

Technology Use and Needed Research in Youth Literacies

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The potential of the Internet and other forms of information and communication technologies (ICTs) to redefine the field of youth literacies has garnered considerable attention of late, especially among professional organizations committed to supporting youth's interests in ICT-related literacies. For example, two years ago the International Reading Association (2002) and the National Reading Conference (Alvermann, 2002) commissioned separate position papers that called for integrating new literacies and technology in middle and high school curricula. The College Reading Association dedicated a themed issue of *Reading Research and Instruction* to exploring new literacies (Bean Readence, 2002), and the International Reading Association's *Reading Research Quarterly* featured five essays on media and online studies (Hagood, Leander, Luke, Mackey, & Nixon, 2003) as part of its New Directions in Research initiative. Not to be left out, organizations within the private sector also made their intentions known. For instance, the Alliance for Excellent Education (Kamil, 2003) and the Carnegie Corporation of New York (2004) issued policy briefs that underscored, among other things, the importance of integrating literacy and technology in secondary classrooms.

Given this interest in the potential of ICTs to redefine youth literacies as a field, it seems reasonable, first, to identify current trends in the ICT literature, and then, to examine those trends for what they might tell us about needed research on technology applications at the middle and high school level. By technology applications, I mean the use of the Internet and other digital technologies in both academic and nonacademic settings. To limit the scope of this chapter, I focused on information published after 1998, the year in which the first edition of the *Handbook of Literacy and Technology: Transformations in a Post-typographic World* (Reinking, McKenna, Labbo, and Kieffer, 1998) appeared. Although the intervening period of time is relatively short, I believe it is sufficient for marking trends in rapidly changing ICT-related literacies.

Current Trends in ICT-Related Literacies

This section begins by taking into account the findings from three large-scale surveys of youth's online literacy practices. These findings are meant to provide a context for the more detailed analysis of the current trends in ICT-related literacies in school and home/community settings that follow.

Surveys of Youth's Online Literacy Practices

Two reports from the Pew Internet and American Life Project and a separate report by the USC Annenberg School Center for the Digital Future were the data sources for the following synthesis of online youth literacy practices. In the first Pew Internet report (Lenhart, Simon, & Graziano, 2001), project personnel surveyed 754 online youth ages 12-17 and their parents. Both groups agreed that the Internet is essential for completing homework, with a majority saying that the Internet has virtually replaced the library as a source of information.

The second Pew Internet report (Levin, Arafeh, Lenhard, & Rainie, 2002), based on information gathered from 14 racially diverse and gender-balanced focus groups (N=136 middle and high school students representing 36 different schools), describes numerous uses that Internet-savvy youth attribute to the Net. Referring to it as “virtual textbook and reference library, as virtual tutor and study shortcut, as virtual study group, as virtual guidance counselor” (n.p.), the youth in this study report that there is a substantial disconnect between how they use the Internet in school under their teachers’ direction and how they use it after school on their own. For the most part, students’ use of the Internet occurs outside of school where they say they are free from “heavy-handed filtering” and the “uninspiring quality of Internet-based assignments” (n.p.). Project staff concluded that “Internet-savvy students are coming to school with different expectations, different skills, and access to different resources.

In a report entitled *Surveying the Digital Future: Year Four*, researchers from the USC Annenberg School Center for the Digital Future (2004) compared responses from 2000 users and non-users representing all age ranges, from 12 to > 65. Perhaps not surprisingly, Internet use is highest for those age 24 and under, with use among those age 18 and under approaching 100 percent. The ten trends the USC Annenberg School researchers identified were the following:

1. In America, the digital divide is closing, as new divides emerge (e.g., home vs. public access; broadband vs. modem access).
2. The media habits of the nation have changed, and continue to change (e.g., less TV viewing; little negative effect on personal and social activities).
3. The credibility of information on the Internet is dropping.

4. A variety of issues affecting online purchasing are just beginning to surface.
5. The “geek-nerd” perception of Internet users is dead.
6. Privacy and security concerns remain.
7. The Internet has become the primary source of information for users.
8. Parents and children perceive the benefits and drawbacks of Internet use differently.
9. E-mailing is both a great convenience and a source of irritation.
10. Broadband is changing everything (e.g., the tasks people undertake online vary according to the mode of access).

