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Democracy and Education: The Missing Link May Be Ours

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Abstract

In this article, John Willinsky calls on educational researchers to consider participating in scholarly publishing experiments that leverage information technologies. Willinsky argues that publishing systems that provide greater public access to educational research are likely to help us to better understand and extend Dewey's democratic theory of education while promoting a more deliberative democratic state. Through this appeal, researchers can expand education's role within democracy by increasing the impact educational research has on practice and by providing an alternative perspective to the media's coverage of educational issues. The author challenges researchers to participate in this democratic experiment by thinking of their work as a way to expand global opportunities for edification and deliberation within the public sphere of this information economy. (pp. 367–392)

Much has changed since Dewey first laid out in *Democracy and Education* (1916) his vision of the United States as a state of perpetual inquiry, where citizens are engaged in sharing educational experiences. Changes for the good include extending suffrage to women and people of color, rising educational attainment, the successful challenging of racial segregation in the courts, and the recognition of cultural diversity through multicultural initiatives. On the other hand, American voter participation has declined, particularly since the 1960s; civic involvement, not to mention bowling-league membership, is down (Putman, 2000); corporate control of the media has increased, as has the media's political influence (Bagdikian, 2000; McChesney, 1999); and affirmative action measures, which were showing positive educational effects (Bowen & Bok, 1998), are being challenged and blocked (Dworkin, 2001).

Against this century-long backdrop, we now face a rather different order of political change with the rapid development of the Internet. Over the last ten years, the Internet has opened a new world of information to the public. The increased access to information relates to every aspect of our lives and is on such a scale that it seems bound to alter the relationship between democracy and education. Whether the introduction of the Internet bears comparison with the revolution that Gutenberg initiated with his invention of moveable type and printer's ink, as Christine Borgman (2000) contends, it seems to me far too early to say. While the political and educational impact of the printing press was centuries in the making, I think that we could do worse than to be inspired by such historical analogies in our efforts to

make sense of this new communication technology and to shape how it is used in this political and educational sense. Certainly, the Internet has already started showing signs that it will reshape political participation and the way we are governed, with the emphasis on this new digital democracy to provide more powerful public access to information and officials (Alexander & Pal, 1998; Hague & Loader, 1999; Heeks, 1999; Wilhem, 2000).

One dramatic, if surprising, example of the Internet's democratic impact on public education and empowerment is, in its broadest sense, public access to health information. The result is that patients and their families now bring web-based medical information to their doctors' offices, even though they may not understand it well and the information is not always reliable. However, the very availability of this information is altering the nexus of power and knowledge in doctor-patient relationships in democratic ways, as well as fostering more informative and educational visits for both parties.[1] The Internet is also being used to better inform people in a more traditional political sense, as governments in the developed world continue to expand new online information services. These services increase citizens' abilities to tap into information on their rights and entitlements, to explore policies and programs more thoroughly, and to inundate politicians with their views and positions by email.[2]

Scholarly publishing outside the life sciences has also begun to contribute to this greater world of public information, with electronic journals and research websites in many disciplines providing "open access" to their articles and other scholarly resources. Scientists have created, often with government support, substantial open-access indexes and abstract services for research, as well as many full-text archives that can be freely accessed by their colleagues and students globally.[3] These new open-access systems still offer only partial, often overlapping, coverage of their respective fields of study. As things currently stand, most electronic journals, including those published by both scholarly societies and commercial publishers, still require a library or individual subscription to access them. But there is a growing open-access movement afoot among researchers. One indication of support for open access comes from the nearly 30,000 scientists in 177 countries who have signed a Public Library of Science petition calling for free and public access to scientific research, or as the Public Library of Science website puts it:

> We believe that the permanent, archival record of scientific research and ideas should neither be owned nor controlled by publishers, but should belong to the public, and should be made freely available. We support the establishment of international online public libraries of science that contain the complete text of all published scientific articles in searchable and interlinked formats. (n.d.)

Those who have signed have agreed to submit to, review for, and edit only those journals that "grant unrestricted free distribution rights to any and all original research reports that they have published, through PubMed Central and similar online public resources, within six months of their initial publication date." Although the boycott may have had little noticeable impact on publishing practices, it still reflects a growing interest among researchers in providing open and complete access to scientific knowledge, whether to medical students in Tanzania, high school teachers in Latvia, biochemists in Vietnam, and community college students in Montana. This interest represents exactly the sort of ideal for scholarly publishing on a global scale that I hold to be part of the Internet's great democratic promise.

Such moves have been supported by the Open Archives Initiative (n.d.), which began in 1999 and has developed standards that enable globally distributed research databases to share a common indexing or metadata system so that they can be searched from a single source. More recently, the Budapest Open Access Initiative (n.d.), funded by the Soros Foundation, has been launched to support and speed up processes that make "research articles in all academic fields freely available on the Internet." There is also the Open Knowledge Initiative (2002), which is making MIT's course materials and its online course management systems freely available to the public, while the Public Knowledge Project (n.d.), with which I work at the University of British Columbia, is developing free software to help journals

and conferences around the globe publish open-access scholarly resources in an easily managed and well-indexed form.[4]

This emerging commitment among scholars to make the knowledge they create freely available is at the heart of my own call to the readers and editors of this journal to consider how turning educational research into a more accessible public resource can further the connection between democracy and education. While offering open access to all forms of scholarly research is certainly a global boon to students and faculty and to curious minds everywhere, it has a special political significance for the social sciences, as this work bears directly on social policies, programs, and practices. If open access to research in the life sciences can create a more democratic and educational dynamic in doctor-patient relationships, then, as I have argued elsewhere (Willinsky, 2000a), it is worth exploring across the social sciences. Here I am specifically asking researchers in the field of education to consider how greater public access to educational research is consistent with our understanding of what we do to foster education and further democratic participation, just as it speaks to the love of learning and pursuit of knowledge that has driven so many of us in this line of work.

But before I go any further, let me make it clear that providing public access to educational research takes more than simply posting journal pages on the Internet as if it were a giant bulletin board at the back of a great public classroom. It will require rethinking how our research works once it is published, in terms of how it connects to a larger world. Although we have grown comfortable with stuffing a journal in our bookbag at the end of the day, to open it later at the kitchen table or in cafés, these low-circulation, finely bound volumes are becoming harder to justify vis-à-vis their electronic counterparts. The print journal is proving too expensive for even well-financed research libraries, let alone universities in developing nations, and it is not nearly as efficient for locating specific ideas or following them across citations, for delving into the data or comparing related studies.[5] This is a time, then, for rethinking the scholarly journal in ways that relate to the scholarly and public qualities of our work.

This essay is not, however, about the technologies behind this new publishing medium. It is devoted to presenting the reasons why educational researchers should do more to foster open, better organized scholarly communication in the name of democracy and education, rather than setting out technical solutions for achieving this organized openness. Still, I think it important to have some idea of what the actual systems at issue may entail. While “open-access” publishing simply refers to providing free access to the complete contents of a journal or other resources, I believe something more is required if we are to truly improve the scholarly and public quality of research.

While a number of research groups are developing new publishing tools that improve the quality of access to academic journals, at the Public Knowledge Project we are currently working on four components of online publishing that we believe can significantly improve public access to research in areas such as education: 1) online systems that enable faculty members, with only minimal technical skills, to manage refereed journals, scholarly conferences, and other research sites that provide open access to complete studies with support for less-experienced research readers, those with disabilities, and those without the latest technology; 2) comprehensive, open-access, and automated indexing and archiving systems for online research, which allow readers to locate refereed research, dissertations, and other resources, and conduct fine-grained searches by, for example, research topic, sample characteristics, methodology, and works cited; 3) research support tools that enable readers to readily move from a given research study to its dataset and research instruments, to related studies, reviews, overviews, and glossaries, and to relevant policy, program, and media materials in other databases; and 4) open forums for researchers, professionals, policymakers, and the public to discuss educational issues, methods, and research agendas within the context of this body of research.[6] This approach to open-access publishing would support both the scholarly and public quality of research because it not only extends public access but enhances faculty members’ ability to track ideas, conduct peer reviews, and position their own work within the field.

