
Is Information Literacy a Public Concern? A Practice in Search of a Policy

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ABSTRACT

Since its emergence in the 1970s, information literacy has developed in theory, practice, and scope. In the United States, librarians, business leaders, and political stakeholders have emphasized that information literacy is essential to an informed twenty-first-century citizenry. But despite the pervading feeling that the subject is important, there is as yet no clearly identifiable public policy on information literacy. Public policy may be defined as governmental action or inaction, decided upon and taken by the public, the state, and other actors. Public policies are usually enacted as the result of sustained effort to place them on the public policy agenda, that is, bring them to the attention of the public, and gain support from critical interest groups, influential individuals, and politicians at different levels of government. The authors contend that information literacy is not yet part of the public agenda. Rather, information literacy is claimed by a relatively narrow group of stakeholders, lacks name recognition and broad-based public support, is not mandated in U.S. primary and secondary education (“K-12”), and therefore remains fundamentally ineffective in implementation. This article considers whether information literacy is a legitimate public interest, and therefore the degree to which it merits a public policy and where such a policy might best be located. However, locating information literacy within education policy, although this seems intuitive, appears to be problematical. The authors discuss how policy options emerge, identify barriers to doing so, and provide recommendations for advancing the critical development and dissemination of information literacy.

INTRODUCTION

It [information literacy] is a basic human right in a digital world and promotes social inclusion of all nations. (*Alexandria Proclamation*, 2005)

In 1974, an American industry leader named Paul Zurkowski famously coined the term “information literacy” in a report written to the National Commission on Libraries and Information Science. People who possessed these new abilities, or, “information literates,” Zurkowski wrote, “learned techniques and skills for utilizing the wide range of information tools” (1974, p.18). It is not known whether Zurkowski envisioned all Americans as potentially information literate. He did, however, forecast a world dominated by powerful electronic technology, technology that in many ways now mediates people’s educational, social, and workplace information needs, if not abilities.

Over the past forty years, information literacy has achieved a certain professional prominence. Literature on the subject from Australia, New Zealand, Canada, and the United Kingdom is abundant. In the United States, information literacy has a well-developed history of practice within librarianship. Proponents have touted information literacy as a twenty-first century critical literacy, as an issue affecting the common good, related to education and global competitiveness; that is, a public issue.

Four primary documents from international, national, and state spheres attest to the fact that information literacy has captured the attention of decision makers. In 2003, members at the UNESCO-sponsored Information Literacy Meeting of Experts drafted *The Prague Declaration: Toward an Information Literate Society*, a set of principles and recommendations. In 2005 the group issued another series of recommendations at its “High Level Colloquium on Information Literacy and Lifelong Learning” again held in Alexandria (Garner, 2006). These policy recommendations were developed by library organizations, chiefly two: the International Federation of Library Associations and Institutions (IFLA); and the U.S.-based National Forum on Information Literacy (NFIL), which had been active in pushing the practice domestically.

As a sign of growing national momentum, in 2009 U.S. President Barack Obama issued a proclamation declaring October to be National Information Literacy Awareness Month (Proclamation No. 8429, 2009). The president wrote:

Every day, we are inundated with vast amounts of information. A 24-hour news cycle and thousands of global television and radio networks, coupled with an immense array of online resources, have challenged our long-held perceptions of information management. Rather than merely possessing data, we must also learn the skills necessary to acquire, collate, and evaluate information for any situation. This new type of literacy also requires competency with communication technologies, including computers and mobile devices that can help in our day-to-

day decisionmaking [*sic*]. National Information Literacy Awareness Month highlights the need for all Americans to be adept in the skills necessary to effectively navigate the Information Age. (Proclamation No. 8429, 2009, ¶1)

In the state of California, also in 2009, then-Governor Arnold Schwarzenegger issued Executive Order S-06-09, which mandated establishment of the ICT Digital Literacy Leadership Council and Advisory Committee (2009). This council and committee were charged with developing a state policy and action plan for information communication technology and digital literacy, concepts similar to and often synonymous with information literacy. Executive Order S-06-09 was significant for the U.S. information literacy movement—it indicated traction at the critical state level in one of the world's largest economies (California). State recognition is also important since individual states are largely responsible for funding U.S. public education from kindergarten to high school (K-12), through college. Education is one area where information literacy historically has flourished.

