Reviews 117

**Technology and Social Inclusion: Rethinking the Digital Divide.** *By Mark Warschauer.* Cambridge, MA: MIT Press, 2003. 274 pp. ISBN 0262232243.

Mark Warschauer provides a wide-ranging, provocative re-evaluation of the "digital divide," which he prefers to describe as a complex, multi-layered "digital inequality." His point of view and sympathies clearly bridge the two academic disciplines with which he is most closely associated—education and computer science—in which he has a cross appointment at the University of California, Irvine. Citing fascinating examples from his own and other international research, he points out that despite some well-laid plans for access to information and communication technology (ICT), much remains to be done to ensure that technological and information "literacy" are also guaranteed.

Poorly designed implementation programs are largely to blame for digital inequality, as Warschauer points out in examples from Ireland (where in one case, more—not less—social disenfranchisement was encountered by unemployed, isolated ICT users after they stopped going to the unemployment office and instead used ICT at home to look for work); from India (where no instruction was provided after ICT was placed in public areas); and from Egypt (where a USAID project was so mishandled that computer hardware sat in storage for more than a year before anything tangible got under way).

In what has become a remarkably effective political-economic method of evaluating technology adoption and diffusion, Warschauer refers to three "industrial revolutions" (in the eighteenth, nineteenth, and twentieth centuries) that have had huge impacts on society, the economy, and the further development of technology. By using statistical reports from the World Bank, the UN, and individual scholars, he shows how inequitable distribution of wealth in countries and between countries is related to inequitable diffusion of ICT.

Globalization plays a major role in Warschauer's analysis, especially his observations on the unfortunate fact that the English language dominates Web traffic and that, despite much of the world's recognition that ICT has become embedded in our social and economic fabric, countries that have the wherewithal to ensure less wealthy countries can trade and communicate with them don't do enough to resolve the imbalance.

To emphasize the need for change, Warschauer defines the benefits of using the Internet to increase "social capital," a term he uses to explain how we, as individuals and a society, gain by bonding (sometimes exclusively) closely with some people, and how we overcome the exclusivity by bridging to other groups. This social networking, he says, is a vital benefit of appropriately distributed and adopted ICT and can create what Granovetter (1973) saw as the advantage of creating "weak ties."

Warschauer also addresses the issue of appropriate content by pointing to the role communities can have in developing their own Web sites about themselves, thereby diminishing the likelihood that someone else is choosing the information they see. Such involvement avoids the situation we encounter in media concentration, where an ISP such as "myYahoo" or "my CNN" narrows the possibility of receiving a broad perspective on issues.

It is interesting to note that, while Warschauer is critical of limitations of opportunity, the narrowness of linguistic variety, and the way in which certain cultures censor the Internet (China, Singapore), he says nothing about the role the U.S. government has in legislating control of Internet content, nor about the dangers imposed by the potential for a communicative police state under the USA Patriot Act.

Warschauer's conclusions, however, are valid and well laid out. In his final chapter he points to five all-important variables in digital inequality as described in the work of Paul DiMaggio and Eszter Hargittai (2001): (1) technical means, such as equitable access to broadband (2) autonomy, that is, where one logs on and whether one's use is monitored; (3) searching and analytical skills; (4) social support, as in access to advice; and (5) purpose.

Finally, however, perhaps the most important message here is the distinction between "reaching numbers" (as in satisfying a government-set goal of placing "x" number of computers in a classroom) and "reaching people" so that they have the technology, the autonomy, skills, support, and purpose necessary to achieve social inclusion, all of which are clearly central to Warschauer's vision.

## References

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