I do not, however, want to underestimate what it means to ask journals to move from the paid-subscription world of print to open-access publishing, even of the simplest sort. It is obviously a major step for a journal editorial team or professional association to undertake. At this point in the field of education, close to one hundred "e-journals," including such notable titles as *Educational Researcher* and *Teachers College Record*, have been made freely available online, demonstrating that open access can be sustained in this field through institutional and association support.[7] The software for running a peer-review journal online is now being made freely available from a number of sources, including the Public Knowledge Project. The Association for Research Libraries, whose member libraries collectively spend $500 million on subscribing to journals, has understandably begun supporting projects in open-access and nonprofit online publishing under the theme of "returning science to scientists."[8] Open-access publishing could be financed, for example, by having the leading libraries reallocate a portion of that $500 million, by assigning the money saved for each journal that no longer requires a subscription fee (and all the transaction costs associated with managing that fee) directly to the support of online publishing. The leading research institutions are, after all, home to a great number of the journal editors and scholarly association leaders. As we slowly wean ourselves, over the next decade, away from what is currently the unsustainable and inefficient publication of both print and electronic versions of the same journal, my hope is that we will take advantage of these new technologies to explore with research libraries and professional associations an alternative political economy for academic knowledge that is based on open-access publishing. At the very least, it would place this public good squarely within the public realm in far more than a rhetorical sense.

As professors of education, we seem especially well positioned to test the impact of this new communication medium on the public role of research, especially as it might further the relationship between democracy and education. And while there are reasons enough to be skeptical about the educational impact of this new technology (Cuban, 1986, 2001), I do not think that this is the time to sit back and wait for things to happen, not when the public presence of our own work is at issue. Insofar as we are committed to the value of research in informing policy and practice, we would do well to test whether these new publishing technologies can increase the contribution that research makes to the public's understanding of education, as well as contribute more to professional practices and policy decisions within education.

In asking researchers to consider new ways of testing the public value of their work, I am appealing to the experimental quality of democracy that was identified nearly two centuries ago by Alexis de Tocqueville as part of the very dynamic of the young American republic. De Tocqueville was inspired by his visit to America in 1831–1832 to conclude that "democratic eras are periods of experiment, innovation, and adventure" (1969, p. 672). And as this democratic era has not ended, so this "great experiment," as de Tocqueville named it, should be sustained by innovation and adventure today when democratic opportunities appear to present themselves. That a democracy is constantly in need of renewal and testing was also an operating premise of John Dewey. Consider how the final results are still not in on Dewey's own democratic experiment with education, which continues to play out in progressive schools to this day.[9] Across a wide range of issues, we have yet to exhaust or even fully explore the democratic possibilities of deliberation, justice, or equality, just as we continue to arrive over the course of our lifetimes at new understandings of what responsibility and freedom, community and cooperation mean within the democratic states in which we live. My premise is that at this point, given the possibilities for a better informed public, we need to push the democratic experiment by introducing new ways of accessing and utilizing existing sources of information and bodies of knowledge that hold some promise of contributing to policymaking, personal decisionmaking, and other facets of democratic life.

To that end, I devote the remainder of this article to setting out a political philosophy of public access to scholarly publishing as it pertains to the study of education. I argue that publishing systems that provide greater public access are likely to help us to better understand and extend Dewey's democratic theory of education while enhancing the prospects of creating a more deliberative democratic state; and that they are in a good position to expand education's role within democracy to increase the impact education

research has on practice, and to provide an alternative source of information to the media's coverage of such issues as education. Think of these arguments as the first step in understanding how this new online publishing medium is going to test our fundamental assumption that education advances democracy. Think of these arguments as inviting the informed consent of the education research community, that its members might knowingly agree to participate in what may well prove to be the principal publishing experiment of this new medium in the years ahead. Now, experimentation with electronic publication is already well underway, and open access publishing has been tested and is now the channel of choice for physicists, who have had open preprint archives for over a decade.[10] Yet the real experimentation with systems that serve a world larger than the researcher's still await the participation of researchers, journal editors, and scholarly societies, all of whom have now to make critical decisions about these technologies based on larger issues of social and political responsibility. It is time, I am suggesting, to think beyond the speed and convenience of our own desktop access to research, and to see access to this body of knowledge in a field such as education as far more of an experiment in what Dewey might call the communicative quality of democracy.

Dewey, Deliberation, and Democracy

The emphasis I place on going public with our research follows from Dewey's concern for the particularly educational quality of democratic life. Can these new publishing systems be made to serve Dewey's democratic ideal — "to enable individuals to continue their own education" (1916, pp. 100–101)? Can they do so in ways that improve what is currently offered by newsstands, bookstores, the Internet, and the media more generally? Can they extend education beyond formal schooling, which is Dewey's hope for democracy? For Dewey, education in a democracy represents a broadly based and lifelong embrace of learning: "Not only is social life identical with communication, but all communication (and hence all genuine social life) is educative" (1916, p. 5). While Dewey recognizes that, "as societies become more complex in structure and resources, the need for formal and intentional teaching and learning increases," he seeks to work against "an undesirable split between the experience gained in more direct associations and what is acquired in school" (p. 9).

This interest in integrating learning into a greater part of life is at the heart of his contribution to progressive education, as well as central to his role as a public intellectual. To pursue Dewey's political philosophy through these publishing experiments is to see what they can do to integrate the systematic inquiry of research with "the experience gained in more direct associations" (1916, p. 9). The question is whether greater access to research, as well as its integration with other forms of knowledge, can enhance how people work and deliberate together.

At issue is what might be framed as the democratic quality of communication, which is concerned with giving people a means to elaborate, substantiate, and challenge educational ideas at either the policy or school level. For Dewey, democracy is very much a matter of communication: "Men live in a community in virtue of the things they have in common; and communication is the way in which they come to possess things in common" (1916, p. 4). He also insists that "a democracy is more than a form of government; it is primarily a mode of associated living, of cojoint communicated experience" (p. 87). Although he says little of voting booths, candidate debates, or issue advertising, Dewey frequently refers to a basic level of communication among people, especially in this educational sense.

The communication of research, however, poses a special challenge to this democratic vision. It is not enough to simply open the doors of the research libraries a little wider. Dewey is concerned with people being overcome by the quantity and variety of knowledge they faced: "Man has never had such a varied body of knowledge in his possession before, and probably never before has he been so uncertain and so perplexed as to what his knowledge means, what it points to in action and consequences" (1988a, p. 249). Elsewhere, Dewey points to how the increasing complexity of the knowledge entailed in organizing modern society creates a fundamental democratic tension between expert and public control: "A class of experts is inevitably so removed from common interests as to become a class with private

interests and private knowledge, which in social matters is not knowledge at all" (1988b, p. 365). To this Dewey adds the warning that "the world has suffered more from leaders and authorities than from the masses" (p. 365).[11]

Rather than having people resign themselves to expert control, Dewey seeks to increase public access to the pertinent information. To that end he supported, during the early days of his career, the Michigan-based newspaper, *Thought News*, which sought to sell "the truth." Although it failed, he continued to hold to the value of "a newspaper which was only a daily edition of a quarterly journal of sociology or political sciences," as "the mere existence and accessibility of such material would have some regulative effect" even with "a limited circulation and a narrow influence" (1988b, p. 349). This regulative effect would be on the side of a better informed public who would then be in a position to work with democracy's necessary class of experts rather than be governed by them. Such is the intellectual faith in systematic inquiry that drives our work. Dare we put it to the test?