However, while Executive Order S-06-09 constituted actual policy, it also reflected an obscuring that accompanies any discussion of information literacy as a public issue. For one thing, nowhere in Executive Order S-6-09 is information literacy explicitly named. At the national level, proclamations by President Obama and others have heightened awareness for the concept, but these have neither resulted in domestic government funding nor mandates, the key markers for policy implementation. In the United States, information literacy still lacks name recognition, which helps drive public interest. This provokes key questions: Information literacy is an educational practice, but is it a public concern? If so, should information literacy be on the public policy agenda? What are the considerations for moving this literacy forward from practice to policy?

In this article we address whether information literacy is a public interest, whether information literacy warrants public policy creation, and if so, how and where it may be implemented. Here we:

- define the public interest, and provide a critical examination of information literacy in current educational practice as it informs the public interest;
- use an initial policy analysis framework (Bardach, 2008) that defines information literacy as a potential public “problem,” and explains why it is a problem or issue;
- discuss the traditional actors, stakeholders, and activities associated with information literacy practice. This includes an historical overview of information literacy meanings and associated nomenclature in order to elucidate tensions and barriers that will surface when framing a policy definition for information literacy;
- explore the limits to implementing information literacy within the education arena; and

- provide readers with considerations for working out objectives of public policy for the problem, and attempt to identify a model that would move information literacy from problem to policy.

THE PUBLIC INTEREST

Public interest refers to the common good: the general welfare or well-being of society as a whole (Marty, 1998). To the extent that information literacy benefits the public, it serves the public interest. To practitioners, information literacy has all the makings of a salient public issue. Ostensibly, it is to society's benefit that every citizen be information literate. The literature has repeatedly made the plea for information literacy as an educational good (Kulthau, 1987; Spitzer, Eisenberg, & Lowe, 1998). Elite stakeholders in the business community have declared information literacy to be an important workplace issue in an information economy (Perrault, 2006), i.e. as critical to national productivity and global competition (Peter D. Hart Research Associates & The Winston Group, 2006; Wagner, 2008). Connections between citizenship, democracy, and information literacy as a social good have been made since the 1970s (Owens, cited by Behrens, 1994; Shapiro & Hughes, 1996).

Declaring information literacy as a public interest could make a case for claiming it as a public good, an economic term for government funding. Wholly public goods, such as clean water, are deserving of government subsidy since they affect everyone. But as an increasingly specialized practice, information literacy is not a wholly public good. For example, *lifelong learning*, a hallmark of the practice, includes some measure of personal satisfaction. A person who receives information literacy instruction or training may be able to find a better job, and thus improve her personal welfare. These are private goods.

It is the case that private goods can benefit the public (Marty, 1998), for example, an information literate person could make a more productive citizen. Higher education is one example of both a public and a private good. Although often government subsidized, a college education provides a private good for those en route to a higher standard of living (college graduates typically earn more over their working lives than those lacking postsecondary education). Also, higher education can be supplied as well privately (liberal arts colleges) as it can publicly (state universities) (Shaw, 2010). In this sense information literacy is relatable to higher education, where it has been practiced, as a type of quasi-public good. American K-12 education is more a public good than is higher education (Shaw) since it reaches far more people.

For every citizen to become information literate, either the U.S. government or the marketplace would have to step up to provide the good or service. As a public interest issue, this would be a vast public undertaking, especially if positioned within education policy. The education sector is the

most contentious area of American public policy (Evans, 2001; McGuinn, 2006). Primary and secondary (K-12) education has been dominated in the past nine years by the controversial No Child Left Behind Act of 2001, whose implementation created a federal education schema against which the states and other actors now revolt (McGuinn, 2006; Ravitch, 2010). As for higher education, some analysts (Shaw, 2010) question whether a college education even constitutes a true public good given excessive tuition costs and proof of underachievement (Arum & Roksa, 2011; Bok, 2006).

Given the above, information literacy might make a case for the public interest the way that higher education does. However, this does not make a claim for policy inevitable.