School Contexts

Much of what was originally written about using technology to mediate students’ understanding of text and motivation for learning in the first edition of the *Handbook of Literacy and Technology: Transformations in a Post-typographic World* (Reinking, McKenna, Labbo, and Kieffer, 1998) remains a trend today. Examples of current contributions to this trend can be found in edited collections (Jetton & Dole, 2004; Verhoeven & Snow, 2001), in syntheses and reviews of the literature (Edyburn, 2001; Kamil, Intrator, & Kim, 2000; Lou, Abrami, & d’Apollonia, 2001), as well as in peer-refereed journal articles (Hobbs & Frost, 2003; Windschitl & Stahl, 2002). This body of literature on school contexts for ICT studies is classroom centered and relies largely on pragmatism as defined by Dillon, O’Brien, and Heilman (2000) as its lens for interpreting the impact of digital technologies on young people’s literacy learning. It is a rich literature comprised of studies on language/text and mind/cognition that are situated in

real-world contexts, and that typically require instructional interventions for addressing attitudes and beliefs as much as cognitive changes in learners.

A second trend within school contexts for ICT-related literacy studies is a call for negotiating the multiple realities of technology in literacy research and instruction (Labbo & Reinking, 1999). The construct *multiple realities* builds on Leu's (1997) notion of *deixis*, a linguistic concept that marks quick shifts in the meanings of words (e.g., *old* and *new*) when the frame of reference changes. Applied to ICT-related literacies, deixis refers to continual changes (or multiple realities) wrought by rapid advances in technology use that often undermine long-standing assumptions about reading and writing. Labbo and Reinking's (1999) have argued that technology should be studied not as a monolithic *topic* within literacy instruction but rather "as a set of possibilities in relation to multiple realities" (p. 479). They suggest that this multiple realities view of technology use in school contexts can provide guidance to teachers, especially when there are competing goals for ICT-related literacy instruction. Such might be the case when the goals within a single school range from "seeing new technologies as extensions of the status quo to seeing new technologies as a potential catalyst for transforming instruction" (p. 488).

The three studies presented next illustrate quite dramatically the variation found in technology use when a multiple realities perspective is employed. Karchmer (2001) used this perspective to frame her exploratory study of 13 classroom teachers' perceptions of how the Internet influenced literacy and literacy instruction in their classrooms. She identified several distinctions between elementary and secondary school teachers' perceptions of the Internet's influence on their instruction, one of which was the finding that five of the six secondary teachers in her study did not believe that providing

opportunities to publish on the Internet increased their students' motivations to produce quality written work. Interestingly, this finding stood in stark contrast to what seven of the eight elementary teachers believed. Karchmer interpreted it (and other findings) in light of the multiple realities perspective. In a qualitative study that uncovered serious flaws in the assumptions guiding two Silicon Valley high schools' policies on ICT use, Cuban, Kirkpatrick, and Peck (2001) reported that "access to equipment and software seldom led to widespread teacher and student use" (p. 813). The researchers offered two interrelated explanations for these and several other anomalies observed, all of which suggested the usefulness of Labbo and Reinking's (1999) multiple realities framework for interpreting classroom practices. Finally, although not identified specifically as a multiple realities study, Williams and Williams' (2000) attempt to use ICTs to teach EFL learners who had previously not been able to understand their teacher or the course requirements would seem to fit the perspective's emphasis on the importance of flexibility in meeting classroom realities.

Home and Community Settings

A third trend, though one that is not yet well represented in the literature, is a form of inquiry that focuses on youth's digital literacy practices in home and community settings. With a few notable exceptions (e.g., Chandler-Olcott & Mahar, 2003; Lankshear & Knobel, 2003; Leander & McKim, 2003; Lewis & Finders, 2002), literacy researchers have opted to focus on academic contexts, with only an occasional foray into exploring how digital literacies acquired in school connect to those used in home and community (Beach & Bruce, 2002; King & O'Brien, 2002; Lankshear & Snyder, 2000). Despite its relative newcomer status, there is evidence to suggest that the trend in studying youth's

home and community digital practices is likely to grow, especially among researchers inquiring into how ICTs mediate youth's social spaces to produce new insights related to identity formation and what it means to be literate in a digital age.

Scholars who locate their work in spatial theories of youth's digital practices, such as Leander and his colleagues (Leander, 2002, 2003; Leander & McKim, 2003; Leander & Sheehy, 2004), make use of current thinking in social and cultural geography to generate insights for interpreting ICT-related literacies. They also represent an important shift in the study of online literacies. For example, Leander et al.'s work reflects what can be learned by moving away from a fixation on technology as a tool and toward mapping what Lemke (2003) refers to as ecosocial systems—digital spaces in which youth produce and perform new literate identities, not unlike those described in Nielsen's (1998) study of a rural high school's introduction to the Internet in the first edition of the *Handbook of Literacy and Technology: Transformations in a Post-typographic World*.