Yet Dewey's careful reading of democracy also leaves me troubled with its emphasis on "associated living, of cojoint communicated experience" by which people "come to possess things in common" (1916, p. 87). This is one notion of democracy that has changed since Dewey first held that, "in order to have a large number of values in common, all members of the group must have an equable opportunity to receive and take from others. There must be a large variety of shared understandings and experiences" (1916, p. 84). Instead, we see democracy as a means of governing those who do not necessarily share "a large variety of shared understandings and experiences" (p. 84). Dewey's sense of the nation as a shared experience tends to limit democracy's inclusiveness, just as his focus on the nation itself curtails a more global approach to this democratic exchange of understandings and experiences.[12]

In fact, one argument for going public with educational research is that it can bring into focus the level of diversity within which we already live. Researchers' own plurality of values, methods, and understandings — which includes the very critique of such plurality (e.g., Himmelfarb, 1995; Schlesinger, 1992) — further supports a concept of democracy given to working with differences, rather than seeking a singular truth or vision of, for example, the good school. Democracy has far less to offer, after all, if people are assumed to already be in accord on all the major issues. This pluralism, then, provides the very reason why democratic citizens are necessarily interested in talking with and learning from one another. Increasing the public presence of a body of research that is itself pluralistic in its values, as well as given to representing the plurality within communities, can only help further what is seen by many as research's most important democratic task — to assert the rights of those who are too often thought to fall outside the ken of shared concepts and culture.[13]

Certainly, academic culture has its own share of common values, from conventions of evidence to peer review, just as democracy requires the acceptance of a few basic principles of equality and justice.[14] Yet within academic culture, such shared values are tempered by an ethos of critique, as well as a championing of the disenfranchised. It may be, then, that this body of research can afford the public not only a greater means of understanding how we live with differences, but a way of talking about that life that goes beyond Dewey's aim "to have a large number of values in common" (1916, p. 84). Ready access to this research could better equip people, whether educators, reporters, parents, or politicians, to publicly challenge comforting myths and assumptions, while providing missing evidence, histories, and ideas that may inspire a way forward. This knowledge will not resolve the disputes. If it can level the playing field at all, it will not be by dumbing things down but by providing access to a powerful source of knowledge, enabling people to explore the limits of their own and others' claims while being able to identify the different perspectives and values at play.

Dewey writes on the final page of *Democracy and Education* that "all education which develops power to share effectively in social life is moral" (1916, p. 360). Can the improved access and intelligibility of educational research contribute to people's experience of such power? Is knowledge still a source of power when it is available to everyone? My argument is that we, as creators of such knowledge, should feel some obligation to take up and test such questions. We need to explore whether we are doing all that

we can, in light of new technologies, to promote the democratic lifeblood of educative communication, as Dewey would have it.

Yet as I have already suggested, our ideas of democracy do not stand still, and one development that has pushed Dewey's position on democracy within a pluralistic society while being especially relevant to improving the public quality of education research is the concept of "deliberative democracy" (Bohamn & Rheg, 1997; Elster, 1998). For example, in *Democracy and Disagreement*, Amy Gutmann and Dennis Thompson (1996) step over Dewey's concern with shared values to focus on how people can talk through and ultimately live with fundamental disagreements by "seeking moral agreement when they can, and maintaining mutual respect when they cannot" (p. 346). This attention to democracy's *deliberative* qualities, as opposed to its procedural or constitutional aspects, creates a civic space for social science research, whether to inform or otherwise be a part of the public articulation of issues and ideas. Gutmann and Thompson advance three principles — reciprocity, publicity, and accountability — for managing the "economy of moral disagreement" (p. 3), which they recognize as "a permanent condition of democratic politics" (p. 9). Each of these principles provides a further and final warrant for public-access initiatives in scholarly publishing, just as these initiatives can help us assess the public's capacity for a more deliberative democracy.[15]

Reciprocity, first among Gutmann and Thompson's principles, "asks us to appeal to reasons that are shared or could come to be shared by our fellow citizens" (1996, p. 14). This includes ensuring that the "empirical claims that often accompany moral arguments . . . be consistent with the most reliable methods of inquiry at our collective disposal" (pp. 14–15). Now, educational research is rife with reliable methods, while the differences among them, and the results they lead to, can lead researchers at times to emulate that democratic "economy of moral disagreement" (p. 3). Making research public, as I have stressed, is not intended simply to resolve disagreements once and for all, although it may in rare cases. More often, the research should help clarify the probable or likely implications and consequences of people's positions. Given that deliberation leads at best to provisional conclusions, "subject to revision in light of new information and better arguments," open access to an ongoing body of research has a substantial contribution to make to these political processes (p. 356).

Gutmann and Thompson's second and third principles — *publicity* and *accountability* — also work well with public access to educational research. As Gutmann and Thompson employ these concepts, publicity refers to openly sharing both the "reasons that officials and citizens give to justify political actions, and the information necessary to assess those reasons" (1996, p. 94). The scope of accountability for this deliberative process includes, for Gutmann and Thompson, a need to "address the claims of anyone who is significantly affected" by those actions (p. 129). A careful review of research results can improve the level of accountability, substantiating the claims of those who are significantly affected.[16] In sum, these two political philosophers identify what I would hold up as one of the principal democratic warrants for public-access experiments with research: "Respect for [a citizen's] basic liberty to receive politically relevant information is an essential part of deliberative democracy" (p. 126).

To better prepare the public for such deliberative engagements, Gutmann and Thompson suggest that people need to learn more about how "to justify one's own actions, to criticize the actions of one's fellow citizens, and to respond to their justifications and criticisms" (p. 65). My argument, in turn, is that scholarly publishing could do more to help people turn to research as a way of cultivating such critical reasoning abilities, although it will also fall to the schools to teach new lessons on locating and drawing on intellectual resources that best serve these processes of justification and criticism. Although this is not the place to develop the curricular benefits for the schools of going public with social science research, I would follow Jay Lemke (1994), who, in the Internet's earliest days, spotted the educational potential of having students pursue this more democratic approach to the larger world of knowledge, as opposed to staying within the confines of the textbook. At this point, I only ask whether we could do more with our research to demonstrate a greater continuity between the democratic principles and practices of the institutions for which we are responsible.

Education, Research, and Democracy

It may seem obvious enough that people need a certain level of formal education to participate effectively in a modern democratic state. Certainly, the pertinent research points to how education makes a difference, although if you look closely, those with only seven years of education in the United States (albeit a small proportion of the population) are more active voters than all but those with eighteen years of schooling (Nie, Junn, & Stehlik-Barry, 1996). And while U.S. postsecondary education attendance doubled in the quarter century after World War II, the proportion of people who voted declined in that period, especially since the 1960s. Public primary schooling in developing countries increases the chances of democracy taking hold, while secondary education does not (Kamens, 1988).

What is it about education, then, that is sufficient and necessary for democracy? What the political science research team of Nie, Junn, and Stehlik-Barry (1996) found, for example, was that formal schooling encourages people to believe "that their fate is controlled in fundamental ways by the actions and policies of democratic governments" and that "the goals of fairness and equality are important to the long-term stability of the democratic system" (p. 19). Education can predict the degree of political participation because education situates people within "politically important social networks" that offer "proximity to those who make policy decisions" and "accessibility to sources of relevant political information" (p. 45).

If that is indeed the case, then educational researchers may have it within their power to at least increase public accessibility to one source of potentially relevant political information. I would not want to exaggerate the political clout of this research. Coming to the table with a handful of pertinent studies hardly compares to old-boy networks and school connections. But those lingering traditions provide reason enough, I feel, for researchers committed to this close connection between democracy and education to support the development of a public information resource to which people, as well as the organizations and agencies that would represent their interests, have equal access.