CONSIDERING A FRAMEWORK

Public policy attempts to remedy a specific problem as a means of satisfying the public interest. In one sense, policy making is an attempt to name and control an issue and its outcome. Policy making is political (Stone, 2001). One well-known theorist succinctly defines policy as a social struggle:

anyone familiar with policy-making in the United States will instantly recognize: the importance of problem perception; shifts in elite and public opinion concerning the salience of various problems; periodic struggles over the proper locus of governmental authority; incomplete attainment of legally-prescribed goals; and an iterative process of policy formulation, problematic implementation, and struggles over reformulation. (Sabatier, 1988, p. 130)

Policy models are decision-making models and their theoretical approaches vary. The most widely used is the rational model (Simon, 1957), which employs some combination of problem definition and agenda setting (the degree to which an issue resonates with the public), modeling alternatives, and implementation (Bardach, 2008; Patton & Sawicki, 1986; Simon, 1957). The rational model's chief drawback is that it assumes a perfect world, while decision makers rarely have access to complete information. Still, the rational model provides a thorough and unambiguous process for issue exploration. Eugene Bardach's (2008) eightfold path to effective problem solving is one well-known variation and is used to help contextualize this discussion. Bardach's eight-step framework is as follows: (1) Define the problem; (2) Assemble evidence; (3) Construct alternatives; (4) Select evaluative criteria; (5) Project outcomes; (6) Construct trade-offs; (7) Decide on a policy action; and, (8) Develop the story for an intended audience. Of the eight steps, the first, problem definition, is basic to effective policy success and will be dealt with here. Generations of approaches to an issue depend largely on how well an issue has originally been defined.

DEFINITIONS, NOMENCLATURE, AND STAKEHOLDERS

Using Bardach's (2008) model, there are immediate challenges to information literacy in claiming it as policy worthy. One precondition of the rational model is that an issue cannot be ambiguous, while information literacy remains fluid as a concept and in practice. Information literacy is a variable practice with a history of associated meanings: It has been defined as "an ability," "a framework," "a set of skills," "a way of thinking" (Gibson, 2006), and "a range of experience" (Bruce, 1997b). In her conspectus chronicling information literacy from the 1970s through the early 90s, Behrens (1994) noted that early actors representing business and industry, computer science, and the library community first introduced the idea of abilities and skills to be mastered for problem-solving and decision-making purposes. These stakeholders created a shared term and an open-ended intellectual framework.

By the 1980s, information literacy meaning expanded to include connotations with reading literacy, situating it within education practice. The 1987 conference paper, "Libraries and the Search for Academic Excellence" (Arden House Symposium, 1987), and a report by the 1989 American Library Association (ALA) Presidential Committee on Information Literacy illuminated the primacy of libraries in information literacy teaching and learning endeavors, and placed "information literacy firmly at the forefront as a combined library and educational issue" (Behrens, 1994; Brevik & Gee, 1989). The ALA definition is the predominant conception of an information literate person to date:

To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information. . . . Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand. (ALA Presidential Committee, 1989, ¶ 3)

This definition has continued to inform practice. ALA notably described the attributes that made a person information literate, rather than defined the concept philosophically (Doyle, 1994; Webber & Johnston, 2000). These discrete criteria, shaped by library-centric perceptions of the concept, were reflected in ACRL's development of information literacy competency standards and their numerous performance indicators (Association of College and Research Libraries, 2000). It is arguable that atomizing these skills led to an emphasis on skills-based information literacy, rather than promoted a robust disciplinary framework.¹

By the late nineties, some well-known practitioners took a critical departure from the "generic skills" approaches and reframed information

literacy as a meta practice.² Bruce's (1997a) research produced a "relational model" of information literacy that captured seven ways of "seeing and experiencing information use" (p. 2). Shapiro and Hughes (1996) proposed a definition that eclipsed a simplistic construction and instead engaged "a critical reflection on the nature of information itself, its technical infrastructure, and its social, cultural and even philosophical context and impact . . ." (§ 13). Other LIS scholars argued for adoption of an analytical model of information literacy, one that reflected critical literacy theories situated in cultural and social contexts of knowledge construction (Elmborg, 2006; Luke & Kapitzke, 1999; Norgaard, 2003; Swanson, 2004). Mackey and Jacobson (2011) asserted that information literacy needed to be redefined as a metaliteracy inclusive of multiple twenty-first-century literacies such as digital, media, visual, etc. They concluded that "standard definitions of information literacy are insufficient for the revolutionary social technologies currently prevalent online" (p. 63).

