thus developing flexible semiotic processes across social networks.

Our suggestions here are not meant to presume technological access and facility. Although we know that more students now have access to the Internet than did at the start of this study (see, for instance, U.S. Department of Commerce, 2002) there are still many students, particularly those from low-income families, who do not. These students frequently access the Internet through libraries and community centers, but the time and space for gaining access at these sites are limited. For this reason, we think it is important that educators focus on shifting dimensions of practice rather than on new technological tools (Lewis, Alvermann, & Leander, 2004). Most of our suggestions (other than the blog example, which depends on school rather than home access) relate to broader-based shifts—the kind that one experiences through many forms of popular culture that depend on interactivity, pastiche, intertextuality, and other qualities associated with the Internet (comics, videos, reality TV). (A critical appraisal of these forms of popular culture is beyond the scope of this article, but see Andrejevic, 2003, for an analysis of reality TV, which argues that the interactive elements of reality TV result in the commercial surveillance of viewers.) Focusing pedagogical reform on shifting dimensions of practice that apply to new forms of media and communication beyond those that depend on Internet access is one way to make sure that individuals without access can be full participants in the instruction.

Many scholars focus on the politics, economics, or social theories of digital technology (McChesney,

2000; Swiss, 2000), but only a few have conducted close analyses of particular forms of digital literacy and culture. This research contributes to that small body of work with the hope that learning more about the functions of IM and the epistemologies and social identities it fosters will move the field forward as we begin to reconceptualize the teaching and learning of literacy in digitally mediated times. A body of empirical research conducted in diverse geographical sites with participants who come from a range of ethnic and socioeconomic backgrounds and represent a wider range of IM interests and orientations toward social and sexual relationships is needed to move the study of literacy forward. Although we have pointed to implications related to social structures such as gender and social class, a more diverse set of participants and geographical sites may result in a study that has stronger implications for the material consequences of particular digital practices.

Finally, we want to refocus our lens to take in the forest as well as the trees. We have provided a detailed account of our participants' uses of IM and have described the changing epistemologies and attendant practices associated with IM use (multivocality, performativity, resourcefulness, hybrid textuality, and new forms of circulation and surveillance). As a community of literacy educators and researchers, if we let our "generational anxiety over new forms of adolescent and childhood identity and life pathways" (Luke & Luke, 2004, p. 105) get the best of us, if we mourn the loss of print literacy as we think we once knew it, then we may find ourselves schooling young people in literacy practices that disregard the vitality of their literate lives and the needs they will have for their literate and social futures at home, at work, and in their communities.

CYNTHIA LEWIS is professor of literacy education at the University of Minnesota. She is interested in how literacy practices are shaped by social identities and the politics of classrooms and communities. Her research applies this interest to studies of teachers' and adolescents' responses to literature as well as young people's digital literacy practices. Chapters on digital literacy are forthcoming in the *Handbook on Teaching Literacy Through the Communicative, Visual and Performing Arts* (Erlbaum) and in the *Encyclopedia of Children, Adolescents, and the Media* (Sage). She is coeditor (with Patricia Enciso and Elizabeth Moje) of *Identity, Agency, and Power: Reframing Sociocultural Research on Literacy* (Erlbaum, forthcoming) and author of *Literacy Practices as Social Acts: Power, Status, and Cultural Norms in the Classroom* (Erlbaum, 2001), for which she has received the Edward B. Fry Book Award and the Thomas N. Urban Research Award. She currently serves on the executive board of the National Conference on Research in Language and Literacy. She can be contacted at the College of Education, University of Minnesota, 336 Peik Hall, 159 Pillsbury Drive, SE, Minneapolis, MN 55455-0208, USA, or by e-mail at lewis@umn.edu.

BETTINA FABOS is an assistant professor of interactive media studies and journalism at Miami University of Ohio. She is the author of *Wrong Turn on the Information Superhighway: Education and the Commercialization of the Internet* (Teachers College Press, 2004) and has written extensively about Internet commercialization and the role of the Internet in education. Fabos is also the coauthor of a leading college textbook, *Media and Culture* (Bedford/St. Martin's, 2005), and she is currently working to expand the way media literacy is taught, both at the university level and in public schools. She can be contacted at Bachelor Hall 279, Miami University of Ohio, Oxford, OH 45056, USA, or by e-mail at fabosbg@muohio.edu.

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APPENDIX

ABBY'S IM SEGMENT ORGANIZED SPATIALLY

Exchange with Buddy A

A: so have u talked to barb?
Abby: yeah but she didn't really say
Abby: much
A: ohh I see
Abby: she said we could prolly do something
Abby: but u guys should go ahead and make other plans
Abby: b/c knowing her we probably won't be able to do anything
A: ok then
A: no offence but I can't stand people like her
Abby: yeah I know....
A: about a month ago I IMed her just to say hey and stuff but she didn't talk so
Abby: yeah she does that to david too I think
A: im surprised hed still talk to her, I haven't talked to her since
Abby: I don't think they talk much tho

Exchange with Buddy C

C: hey
Abby: hey
C: what's going on?
Abby: nothing much.
Abby: just got home from tanning

Exchange with Buddy D

D: hey
Abby: hey

Exchange with Buddy E

Abby: I emailed u back
E: yes!
Abby: ☺
Abby: it was long

Exchange with Buddy F

F: hey
Abby: hey

Exchange with Buddy B

B: talking on the phone [answering an earlier question from Abby]
B: u?
Abby: nothing much
Abby: just chattin