There are, however, two common assumptions about the public role of research that this open-access approach challenges. The first is that research is best summarized, translated, and synthesized before being made public. It needs to have the wrinkles and disputes cleared away so that it can present a singular, definitive answer to pressing questions. This mediated approach to preparing research for public consumption has been the tack, for example taken by the American Educational Research Association's outreach activities and the National Research Council consensus panels.[17] Yet, we should not assume that the public cannot bear the complexities of current educational research, given how we have learned to live, for example, with the lack of definitive scientific studies on the effectiveness of screening tests for cancer. Greater public familiarity with the discrepancies and disagreements that mark an ongoing body of research will act as a check on the temptation to bring in the experts to resolve social issues, effectively removing those issues from the democratic sphere of deliberation. It will also help people see that disagreements among scientists often reflect conflicts in values within the larger society, again suggesting that science does not somehow stand outside of the democratic sphere (Fischer, 2000).

A democracy would seem to demand direct access to public relevant and credible sources of knowledge, even as those sources are recognized as shaped by their own democratic differences in values and judgments. It may well be that enhancing public access to this knowledge will also prove a boon for inspiring faculty and students to give greater thought to writing for this expanded audience, taking the time to explain themselves in a way that will reward their work with a greater impact than it has previously had a chance of achieving. This openness may well prove a source of insight into the intricate links between the public and scholarly forces that drive research within a public sphere like the schools.

The second common assumption about education research in particular, which this open-access approach challenges, is that the way to enhance its public status is to focus it more systematically on improving school practices, as recent proposals by the National Research Council (1999) and National

Academy of Education (1999) recommend (Willinsky, 2001a). This may end up doing less for the democratic quality of our lives, as research is used to fine tune teaching procedures and school programs, while offering less to contribute to what people think about education in a larger sense. The educational contribution that research can make to democracy is far more about providing, for example, the historical contexts of longstanding school issues, posing challenges to people's basic thinking about learning, envisioning radical alternatives to current programs, and otherwise becoming a part of how people think about what schools can and should do. There is certainly a place for research directed at improving teaching practices within the scope of certain standardized tests, but I think that many researchers would be rightly apprehensive about going public with their work if it means that the immediate applicability of research becomes the principal and most prized aspect of our work as intellectuals.

In arguing for improving public access to education research, I recognize that one of the educational issues that we will need to face is bringing the public in on the very scope and diversity of research. Yet I cannot help but think that to encourage this broader awareness of what schooling is about is itself educationally enriching in a public sense. In thinking about how children should be educated, whether in making personal, professional, or policy decisions, people should have access to a range of perspectives of the sort that research can provide, from the daily life of the classroom to performance levels on international assessments. People would do well to discover how a science student learns to make ethical decisions, just as they need to know whether girls have an equal opportunity to be scientists. They also need a framework for thinking about school choice and public education in terms larger than current instructional efficacy comparisons. AERA's motto — "Research Improves Education" — seems to me to unnecessarily limit what research can help us know. The organization would be better served, given what I have argued here, by a motto closer to "Research Informs Education."

It is not, of course, that I imagine everyone using this research on a daily basis, although new work on evidence-based practices in medicine and other forms of professional practice would suggest it could have a regular role to play.[18] Far more often, this engagement with research will be a matter of personal interests, pressing public issues, and passing curiosities. Still, we should not underestimate the difference that this occasional interest can make. When the public has turned to research, as citizen groups have around environmental issues, for example, they are "not necessarily hostile to technical data," as political scientist Frank Fischer has found in his study of citizen action groups, especially if that data is "presented and discussed in an open democratic process" (2000, p. 130). Although members of these groups may initially have found it hard to even speak with researchers, before long these concerned citizens were actively involved in the research process itself, giving rise to, for example, "popular epidemiology" in which the public helps to track the distribution of diseases. The instance of a researcher-public alliance forming around environmental issues suggests how local and expert knowledge can play a critical part in these deliberative processes. "Instead of questioning the citizen's ability to participate, we must ask," Fischer insists, "how can we interconnect and coordinate the different but inherently interdependent discourses of citizens and experts?" (p. 45). He calls for a reconstructed concept of professional practice among researchers whose task is "authorizing space for critical discourse among competing knowledges, both theoretical and local, formal and informal" (p. 27). Such are the goals for making scholarly publishing publicly accessible.

Perhaps the most dramatic lesson of how the educational benefits of this public engagement works for both the public and science can be drawn from the AIDS activists of the 1980s and 1990s. As Steven Epstein (1996) tells it in *Impure Science,* these activists successfully struggled for public participation in medical knowledge, which meant, among other things, bringing otherwise overlooked research into the limelight and changing the conduct of clinical trials. Scientists found themselves moved by activists in both an intellectual and ethical sense, while activists "imbibed and appropriated the languages and cultures of biomedical sciences," acquiring their own forms of credibility in public and scientific deliberations over how to respond to AIDS by "yoking together moral (or political) arguments and methodological (epistemological) arguments" (pp. 335–356). The AIDS struggle established the need for, in the words of ACT-UP activist Mark Harrington, "a lasting culture of information, advocacy,

intervention, and resistance" (p. 350). The lesson drawn from the fight against this tragic pandemic that is no less with us today is that enabling people to play a greater part in directing their own lives amid a complex crisis can lead to better science and an extension of the democratic sphere.

The public place of research also needs to be seen on a global scale, where disparities in educational opportunities, and access to knowledge more generally, are greatest. Avinish Persaud of the State Street Bank in Boston holds that the current knowledge economy is only increasing the gap between rich and poor nations — a knowledge gap that he calculates (based on number of scientists) to be ten times the income gap. He asks us to imagine the discrepancies between an imagined economist in Iowa, tapping into "thousands of journals on-line" as well as news services and other resources, while "many researchers in developing countries lack this opportunity" as do "civil servants who wish to explore policy options" (Persaud, 2001, pp. 109–110).

The problem is not simply a lack of phone lines and computers. The gap between haves and have-nots is just as much a matter of access to well-organized sources of knowledge. Consider, for example, how critical open access to an e-journal such as the *British Medical Journal* is to the University of Zimbabwe, which had to slash its journal subscriptions from 600 to 170 due to rapidly escalating subscription costs. It "has won our hearts because it is free," reports the university's medical librarian (Nagourney, 2001). A number of scholarly societies have found it easy enough to grant open access to developing nations for their electronic editions. And even the six major commercial publishers of academic journals, otherwise accused of provoking the crisis in scholarly publishing with their price increases over the last decade (Association of Research Libraries, 2000), have recently announced that they will make one thousand of the world's top 1,240 medical journals free or deeply discounted for developing countries (Peterson, 2001).

As scholars, we appear now to have it within our power to share our knowledge with the larger world of students, teachers, and policymakers. We need to think about how we, as educational researchers, could give more back to education. What we might well find is that the increased scale of this give and take, between public and researchers on an international scale, could well influence how we work and write in response to the increased educational and democratic value of this knowledge for people everywhere. Historian Ellen Condliffe Lagemann (2000) has identified educational research as "an elusive science," as a way of pointing to researchers' frustrated pursuit of scientific ideals and academic respectability. She claims that, "since the earliest days of university sponsorship, education research has been demeaned by scholars in other fields, ignored by practitioners, and alternatively spoofed and criticized by politicians, policymakers and members of the public at large" (p. 232). She concludes that what is needed is more systematic planning of research agendas in education, as well as a means of "reconciling the differences that inevitably arise as scholars study such difficult, complex problems" (pp. 240–241). I am suggesting that one way to improve the research agenda is to make the whole research process more open and public, as well as better connected and easier to track, all of which would, in turn, help researchers and the public work together at identifying priorities, opportunities, and gaps in what we know about education. This would be consistent with Lagemann's critical suggestion that "scholars of education might also more commonly come to acknowledge their responsibility to educate the public about education and about education research" (p. 245).