Context-dependent and practice-based, information literacy has become harder to define for a single audience. Proponents and skeptics alike have emphasized the term's ambiguity (Arp, as cited in Snaveley & Cooper (1997a); Behrens, 1994; Bruce, 1997a; Elmborg, 2004; Kapitzke, 2003; McCrank, 1991; Mutch, 1997; Shapiro & Hughes, 1996; Snaveley & Cooper, 1997). There is also longstanding professional disagreement within librarianship about the utility of the practice itself. Foster (1993) notoriously described information literacy as "a phrase in quest of a meaning," and "an exercise in public relations" (p. 344). Following in the same vein, Elmborg (2004) cited Luke and Kapitzke, who portrayed library-centric definitions as "at best anachronistic and dysfunctional, at worst counterproductive in their avoidance of the central questions facing students, teachers, and libraries" (Luke & Kapitzke, 1999, p. 486). Elsewhere, Kapitzke (2003) rejected the "psychological" terms of "abilities" and "skills." Several theorists attempted to reframe information literacy to accommodate philosophical considerations related to technology. Mutch (1997) and others observed an alarming disconnect between information and knowledge, which must be addressed and rectified conceptually (Bruce, 1997b; Elmborg, 2004; Kapitzke, 2003; Mutch, 1997).

Beyond definitions, information literacy has a nomenclature problem that further complicates framing it for the public. It has been linked with emerging technology, and lately equated with technological proficiency (Katz, 2007; Katz, Haras, & Blaszczyński, 2010). Popular synonyms now reflect technology's dominance and include information competency, information fluency, digital literacy, digital empowerment (White, 1992), information and communication technology (ICT) literacy, and ICT digital literacy. At times, "literacy," "competency," and "fluency," are used interchangeably. In a similar vein, the LIS literature reflects contentious debates over library-based terms purporting to be different from but used

synonymously nevertheless, with information literacy. These include “library skills,” “library use,” and “bibliographic instruction” (Snavelly & Cooper, 1997a). In addition to the debate over terms, there is competition over what constitutes a twenty-first century literacy. Exemplars (media literacy, visual literacy) are practiced outside of the library; many of these are corollary to information literacy and also compete for public prominence.

As stated earlier, effective policy formulation and implementation rely on an unambiguous definition of the problem, while information literacy remains difficult to characterize. This is not unusual for a relatively new term. Intersections between data, knowledge construction, relevant epistemologies, and new technology will continue to inform conceptualizations of information literacy. Information literacy practice is bound to occur outside of librarianship. The issue then becomes a question of who owns the term.

Owners and Stakeholders: Does Anyone Own Information Literacy?

The list of actors or stakeholders for information literacy discourses is lengthy and diffuse:³ Of these, librarians, business leaders,⁴ and information technologists have been the central characters in the development of the practice in the United States. This is reflected in higher education, where concepts of information literacy are rooted in those disciplines responding to technology: computer science, information science, library and information science (LIS), library studies, and (business) management (Mutch, 1997). Notwithstanding, as Rader’s (2002) thirty-year review of the literature attests, LIS educators and professionals have been the chief architects of the information literacy movement nationally and internationally. As such, they would rightly argue primacy over this concept. However, despite efforts to create meaningful frameworks, to draft viable policy recommendations, to interject themselves into K-12 and college teaching, and to partner with stakeholders, information literacy—as a term and as a concept—has not resulted in a policy-related outcome. Why is that? Kapitzke (2003) and Elmborg (2004) contended that the library’s print-based culture, feminized workforce, and other challenges have impeded serious consideration of librarians as heavyweights in any public policy formulation or analysis processes. Kapitzke (2003) and Foster (1993) questioned whether librarianship had the credible academic credentials to lead a robust campaign around this concept. Foster (1993) viewed information literacy as “an effort to deny the ancillary status of librarianship by inventing a social malady with which librarians as ‘information professionals’ are uniquely qualified to deal” (p. 346).