Other researchers interested in ICT-related literacies in home/community settings have used a variety of theoretical perspectives, including critical, sociocultural, and poststructural, to inquire into how young women perform their identities through digital literacies (Lewis & Finders, 2002), how constructions of gender influence (and are influenced by) ICT-mediated literacy practices outside of formal academic settings (Chandler-Olcott & Mahar, 2003); how juxtaposition of traditional and intermedial literacies can redefine the competence of youth who struggle to read (O'Brien, 2003); and how Internet communities of practice support L2 learning and positive change in self-perceptions of what it means to be literate (Lam, 2001).

Needed Research on Technology Use in Youth Literacies

Although it is too early to lay out a broad agenda for ICT-related literacy research, a few interim questions to guide researchers in their work that are specific to the trends just identified seem in order. These questions are in line with the ten central principles that Leu, Kinzer, Coiro, and Cammack (2004) identified as having emerged from their review of the literature on the Internet and other ICTs in preparation for developing a more comprehensive theoretical framework for online literacies.

Question: Given that youth report that Internet access is essential for completing homework and yet find most Internet-based assignments “uninspiring,” how might teachers alter their approach to making assignments?

Researchers interested in addressing this question may find Hinchman and Lalik’s (2002) interpretation of the scenariating strategy described in Lankshear and Knobel (2003) particularly helpful. Scenariating, which means considering a number of possibilities, is a process for raising important “what-if” questions that a group can then take into account when seeking to change how things have traditionally been done.

Question: Given the transactional nature of ICTs and youth literacies (i.e., ICTs produce changes in youth literacies just as youth literacies produce changes in ICTs), what is needed to transform existing tools and forms of strategic knowledge into “new” resources for locating, evaluating, and effectively using ICT-related information?

Studies that might be designed to answer this question are clearly in need of a collaborative framework, for the onus is not on researchers alone but rather on the shared knowledge and expertise that youth and their teachers can bring to the project. Examples

of how all three parties who share a stake in answering this question can be encouraged to participate in the project are available in Hull and Schultz's (2002) edited book on bridging out-of-school literacies with classroom practice. This resource, while not exclusively focused on ICT-related literacies, provides practical ideas for tapping into the expertise of individuals whose work in informal learning centers, such as the home and community organizations, makes them particularly valuable.

Question: Given that significant strides are being made to enlarge the scope of inquiry related to ICTs and youth literacies (e.g., studies that draw on perspectives outside the conventional literacy paradigms), what theoretical and methodological issues need to be addressed, and why?

Here, the focus is on the type of research to be conducted rather than on the design of specific studies. A concern, perhaps more implied than directly stated, is the possibility that in our haste to open up the field of ICT-related youth literacies, we might unintentionally stifle trends that are yet "unborn." For example, if the field were to privilege research traditions that focus on the relationship between language/text and mind/cognition over those that view ICT texts as socially, culturally, and historically constructed (or if the privileging were in reverse), what views might be lost that represent other perspectives, such as "new realism" perspectives in social constructionism (Hruby, 2001)?

Of paramount concern is that studies of ICT-related youth literacies take into account the global/local tensions underlying the autonomous view of literacy. Collins and Blot (2003) argue along with others (e.g., Brandt and Clinton, 2002) that socioculturalists and ethnographers, in trying to correct for an earlier conception of literacy as a

deterministic force in social evolution (Goody, 1986), have relied too heavily on localized, or contextualized, accounts of literacy practices. They point out that although revisionist historical research and situated ethnographic studies of people's multiple literacies have largely discredited the autonomous view of literacy—a view that assumes a deterministic force in social evolution—the fact remains that literacy studies generally, and ICT-related literacy studies in particular, have yet to take into account the tenacity of this key aspect of the model.

In sum, although the three questions just posited are far from fulfilling the need for a comprehensive research agenda on ICT-related youth literacies, they may prove useful in starting the conversation. As with all relatively new areas of research, ICT youth literacies stand to gain from the sustained intellectual and material engagement of all who are interested in the potential of this research to inform a broader audience.