Media, Research, and Democracy

To move academic research more thoroughly into the public domain is to create a substantial alternative source of public information. Democracies have typically relied on a free press to create an informed electorate and an informed governing body, or as Thomas Jefferson put it in a 1787 letter to Edward Carrington:

> The basis of our governments being the opinion of the people, the very first object should be to keep that right and were it left to me to decide whether we should have a government without newspapers or newspapers without a government, I should not hesitate a moment

> to prefer the latter. But I should mean that every man should receive those papers and be capable of reading them. (Welling, 1997)

In thinking about making this body of research more widely available, we have lessons and inspiration to draw from the earlier political role of an emerging periodical press, and the printing press more generally. The United States' "enlightenment" during those years was driven by a "technology of publicity," in historian Michael Warner's (1990) estimation, a technology rendered "civic and emancipatory" by Thomas Paine, Benjamin Franklin, and other of the day's determined democrats.

Beginning in seventeenth-century Europe, the daring and steady stream of pamphlets, broadsides, and newsletters, amid the risks of state censorship, forged a new sense of public voice, interest, and energy. As historian David Zaret (2000) observes, "Practical innovations in political communication preceded and prepared the way for democratic principles" (p. 270). Zaret also makes it clear that for democratic theories and revolutions, these "practical innovations" needed to be combined with John Locke's "liberal confidence in the capacity for individual self-help and reason" (p. 270). Print fostered a market whose political force defined what we now call public opinion.

I turn, if ever so briefly, to the press' golden past because the democratic spirit of that age, with its practical innovation and liberal confidence, corresponds far more closely to what inspires this move for open access to scholarship than is reflected in the current state of the press. Today, the media's democratic force strikes many as dissipated, if not lost completely. Ben H. Bagdikian, the former dean of the School of Journalism at the University of California, Berkeley, finds that the emancipatory press of yesteryear has been reduced largely through corporate concentration to "trivialized and self-serving commercialized news" (Bagdikian, 2000, p. ix). In the preface to the sixth edition of *Media Monopoly*, Bagdikian observes that "power over the American mass media is flowing to the top with such devouring speed that it exceeds even the accelerated consolidations of the last twenty years" (p. viii). Not only do a handful of mega-corporations control "the country's most widespread news, commentary and daily entertainment," but these conglomerates have "achieved alarming success in writing the media laws and regulations in favor of their own corporations and against the interests of the general public" (p. viii).[19] I interpret this disenchantment with the press as democracy's great hope to be a further warrant for testing whether social science research, which is no less dedicated to the public interest, might offer a substantial and reliable alternative or supplementary source of systematic inquiry and information.[20]

At this point, the relationship between press and research remains uneasy in ways that suggest that neither feels all that well served by the other. It is common to find researchers, such as Christopher Forrest, a professor of pediatrics and health policy at Johns Hopkins University, accuse the press of, in effect, supporting public shortsightedness, or as Forrest puts it, "The public reads the bottom line. They act on that without putting the study into context. In politics, there is always a context. The same is true for science, but it doesn't get reported that way" (quoted in Stolberg, 2001, p. WK3). The press is not above hitting back at researchers; reporter Sheryl Gay Stolberg responded to Forrest that "we live in a dizzying world, where scientists produce a stream of research, and each new study seems to contradict the previous one" (p. WK3).

The problem may indeed be that the context for interpreting science goes missing, as Forrest points out, but then we do little to help reporters or the public establish even the most basic context or background for any given study. This was fine as long as the research was taking place far away from public eyes, where only an intrepid reporter might venture, interrupting the researcher long enough to get a snappy quote or soundbite. If we begin to think about research as part of the public record, financed as so much of it is by public money, then suddenly our relationship to the larger world shifts as we become responsible for a source of public knowledge. What this greater access to research could mean, as I have been describing it, is providing a context for our work, a technology-enabled context in which reporters and readers can readily turn to related studies, overviews, policies, and programs, that would make clear how contradictions play out in this difficult work with knowledge. This would improve the press'

coverage of research, but perhaps more importantly, given that scholarship's methodical pursuit of knowledge is not well suited to the fast-news fare of today's media, it would enable readers to move from press coverage to the study itself, enabling them to travel as far as they wish into research's realm.[21]

The final argument to be made for ensuring that research stands alongside the media as a public source of information comes from the apparent electronic future of the press, which poses its own threat to the press' traditional service to democracy. Legal scholar Cass Sunstein (2001) has perceptively warned that the Internet is being used to create what might be thought of as gated information communities. Readers can personalize the news that crosses their screens, preselecting topics and sources, which makes them less readers of the news and more info-consumers who are "able to see exactly what they want to see" (p. 5). He holds to the basic democratic principle that "people should be exposed to materials that they would not have chosen in advance. Unplanned, unanticipated encounters are central to democracy itself" (p. 8). Although he affirms, much like Dewey, the importance of citizens having common experiences, which I addressed above, the educational quality of "unplanned, unanticipated encounters" with information, which he sees as critical to democracy, is very close to the heart of the proposal under consideration here. People within a community may have far fewer media experiences in common than they did in the past, but one advantage of this increasing variety is that it may well draw citizens into comparing where they turn for information and entertainment, all of which hardly weakens, I would think, the ties that bind democracy to education.

Still, Sunstein offers a healthy caution for an open access project that is set on improving public access to educational research. If it is going to steer clear of a narrowly cast information consumerism in its efforts to improve the scholarly quality of that engagement, then public-access systems will need to ensure that contrary and critical commentary are within a click or so of the work that it challenges, just as related work from abroad needs to sit near domestic studies to keep the parochialism at bay. Contrary viewpoints can still be ignored, of course, but a little less easily, perhaps, and certainly it is more difficult to deny their existence when they loom but a click or two away. The very availability of information in a democracy, whether people attend to it or not, Sunstein holds, "increases the likelihood that government will actually be serving people's interests" (Sunstein, 2001, p. 90) or, as Justice Louis Brandeis says, "sunlight is the best of disinfectants" (p. 176).[22]

If the measure of a democracy is not to be gauged by how many take up this public knowledge or how often they turn to it, the ready availability of this knowledge can still be said to contribute to the educational and communicative qualities of its citizens' lives together. Like the public libraries that can be found in the smallest communities or the newspapers of the smallest town, the presence and possibilities of being able to turn to a given body of knowledge exerts its own force of reasonableness and reassurance. Here, then, is our chance as educators and knowledge workers of some sophistication to extend the vital force of the media as a source of greater awareness and understanding, as well as to supplement if not challenge its particular framing of what can be known of the world.

Final Remarks

One encouraging bit of news in education over the last few years has been signs that the notorious theory-practice gap is narrowing. Gloria Ladson-Billings (1995) commends researchers for their "willingness to listen and learn from practitioners, [which] is providing researchers and teacher educators with opportunities to build a knowledge base in conjunction and collaboration with teachers" (p. 755). With this growing knowledge base in hand, this would seem a time for researchers to give more back to teachers by opening that collaboratively developed knowledge to public and professionals alike. The concern for reciprocity should inspire researchers to pursue new systems of scholarly communication that strengthen the public dimensions of this collaborative spirit. Otherwise, it may turn out that these new technologies for scholarship end up serving little more than the immediate interests of researchers, and as such prove to be yet another boon for well-financed universities, leaving the rest of

the world further behind.

The preferred goal that lies ahead, as I have outlined here, is the design and development of systems that address both the public and scholarly quality of our research activities. There is no way of predicting how new media will massage old messages, but we can reasonably expect both public discourse and educational research to be altered. Thus, my interest as an educator and student of literacy is in treating these new systems as experiments in how knowledge can extend its contribution within a democratic and educational culture, a culture that has room to grow, one hopes, as part of a larger global society. These experiments are best seen as part of a long and often difficult history in the spreading and sharing, challenging and augmenting of ideas. As such, it would not be wise to deny the risks associated with such experiments in the history of ideas.