INFORMATION LITERACY AS AN EDUCATION POLICY ISSUE

Information literacy has historically been practiced within education. The education public sector therefore appears an inevitable place to implement policy. The original bibliographic-instruction (BI) movement,

a precursor to information literacy, was a midcentury grassroots effort by academic librarians to teach research skills at American colleges and universities (Behrens, 1994; Hardesty & Tucker, 1989). During roughly the same period in the 1960s and 70s, U.S. federal funding increased for American public school K-12 libraries, then viewed as an important classroom support (Stripling, 1996). Information literacy instruction in some sense began out of service to these institutions, but it has also left librarians professionally vulnerable to educational trends.

There is abundant library literature connecting information literacy with education and a rich history of instruction, both at the K-12 and at the postsecondary levels (where monographic output dominates) (Rader, 2002). For example, in K-12, three themes permeate the literature on information literacy: the role of school library media programs in student learning and achievement; the role of school library media specialists in curricular efforts for information literacy integration; and, models and standards.⁵ A wave of research has documented the positive impact of school libraries and teacher-librarians on student achievement (Lance, 2004; Lance, Rodney, & Hamilton-Pennell, 1993).

Despite this longstanding effort, educational practice remains diffuse and/or episodic, at least in the United States. Most states have yet to mandate library instruction, while school libraries continue to accommodate education. For instance, school library information literacy has typically gone along with K-12 instructional trends such as programming (Stripling, 1996), whereas college (library) instruction depends upon faculty and course integration. Prevailing movements in education have also influenced information literacy curriculum. The AASL (2007) and ACRL (2000) information literacy standards, developed for K-12 and higher education sectors, each reflected education's increasing preoccupation with outcomes-based assessment and standards. Of course, both K-12 school and college libraries are dependent upon their schools for funding, and are usually among the first units to sustain budget cuts.

There are compelling reasons to frame information literacy as an educational policy issue. For one thing, information literacy has already been contextualized within education and could make a claim within the sector. Secondly, librarianship has a lengthy history of academic exchange, despite its dependence upon education as a driver. Librarians have connected libraries with the learning mission of the schools they serve. At the college level, regional accrediting bodies such as the Western Association of Schools and Colleges (WASC) have begun to acknowledge information literacy as a learning outcome (Thompson, 2002). Recognition of information literacy skills as critical to global survival by some in the education community (Wagner, 2008) also bolsters the case for policy here. Unfortunately, framing information literacy policy in either K-12 or higher education sectors is complicated by the current education regime. Complexity

and competition are basic realities in education today (Honig, 2009; Lagemann, 2002).

It is briefly worth noting movements in educational policy that have led to the present state of American education, and will determine information literacy policy, should stakeholders decide to frame it here. During the past fifty years American public school education has gone through three continuous periods of reform and policy implementation (Geva-May & Wildavsky, 1996; McGuinn, 2006; Odden, 1991; Radin, 2000). In the 1960s, policy concentrated on what got implemented and was unilateral or top-down (Pressman & Wildavsky, 1984). In the 1970s, policy designers acknowledged variations across school districts that complicated top-down mandates. By the 1980s, implementation began concentrating on what reforms worked (Honig, 2009; McGuinn, 2006). This last stage led the way to the standards-based education movement of the nineties, reflected in the passage of the No Child Left Behind Act of 2001, which reasserted federal authority over education (McGuinn, 2006). Education policy is now evidence-based in the United States, accounting for the laser-like focus on outcomes (proof of student learning), even within higher education. According to Honig and others, empirical research (evidence) is increasingly the precondition for educational policy shifts.⁶ The literature on both policy and policy implementation reflects how high the stakes are for public education, and how critical good policy development has become.⁷