References

- Alvermann, D. E. (2002). Effective literacy instruction for adolescents. *Journal of Literacy Research, 34*, 189-208. (Also available at <http://www.nrconline.org>)
- Andrews, R. (2004). Conclusion. In R. Andrews (Ed.), *The impact of ICT on literacy education* (pp. 202-214). London: RoutledgeFalmer.
- Beach, R., & Bruce, B. C. (2002). Using digital tools to foster critical inquiry. In D. E. Alvermann (Ed.), *Adolescents and literacies in a digital world* (pp. 147-163). New York: Peter Lang.
- Brandt, D., & Clinton, K. (2002). Limits of the local: Expanding perspectives on literacy as a social practice. *Journal of Literacy Research, 34*, 337-356.
- Carnegie Corporation of New York. (2004). *Reading next: A vision for action and research in middle and high school literacy*. New York: Author.
- Chandler-Olcott, K., & Mahar, D. (2003). "Tech-savviness" meets multiliteracies: Exploring adolescent girls' technology-mediated literacy practices. *Reading Research Quarterly, 38*, 356-385.
- Collins, J., & Blot, R. K. (2003). *Literacy and literacies: Texts, power, and identity*. Cambridge, UK: Cambridge University Press.
- Cuban, L., Kirkpatrick, H., & Peck, C. (2001). High access and low use of technologies in high school classrooms: Explaining an apparent paradox. *American Educational Research Journal, 38*, 813-834.
- Dillon, D. R., O'Brien, D. G., & Heilman, E. E. (2000). Literacy research in the next millennium: From paradigms to pragmatism and practicality. *Reading Research Quarterly, 35*, 10-26.

- Edyburn, D. L. (2001). 2000 in review: A synthesis of the special education technology literature. *JSET 16*(2). Retrieved January 4, 2004 from <http://jset.unlv.edu/16.2/Edyburn/first.html>.
- Goody, J. (1986). *The logic of writing and the organization of society*. Cambridge, UK: Cambridge University Press.
- Hagood, M. C., Leander, K. M., Luke, C., Mackey, M., & Nixon, H. (2003). New directions in research: Media and online literacy studies. *Reading Research Quarterly, 38*, 386-413.
- Hinchman, K. A., & Lalik, R. (2002). Imagining literacy teacher education in changing times: Considering the views of adult and adolescent collaborators. In D. E. Alvermann (Ed.), *Adolescents and literacies in a digital world* (pp. 84-100). New York: Peter Lang.
- Hobbs, R., & Frost, R. (2003). Measuring the acquisition of media-literacy skills. *Reading Research Quarterly, 38*, 330-355.
- Hruby, G. G. (2001). Sociological, postmodern, and "new realism" perspectives in social constructionism: Implications for reading research. *Reading Research Quarterly, 36*, 48-62.
- Hull, G., & Schultz, K. (Eds.). (2002). *School's out! Bridging out-of-school literacies with classroom practice*. New York: Teachers College Press.
- International Reading Association (2002). *Integrating literacy and technology in the curriculum: A position statement of the International Reading Association*. Newark, DE: Author.

- Jetton, T. L., & Dole, J. A. (Eds.). (2004). *Adolescent literacy research and practice*. New York: Guilford.
- Kamil, M. (2003). *Adolescents and literacy: Reading for the 21st century*. Washington, DC: Alliance for Excellent Education.
- Kamil, M. L., Intrator, S. M., & Kim, H. S. (2000). The effects of other technologies on literacy and literacy learning. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol. 3, pp.771-788). Mahwah, NJ: Erlbaum.
- Karchmer, R.A. (2001). The journey ahead: Thirteen teachers report how they Internet influences literacy and literacy instruction in their K-12 classrooms. *Reading Research Quarterly*, 36, 442-466.
- King, J. R., & O'Brien, D. G. (2002). Adolescents' multiliteracies and their teachers' needs to know: Toward a digital détente. In D. E. Alvermann (Ed.), *Adolescents and literacies in a digital world* (pp. 40-50). New York: Peter Lang.
- Labbo, L. D., & Reinking, D. (1999). Negotiating the multiple realities of technology in literacy research and instruction. *Reading Research Quarterly*, 34, 478-492.
- Lam, W. S. E. (2000). L2 literacy and the design of the self: A case study of a teenager writing on the Internet. *TESOL Quarterly*, 34, 457-482.
- Lankshear, C., & Knobel, M. (2003). *New literacies: Changing knowledge and classroom learning*. Buckingham, UK: Open University Press.
- Lankshear, C., & Snyder, I. (2000). *Teachers and techno-literacy: Managing literacy, technology and learning in schools*. St. Leonards NSW, Australia: Allen & Unwin.