In asking researchers, journal editors, and scholarly associations to give their informed consent before participating in publishing experiments aimed at improving public access to education research, it is only fair to acknowledge the risks this might entail. These publishing experiments may lead to momentary vertigo, induced by uncertainties over career impact and prestige risk. These new publishing systems will clearly need to be as sensitive to the career aspirations of contributors as to their desire to see this earnest pursuit of a knowledge have a larger impact in a global exchange of ideas. Fortunately, the early indications from studies of the impact of e-journals are encouraging for career concerns.[23] These experiments may also cause professional associations temporary consternation over the prospects of seemingly irrelevant and irreverent questions being raised about research directions and practices from a newly informed public. Similarly, journal editors may worry for the academic freedom of their authors, now that the refuge of inaccessibility will no longer be the great protector of that freedom. It will, however, be that much easier to defend the fruits of academic freedom by being able to present where a single study fits within the larger context of scholarly inquiry. So, too, can this openness foster greater public support for research, one would hope, within an atmosphere of open discussion about the range and scope of academic inquiry.

Given the power of these new technological resources to make resources readily available, something seems terribly amiss for people to have so little public access to the work of so many scholars. How is it that we have such a substantial body of knowledge that lies beyond the reach of public life and political forums, private lives, and educational institutions? This world of knowing needs to be transformed into a public resource, if only as an alternative to what can otherwise seem like a singular stream of media confluence coursing through some five hundred television channels. If nothing else, this open access to research resources will put common assumptions about the value of this knowledge, whether among the public or researchers, politicians or teachers, to the test.

Given the innovative and experimental nature of this publishing environment, it becomes important to test these assumptions by assessing the impact of open-access scholarly publishing systems on the public, professionals, and policy officials (as well as on progress of academic careers). Our own research plans include asking whether and how the design of these open-access publishing systems contribute to people's ability to consult pertinent research evidence in decisionmaking, to critically evaluate sources of educational information, to link educational practices to related theories, and to place educational issues within a historical perspective. It also seems important to know if the availability of this research supports people's participation in civic and educational forums, increases their interests in collaborating with the research community, or expands their appreciation of how research works. Then there is the question of how this increased access to a wide range of scholarly resources, from data sets to dissertations, adds to the rigor and reliability of peer review processes, just as increased public engagement may work on the direction, design, and writing of research. If there are gains in any of these areas they will be modest at best, but all of them are worth pursuing, if only for what such inquiries can tell us about learning and knowledge in this new information environment, as well as about the nature of our own work.

Many of the details of creating a more accessible public space for knowledge still have to be worked

out, in a process similar to the one public libraries faced in the past as they set out to overcome the public's limited access to print over the last two centuries through a number of successful strategies. We have only to imagine how to take the next step in creating places to which people can turn, however rarely or infrequently, when they are taken by the urge to go deep and far into existing bodies of knowledge. We have also to realize that going public with our research will gradually change how we conduct our studies in and outside of schools, how we write about and connect our work to other studies, as well as to larger and local worlds of information. In this way, new publishing and broadcasting systems seem bound to reshape both democracy and education, strengthening the link between them. Or at least I have argued the reasons why we are under some obligation to test such propositions. Let the democratic experiment continue.

Notes

1. The federally funded MEDLINEplus (n.d.) provides an excellent example. For a discussion of changing doctor-patient relationships, see Freudenheim (2000).

2. For example, in British Columbia, BC Connects (n.d.) "provides interactive services and information online to help meet the needs of the citizens and businesses of British Columbia." In the United States, members of Congress received 80 million emails last year from constituents ("Congress Struggles," 2001).

3. The federally funded PubMed (n.d.), for example, contains 11 million citations with full-text access to 1,800 journals; Paul Ginsparg's Los Alamos National Laboratory arXiv.org e-Print Archive (n.d.) will post 35,000 articles this year; Stanford University Library's HighWire Press (2001–2002) offers "one of the 2 largest free full-text science archives on earth," with over 250,000 free full-text articles and hundreds of thousands of pay-for-view articles; and NEC's ResearchIndex (1997–2002) provides access to 300,000 articles from among its four million citations (Lawrence, Giles, & Bollacker, 1999). Also see, for example, Iver Peterson (2001), William Y. Arms (2000) on open access principle, and Robert Cameron's (1997) proposal for a "freely available universal citation database."

4. The Public Knowledge Project is a federally funded research initiative at the University of British Columbia that seeks to improve the scholarly and public quality of academic research through innovative online environments.

5. On the unsustainable costs of journals, see the Association of Research Libraries' (ARL) Monograph and Serial Costs in ARL Libraries, 1986–1999 (n.d.); on the potential of electronic journal indexing systems, see Willinsky and Wolfson (2001).

6. See the Public Knowledge Project (n.d.), and for the full range of electronic publishing tools being used by academic journals, see McKiernan (2001).

7. *Teachers College Record* provides open access to its complete issues a number of months after publication. See AERA's Electronic Journals in the Field of Education (American Educational Research Association, 2002).

8. The Association of Research Libraries provides support through the Scholarly Publishing and Academic Resources Coalition (SPARC), which in turn offers *Publishing Resources for Journals and Repositories* (2002). On new publishing economies, see Bailey (1996–2001) for a complete bibliography, Willinsky (2000a) for a funding model based on research library reallocation of funds, and BioMed Central (1999–2002) for open access supported by charging the authors a $500 processing fee (waived for developing countries).

9. Dewey was prepared to reevaluate his progressive education experiment, as he made clear in *Education and Experience* (1938) and as others continue to do (Ravitch, 2001).

10. For the physics experiment in open access publishing, see the arXiv.org E-Print Archive (n.d.).

11. As I discuss elsewhere (2000b), Dewey's stance on experts needs to be contrasted with the position of the popular political commentator Walter Lippmann, who asked "whether it is possible for men to find a way of acting effectively upon highly complex affairs by very simple means [as people's] political capacity is simple" (1963a, pp. 89–90). Lippmann saw the future lying in the hands of a technocracy of experts: "They initiate, they administer, they settle" (p. 92). Still, Lippmann also held that "a democracy must have a way of life which educates the people for the democratic way of life" if only to make "people safe for democracy" (1963b, pp. 16, 26).

12. See Katharyne Mitchell (2001) on the "the limits of Deweyean liberalism," as she explores "the potential for educating students *for* democracy in a *non-nationalist* framework" (p. 71, original emphasis); Willinsky (2002) on the educational limits of nationalism; and the Council of Europe Development Bank (2000), which has linked democratic citizenship with social cohesion, addressing issues of exclusion in the fields of housing, health, social protection, and education, and calling for a coherent rather than a homogeneous whole.

13. Dewey's sense of a democratic people possessing "a large number of values in common" (1916, p. 84) was not particularly sensitive to the influx of immigrants of the previous decades, nor to communities that fell outside such sharing, such as Native Americans, whose unqualified citizenship was only achieved in 1924, with full voting rights not guaranteed until 1970. Compare Dewey's repeated contrasts of the "savage" with the civilized in thinking about democracy to the Native American influence on Rousseau's thinking about democracy and the possibilities of cooperative living (Sioui, 1992). Also see Anthea Taylor (1996) on democratic education's insensitivities to Aboriginal Australians.

14. I do not, however, see democratic citizens requiring "a commitment to a shared political morality" (Callan, 1997, p. 10). This "commitment" to a democratic morality, which Callan sees existing in "tension" with "the accommodation of pluralism," constrains democracy's basic liberties. In educational settings, Callan argues, "it becomes rational to nourish a sense of solidarity among those who share that common status so far as solidarity makes it more likely that the relevant rights and duties are honored" (p. 98), to which I must add that such solidarity reduces the need to honor such rights and democracy itself.