Multiple initiatives also reflect fiercely competing education agendas. These vie for the public's money and attention. It is instructive to view education agenda-setting in the past decade as it may inform information literacy policy. The media and the research literature alike portray schools as diverse, bureaucratic, and challenged. Competing issues like diversity, special needs, social justice, second-language learning, as well as troubled, smart, and charter schools crowd the national agenda. These issues seem to be anything but unidirectional. Yet, it has been argued that there is a *culture* of education policy, with its own language and rituals (Stein, 2004) that guides educational policy design. The education research community has managed to craft remarkably cohesive language when positioning public issues, even when using failing terms to describe constituents. It is common for this literature to depict students and/or the schools they attend as lacking in some way; as "needs-based," "at-risk," "underserved," "disadvantaged," or "challenged" (Stein). In one sense negative language has been used to frame a unitary argument for education dollars.

Given the complexity of the education agenda and information literacy's dependency on education as a policy driver fairly begs the question: How does information literacy fit into education's agenda? Whose job does education think it is to teach twenty-first-century skills to students?

The influential 1983 report, *A Nation at Risk: The Imperative for Educational Reform*, left out libraries in its policy recommendations. Almost twenty

years later, the No Child Left Behind Act of 2001 (Subpart 4—Improving Literacy Through School Libraries, Section 1251), discussed libraries only as they informed (a) reading literacy, (b) physical infrastructure, or (c) technology access (No Child Left Behind [NCLB], 2002, STAT. 115: Sections 1538, 1678, 1681). NCLB did include funding for technology use, or “technology activities related to the implementation of school-based reform efforts, including professional development to assist teachers and other school personnel (including school library media personnel) regarding how to use technology effectively in the classrooms and the school library media centers involved” (NCLB, 2002, Subpart 3—Local Innovative Education Programs), but the NCLB reflected the growing influence of technology, not information literacy, in education.

A recent and significant policy document is the U.S. Department of Education’s National Education Technology Plan (NETP) 2010 (*Transforming American Education: Learning Powered by Technology*), mandated by the Elementary and Secondary Education Act (November 2010),⁸ and part of President Obama’s ambitious agenda to increase college attendance and graduation rates by 2020. Several iterations of this plan, which is meant to implement parts of No Child Left Behind, have been created in the past decade. The latest version of the National Education Technology Plan argues for a “21st century model of learning powered by technology” (2010, p. vi), and reflects growing concerns about American competitiveness in a hyperactive global economy.⁹ The NETP is the largest policy document on technology and education to date and comes closest to capturing the vital intersection of pedagogy, information technology, and education.

In the executive summary of the document, section one, “Learning: Engage and Empower: What Students Need to Learn,” the first policy recommendation is that:

States should continue to revise, create, and implement standards and learning objectives using technology for all content areas that reflect 21st-century expertise and the power of technology to improve learning. Our education system relies on core sets of standards-based concepts and competencies that form the basis of what all students should know and should be able to do. Whether the domain is English language arts, mathematics, sciences, social studies, history, art, or music, states should continue to consider the integration of 21st-century competencies and expertise, such as critical thinking, complex problem solving, collaboration, multimedia communication, and technological competencies demonstrated by professionals in various disciplines. (NETP executive summary, 2010, Recommendation 1.1, p. 23)

Reflecting recent research, teaching using technology is described in the 2010 plan as “connected” (collaborative) and includes libraries:

In connected teaching, teaching is a team activity. Individual educators build online learning communities consisting of their students and their students’ peers; fellow educators in their schools, libraries,

and after-school programs; professional experts in various disciplines around the world; members of community organizations that serve students in the hours they are not in school; and parents who desire greater participation in their children's education. (p. 41)

Reading further along, however, policy recommendations for "connected teaching" are less inclusive. For one thing, nowhere are librarians mentioned, let alone described as potential teachers of information pedagogy. In Recommendation 3.1, the focus is on the teacher within the context of online and technology-influenced learning. Schools must: "Design, develop, and adopt technology-based content, resources, and online learning communities that create opportunities for educators to collaborate for more effective teaching, inspire and attract new people into the [teaching] profession, and encourage our best educators to continue teaching" (NETP, 2010, p. 49). Furthermore, there are no recommendations as to what information pedagogy should even look like, or how technology will be used to teach in the classroom beyond technical (software, etc.) specifications. The document explains, "We are still evolving our understanding of what it means to be a 21st-century learner. For example, what does it mean to be digitally literate in an age of constantly evolving technologies and resources, and how can we teach learners to use new technology in ways that are productive, creative, and responsible?" (p. 13). The document does mention information literacy once, referring to the International Society of Technology in Education (ISTE)'s National Educational Technology Standards for Students (NETS-S). However, ISTE uses the term information fluency (p. 14).