- Leander, K. M. (2002, December). *Situated literacies, digital practices, and the constitution of space-time*. Paper presented at the annual meeting of the National 'Reading Conference, Miami, FL.
- Leander, K. M. (2003). Writing travelers' tales on new literacyscapes. (RRQ Online Supplement). Retrieved October 7, 2004 from http://www.reading.org/Library/Retrieve.cfm?D=10.1598/RRQ.38.3.4&F=RRQ-38-3-Hagood-suppl_3.html
- Leander, K. M., & McKim, K. K. (2003). Tracing the everyday "sittings" of adolescents on the Internet: A strategic adaptation of ethnography across online and offline spaces. *Education, Communication & Information*, 3, 211-240.
- Leander, K. M., & Sheehy, M. (Eds.). (2004). *Spatializing literacy research and practice*. New York: Peter Lang.
- Lemke, J. L. (2000). Across the scale of time: Artifacts, activities, and meanings in ecosocial systems. *Mind, Culture, and Activity*, 7, 273-292.
- Lenhart, A., Simon, M., & Graziano, M. (2001). *The Internet and education: Findings of the Pew Internet & American Life Project*. Washington, DC: Pew Internet and American Life Project. Retrieved May 30, 2003 from <http://www.pewinternet.org/reports/toc.asp?Report=39>
- Leu, D. J. (1997). Cathy's question: Literacy as deixis on the Internet. *The Reading Teacher*, 41, 62-67.
- Leu, D. J., Jr., Kinzer, C. K., Coiro, J. L., & Cammack, D. W. (2004). Toward a theory of new literacies emerging from the Internet and other information and communication technologies. In R. B. Ruddell, & N. Unrau (Eds.), *Theoretical*

- models and processes of reading* (5th ed., pp. 1570-1613). Newark, DE: International Reading Association.
- Levin, D., Arafeh, S., Lenhart, A., & Rainie, L. (2002). *The digital disconnect: The widening gap between Internet-savvy students and their schools*. Washington, DC: Pew Internet and American Life Project. Retrieved July 4, 2004 from http://www.pewinternet.org/report_display.asp?r=67
- Lewis, C., & Finders, M. (2002). Implied adolescents and implied teachers: A generation gap for new times. In D. E. Alvermann (Ed.), *Adolescents and literacies in a digital world* (pp. 100-113). New York: Peter Lang.
- Lou, Y., Abrami, P. C., & d'Apollonia, S. (2001). Small group and individual learning with technology: A meta-analysis. *Review of Educational Research*, 71, 449-521.
- Neilsen, L. (1998). Coding the light: Rethinking generational authority in a rural high school telecommunications project. In D. Reinking, M. McKenna, L. Labbo, & R. Kieffer (Eds.), *Handbook of literacy and technology: Transformations in a post-typographic world* (pp. 129-143). Mahwah, NJ: Lawrence Erlbaum Associates.
- O'Brien, D. (2003, March). Juxtaposing traditional and intermedial literacies to redefine the competence of struggling adolescents. *Reading Online*, 6(7). Retrieved January 20, 2004 from http://www.readingonline.org/newliteracies/lit_index.asp?HREF=obrien2/
- Reinking, D., McKenna, M., Labbo, L., & Kieffer, R. (Eds.). (1998). *Handbook of literacy and technology: Transformations in a post-typographic world*. Mahwah, NJ: Lawrence Erlbaum Associates.

USC Annenberg School Center for the Digital Future. (2004). *The digital future report:*

SSurveying the digital future, year four. Retrieved September 30, 2004 from

<http://www.digitalcenter.org> .

Verhoeven, L., & Snow, C. E. (Eds.). (2001). *Literacy and motivation: Reading*

engagement in individuals and groups. Mahwah, NJ: Lawrence Erlbaum

Associates.

Williams, H. S., & Williams, P. N. (2000). Integrating reading and computers: An

approach to improve EFL students' reading skills. *Reading Improvement*, 37, 98-

100.

Windschitl, M. & Stahl, K. (2002). Tracing teachers' use of technology in a laptop

computer school: The interplay of teacher beliefs, social dynamics, and

institutional culture. *American Educational Research Journal*, 39, 165-205.