15. The impact of "deliberative democracy" has been tested empirically by James Fishkin (1999), who has with various collaborators conducted fourteen Deliberative Polls in different parts of the world with random samples of respondents, brought together face to face, to deliberate for a few days. The samples have been representative of the relevant populations and they have undergone large, statistically significant changes of opinion on many policy issues.

16. This is not to discount what Gutmann and Thompson (1996) identify as publicity's amusement factor — which they observe was first noted by Jeremy Bentham — that comes of people coming to know enough to catch out public officials.

17. The National Research Council seeks "to have a positive influence on public policy and to increase public awareness of scientific, technical, and medical issues" (Choppin & Dinneen, 2000, p. 34).

18. On the prospects of evidence-based practice for education, see Willinsky (2001b).

19. Bagdikian is hardly alone in his critique of the press' declining democratic contribution; in addition to well-known media gadfly Noam Chomsky (e.g., 1998) and the already cited Robert W. McChesney (1999), see Joseph N. Cappella and Kathleen Hall Jamieson (1997), Shanto Iyengar (1991), Benjamin Page (1996), and Herbert Schiller (1996). The big seven media corporations, as I write, are AOL Time Warner, Bertelsmann, Walt Disney, the News Corporation, Sony, Viacom, and Vivendi, with a combined revenue of $153 billion for 2001, and a collective market share of 80 percent of U.S. book

publishing revenues (Schiesel, 2002).

20. In support of that supplementary approach, the Public Knowledge Project ran a week-long research support website with a local newspaper that allowed readers to tap into a database of links to research studies related to the paper's series on technology and education, and to join discussion forums with researchers and view pertinent teaching materials, policies, and organizations. See "Prototypes" at the Public Knowledge Project (n.d.).

21. Todd Gitlin (1980) addresses these issues head on when he speaks of the press' focus on "the novel event, not the underlying, enduring condition; the person, not the group; the visible conflict, not the deep consensus; the face that advances the story, not the one that explains or enlarges it" (p. 263).

22. Sunstein also holds that the "absence of the demand [to see some form of information on the part of the people] is likely to be the product of the deprivation" (2001, p. 111), which I would suggest that we at least test in the case of educational research.

23. Kent Anderson, John Sack, Lisa Krauss, and Lori O'Keefe (2001) found that free online refereed publications are cited as often as traditional print and slightly more than closely related studies in the same area, and that these open-access publications were felt by faculty to fully count for tenure. Steven Lawrence (2001) found in a study of 119,924 conference articles in computer science that more highly cited articles are more likely to be freely available online.

References

Alexander, C. J., & Pal, L. A. (Eds.). (1998). *Digital democracy: Policy and politics in the wired world*. Toronto, ON: Oxford University Press.

American Educational Research Association. (2002). *Electronic journals in the field of education*. Washington, DC: Author. Retrieved July 10, 2002, from http://aera-cr.ed.asu. edu/links.html

Anderson, K., Sack, J., Krauss, L., & O'Keefe, L. (2001). Publishing online-only peer-reviewed biomedical literature: Three years of citation, author perception, and usage experience. *Journal of Electronic Publishing, 6*(3). Retrieved April 30, 2002, from http://www.press.umich.edu/jep/06-03/anderson.html

Arms, W. Y. (2000). Economic models for open access publishing. *IMP: The Magazine on Information Impacts*. Retrieved April 30, 2002, from http://www.cisp.org/imp/march_2000/03_00arms.htm

arXiv.org e-Print Archive. (n.d.). Ithaca, NY: Cornell University. Retrieved June 3, 2002, from http://arXiv.org

Association of Research Libraries. (n.d). *Monograph and serial costs in ARL libraries, 1986–1999*. Retrieved September 14, 2002, from http://www.arl.org/stats/arlstat/1999t2.html

Association of Research Libraries. (2000). *Scholars under siege*. Retrieved April 30, 2002, from http://www.arl.org/create/librarians/issues/silent.html#WhereNow

Bagdikian, B. H. (2000). *The media monopoly* (6th ed.). Boston: Beacon Press.

Bailey, C. W., Jr. (1996–2001). *Scholarly electronic publishing bibliography*. Houston: University of Houston Libraries. Retrieved April 30, 2002, from http://info.lib.uh.edu/sepb/sepb.html

B.C. Connects. (n.d.). *About B.C. Connects*. Victoria, BC: Government of British Columbia. Retrieved

June 3, 2002, from http://www.bcconnects.gov.bc.ca/popt/about.htm

BioMed Central. (1999–2002). Retrieved June 3, 2002, from http://www. biomed central.com

Bohman, J., & Rheg, W. (Eds.). (1997). *Deliberative democracy: Essays on reason and politics*. Cambridge, MA: MIT Press.

Borgman, C. (2000). *From Gutenberg to the global information infrastructure*. Cambridge, MA: MIT Press.

Bowen, W. G., & Bok, D. C. (1998). *The shape of the river: Long-term consequences of considering race in college and university admissions*. Princeton, NJ: Princeton University Press.

Budapest Open Access Initiative. (n.d.). New York: Soros Foundation. Retrieved June 3, 2002, from http://www.soros.org/openaccess/

Callan, E. (1997). *Creating citizens: Political education and liberal democracy*. Oxford, Eng.: Oxford University Press.

Cameron, R. D. (1997). A universal citation database as a catalyst for reform in scholarly communication. *First Monday, 2*(4). Retrieved April 30, 2002, from http://www.firstmonday.dk/issues/issue2_4/cameron/

Cappella, J. N., & Jamieson, K. H. (1997). *Spiral of cynicism: The press and the public good*. New York: Oxford University Press.

Chomsky, N. (1998). Propaganda and the control of the public mind. In R. W. McChesney, E. M. Wood, & J. B. Foster (Eds.), *Capitalism and the Information Age: The political economy and the global communication revolution* (pp. 180–181). New York: Monthly Press.

Choppin, P. W., & Dinneen, G. P. (2000). *The NRC in the 21st century: Report of the Task Force on NRC Goals and Operations*. Washington, DC: National Research Council. Retrieved April 30, 2002, from http://www.nationalacademies.org/about/pdfs/taskforce.pdf

Congress struggles with flood of e-mail. (2001, March 4). *New York Times*, p. A16.

Council of Europe Development Bank (CEB). (2000). *Strengthening social cohesion in Europe: Employment, housing, education, health*. Paris: Author.

Cuban, L. (1986). *Teachers and machines: The classroom use of technology since 1920*. New York: Teachers College Press.

Cuban, L. (2001). *Oversold and underused: Computers in classrooms*. Cambridge, MA: Harvard University Press.

De Tocqueville, A. (1969). *Democracy in America* (Trans. G. Lawrence). New York: Doubleday.

Dewey, J. (1916). *Democracy and education*. New York: Macmillan.

Dewey, J. (1988a). The public and its problems. In J. A. Boydston (Ed.), *The later works, 1925–1953* (vol. 2, pp. 235–372). Carbondale: Southern Illinois University Press.

Dewey, J. (1988b). The quest for certainty. In J. A. Boydston (Ed.), *The later works, 1925–1953* (vol. 4, pp. 1–273). Carbondale: Southern Illinois University Press.

Dworkin, R. (2001, April 13). Race and the use of law. *New York Times*, p. A19.

Elster, J. (Ed.). (1998). *Deliberative democracy*. Cambridge, Eng.: Cambridge University Press.

Epstein, S. (1996). *Impure science: AIDS, activism, and the politics of knowledge*. Berkeley: University of California Press.

Fischer, F. (2000). *Citizens, experts and the environment: The politics of local knowledge*. Chapel Hill, NC: Duke University Press.

Fishkin, J. S. (1999). *Deliberative polling as a model for ICANN membership*. Retrieved April 30, 2002, from Harvard University, Berkman Center for Internet & Society website: http://cyber.law.harvard.edu/rcs/fish.html

Freudenheim, M. (2000, May 30). New web sites altering visits to patients. *New York Times*, pp. A1, C14.