Ultimately, it is libraries, not librarians, who are on the education radar. The former are embodied in terms similar to the language of NCLB, that is, as primarily useful for providing infrastructure and access to technology (NETP, 2010, p. 51-62). The real "driver of change" in the 2010 plan is technology. Information technology, not literacy, is the public deliverable. Technology and its uses are described in almost evangelistic terms throughout the document—and its students as in trouble. As one remedy, the plan insists that every student should have "one access device," especially underserved populations such as second language learners and poor/minority students (Reaching our Goal, 4.2, p. 61).¹⁰ NCLB and NETP use technology to solve what librarians have long recognized as an essentially curricular issue.

The document only infers that teachers will teach "21st century" information skills. As one graduate student of education succinctly posted to an ISTE discussion board:

We do not know whose responsibility it is to teach students how to discern between valid and invalid information found via online research. Essentially, we realize that it is everyone's responsibility, though we have

not seen the issue defined under the same kind of clear headings such as Physical Fitness, Nutrition, or Career Guidance. (Covello, 2009)

TOWARD POLICY FORMATION: DEFINING THE PROBLEM

We have shown information literacy policy formation to be inherently problematical. The term itself lacks unidirectional image or meaning (a symbol or story) that the public can use as a take away, and with which policymakers might use to set agenda. Problem definition influences agenda setting or public recognition (Baumgartner & Jones, 2009; Kingdon, 1997). Kingdon and Baumgartner and Jones agree that a problem's definition is central to control of the issue, and that stakeholders must engage policy makers by framing the issue as a "story" in order for an issue to expand its support. Because information literacy is variously represented in many settings, it is also hard for the education community, let alone the general public, to name it in practice.

In fact, publicly provided education may be among the more challenging places to situate information literacy policy given education's current querulous and competitive environment. Even the best information pedagogy does not usually involve school district offices, and therefore would be underrepresented to education officials, key policy implementers (Honig, 2009).

Finally, it is debatable whether information literacy as imagined by most stakeholders refers to teaching (pedagogy) or training (tool literacy). If information literacy is defined as an educational policy objective then there is value in approaching information discovery and search pedagogically, in ways that encourage deep learning. This would entail further conceptualization of information literacy within education curriculum. Technology has a shelf life, and technology-based training skills depreciate with aging technology. Library stakeholders would have to address information literacy as pedagogy in order to locate information literacy here. This means a cultural shift from skills-based or training models that dominate today's library sessions; that is, repositioning librarians as teachers, not trainers. Library stakeholders might give serious consideration to scholars' urgings to look beyond a skills-based construction of information to one that is knowledge-based.

Defining information literacy as a public interest requires framing the definition as a public problem. Issues are policy worthy if they warrant market failure (an economic condition where public resources are not allocated to achieve the greatest possible good), or some breakdown of the system, such as the inability of government to provide effective public schools. For information literacy, the question may be roughly translated as, "What is the loss to society if people are not information literate?" or, "Is there market failure if there is no information literacy?" This is a huge question concerning technology, pedagogy, and global competitiveness,

and it is tempting to focus policy within education. But, defining a problem, although critical to the process, is provisional until policy analysis is complete, a “raw material” that should serve to drive other, multiple considerations like projected outcomes, alternatives, and trade-offs (Bardach, 2008, p. 3). In other words, policy creation is iterative. Until policy makers engage systematically with information literacy in all of its contexts, beyond education, this issue remains a known unknown. Meanwhile, there is an order of magnitude when projecting educating millions of school children to become information literate. Information researchers will have to measure the likelihood of improvements producing the required results—which are still indeterminate. What is the specific outcome that librarians want to see? Answers might range from “an educated workforce,” to keeping information literacy within the realm of academic librarianship.