Gitlin, T. (1980). *The whole world is watching: Mass media in the making and unmaking of the new left*. Berkeley: University California Press.

Gutmann, A., & Thompson, D. (1996). *Democracy and disagreement*. Cambridge, MA: Harvard University Press.

Hague, B. N., & Loader, B. D. (Eds.). (1999). *Digital democracy: Discourse and decision making in the information age*. London: Routledge.

Heeks, R. (Ed.). (1999). *Reinventing government in the information age: International practices in IT enabled public sector reform*. London: Routledge.

HighWire Press. (2001–2002.). Palo Alto, CA: Stanford University Library. Retrieved June 3, 2002, from http://highwire.stanford.edu

Himmelfarb, G. (1995). *On looking into the abyss: Untimely thoughts on culture and society*. New York: Vintage Books.

Iyengar, S. (1991). *Is anyone responsible? How television frames political issues*. Chicago: University of Chicago Press.

Kamens, D. H. (1988). Education and democracy: A comparative institutional analysis. *Sociology of Education, 61*, 114–127.

Ladson-Billings, G. (1995). Multicultural teacher education: Research, practice, and policy. In J. A. Banks & C. A. McGee Banks (Eds.), *Handbook of research on multicultural education* (pp. 747–759). New York: Macmillan. (ERIC Document Reproduction Service No. ED 382 738)

Lagemann, E. C. (2000). *An elusive science: The troubling history of education research*. Chicago: University of Chicago Press.

Lawrence, S. (2001). Online or invisible? *Nature, 411*. Retrieved April 30, 2002, from http://www.neci.nec.com/~lawrence/papers/online-nature01/

Lawrence, S., Gi*les, L. C., & Bollacker, K. (1999). Digital libraries and autonomous citation indexing*. *IEEE Computer, 32*(6), 67–71. Retrieved April 30, 2002, from http://www.neci.nec.com/~lawrence/papers/aci-computer99/

Lemke, J. (1994). The coming paradigm wars in education: Curriculum vs. information access. In *Cyberspace superhighways: Access, ethics, and control, proceedings of the fourth conference on computers, freedom, and privacy* (pp. 76–85). Chicago: John Marshall Law School. Retrieved April 30, 2002, from http://academic.brooklyn.cuny.edu/education/jlemke/papers/cfppaper.htm

Lippmann, W. (1963a). The public and its role. In *The essential Lippmann: A political philosophy for liberal democracy* (pp. 85–125). New York: Random House.

Lippmann, W. (1963b). The dilemma of liberal democracy. In *The essential Lippmann: A political philosophy for liberal democracy* (pp. 3–26). New York: Random House.

McChesney, R. W. (1999). *Rich media, poor democracy: Communication politics in dubious times*. New York: Free Press.

McKiernan, G. (2001). *EJI(sm): A registry of innovative e-journal features, functionalities, and content*. Ames: Iowa State University Library. Retrieved April 30, 2002, from http://www.public.iastate.edu/~CYBERSTACKS/EJI.htm

MEDLINEplus Health Information. (n.d.). Bethesda, MD: U.S. National Library of Medicine. Retrieved June 3, 2002, from http://medlineplus.gov/

Mitchell, K. (2001). Education for democratic citizenship: Transnationalism, multiculturalism, and the limits of liberalism. *Harvard Educational Review, 71*, 51–78.

Nagourney, E. (2001, March 20). For medical journals, a new world online. *New York Times*, pp. F1–2.

National Academy of Education (NAE). (1999). *Recommendations regarding research priorities: An advisory report to the National Educational Research and Policy and Priorities Board*. New York: Author.

National Research Council (NRC). (1999). *Improving student learning: A strategic plan for educational research and its utilization*. Washington, DC: National Academy Press.

NEC ResearchIndex. (1997–2002). Princeton, NJ: NEC Research Institute. Retrieved June 3, 2002, from http://citeseer.nj.nec.com/cs

Nie, N. H., Junn, J., & Stehlik-Barry, K. (1996). *Education and democratic citizenship in America*. Chicago: University of Chicago Press.

Open Archives Initiative. (n.d.). Retrieved June 3, 2002, from http://www.openarchives. org.

Open Knowledge Initiative. (2002). Cambridge: Massachusetts Institute of Technology. Retrieved June 3, 2002, from http://web.mit.edu/oki/

Page, B. I. (1996). *Who deliberates? Mass media in modern democracy*. Chicago: University of Chicago Press.

Persaud, A. (2001). The knowledge gap. *Foreign Affairs, 80*(2), 107–117.

Peterson, M. (2001, July 9). Medical journals to offer lower rates in poor nations, *New York Times*, p. A3.

Public Knowledge Project. (n.d.). Vancouver, BC: University of British Columbia. Retrieved June 3, 2002, from http://pkp.ubc.ca

Public Library of Science. (n.d.) Retrieved April 30, 2002, from http://www. public libraryofscience.org/

Publishing Resources for Journals and Repositories. (2002). Washington, DC: Scholarly Publishing and Academic Resources Coalition. Retrieved June 3, 2002, from http://www. arl.org/sparc/core/index.asp?page=h16

PubMed. (n.d.) Bethesda, MD: U.S. National Library of Medicine. Retrieved June 3, 2002, from http://www.ncbi.nlm.nih.gov/entrez

Putman, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon and Schuster.

Ravitch, D. (2001). *Left back: A century of battles over school reform*. New York: Touchstone.

Schiesel, S. (2002, March 11). The media giants: Overview, the corporate strategy. *New York Times*, p. C1.

Schiller, H. I. (1996). *Information inequality: The deepening social crisis in America*. New York: Routledge.

Schlesinger, A. (1992). *The disuniting of America: Reflections on a multicultural society*. New York: Norton.

Sioui, G. E. (1992). *For an Amerindian autohistory: An essay on the foundations of a social ethic* (S. Fischman, Trans.). Montreal: McGill-Queens University Press.

Stolberg, S. G. (2001, April 22). Science, studies and motherhood. *New York Times*, p. WK3.

Sunstein, C. R. (2001). *Republic.com*. Princeton, NJ: Princeton University Press.

Taylor, A. (1996). Education for democracy: Assimilation or emancipation for Aboriginal Australians. *Comparative Education Review, 40*, 426–438.

Warner, M. (1990). *The letters of the republic: Publication and the public sphere in eighteenth-century America*. Cambridge, MA: Harvard University Press.

Welling, G. (Ed.). (1997). *The letters of Thomas Jefferson: 1743–1826*. Groningen, Netherlands: Humanities Computing. Retrieved April 30, 2002, from http://odur.let.rug.nl/~usa/P/tj3/writings/brf/jefl52.htm

Wilhelm, A. G. (2000). *Democracy in a digital age: Challenges to political life in cyberspace*. New York: Routledge.

Willinsky, J. (2000a). *If only we knew: Increasing the public value of social science research*. New York: Routledge.

Willinsky, J.(2000b). Proposing a knowledge exchange model for scholarly publishing. *Current Issues in Education, 3*(6). Retrieved April 30, 2002, from http://cie.ed.asu. edu/volume3/number6/

Willinsky, J. (2001a). The Strategic Education Research Program and the public value of research. *Educational Researcher, 30*, 5–14.

Willinsky, J. (2001b). Extending the prospects of evidence-based education. *INSIGHT, 1*(1), 23–41.

Willinsky, J. (2002). The nation-state after globalism. *Educational Studies, 33*(1), 35–53.

Willinsky, J., & Wolfson, L. *(2001). The indexing of scholarly journals: A tipping point for publishing reform? Journal of Electronic Publishing, 7*(2). Retrieved April 30, 2002, from http://www.press.umich.edu/jep/

Zaret, D. (2000). *Origins of democratic culture: Printing, petitions, and the public sphere in early modern England*. Princeton, NJ: Princeton University Press.

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