ASSEMBLING EVIDENCE

Evidence is no doubt critical to creating effective policy as it indicates the degree to which a problem constitutes a true social concern (Bardach, 2008). Large-scale (generalizable) evidence validates an issue and influences courses of action. LIS literature output is voluminous in terms of providing proof of curricular initiatives. What are not readily available are institutional data that can be used to drive policy research. There exist several commercial surveys and a few information literacy assessment tools that provide useful data. They include the iCritical Thinking Assessment; the Standardized Assessment of Information Literacy (Project SAILS, 2007); the National Survey of Student Engagement (NSSE); and the Pew Internet & American Life Project’s various surveys on libraries, Web 2.0, Social Networking, Digital Divide, etc. iCritical Thinking and SAILS instruments are marketed to postsecondary institutions to assess various information proficiencies of students. The National Survey of Student Engagement (NSSE) is a survey designed to capture student information on campus programs. The Pew Internet & American Life Project, which studies social effects of the Internet, collects data on how technology is impacting information gathering and use in libraries. The first three tools provide institution-specific and general reports enabling institutions to reference their data against national norms and focus at the higher education sector. Although this data can provide some useful evidence, it is nevertheless insufficient to corroborate the claims that supporters make concerning the need for information literacy. For example, proponents claim that information literacy is a critical literacy for lifelong learning, that it is needed to survive in a technologically advanced society, that it is necessary for an informed and productive citizenry, and that it enhances our global competitive edge. What evidence do we possess to test the veracity of these claims? What data are we collecting to establish and maintain them? How do we measure an “informed citizenry”? Which segments of our population are “information illiterate”? Do we know

what interventions actually work? Reliable, valid data is costly, but critical for making the case for policy intervention.

RECOMMENDATIONS

Placing Information Literacy on the Policy Agenda

Governments pursue courses of action or inaction based on the strength of the case that policy makes. If our policy objective is to make every American information literate, then we must make a case to the general public for broad-based policy. The American public sector involves a bewildering array of actors and influences including public (opinion), government agencies, influential stakeholders (elites), and preexisting law and legislation. Librarians have pushed practice far within the context of education, given the fact that with the exception of local examples, they do not wield curricular power. But curricular issues, even timely and pressing ones, are not enough to sustain information literacy as policy. The government has not acted because the scope of information literacy has not been defined in a way meaningful to the public.

Library and information science researchers interested in policy making might consider the following:

- Recognize the scope of the problem. Policy analysis is employed as a unitary means of structuring an approach to a single issue. The result of policy is always a specific directive that produces a positive and particular social change in a defined population. The community should plan to plan a policy approach. It will take considerable time and know-how to set agenda, collect data, formulate, and implement policy. Both the purpose of analysis and the area of public interest determine the policy framework, theory, or model to be used.
- Careful attention should be given to choosing the right framework since policy formation is preemptive and must be developed in anticipation of some undetermined outcome (Wiemer & Vining, 1989; Dye, 2007; Sabatier, 1988, 2007). Underlying process models influence policy direction and are critical to successful implementation (Howlett & Ramesh, 2003; Radin, 2000; Sabatier, 2007).
- Spend time defining this issue. Issue definition is iterative and needs to be exhausted to create the right outcome (Bardach, 2005, p. 8). Information literacy should be carefully considered within the context of current practice (not just librarianship) in order to determine what steps are necessary for policymaking. Possible policy options (scenarios) should be modeled using specific frameworks (e.g., the business arena, K-12 education, or within higher education) in order to create alternative courses of action.
- Establish a common understanding of terms and make peace with communities of practice who may not resemble our own. Issues related to

nomenclature, proactively engaging other stakeholders in discussions, and getting buy-in from them to elevate information literacy to a policy issue might remedy ownership of the practice. Business and industry leaders have been interested in information literacy in the context of training effective knowledge workers. This group is an obvious choice with which to (re)partner. These suggestions were brought to fruition by organizers of the 2006 Information Literacy Summit, at which members from business and industry, education, libraries, and government gathered to discuss policy options for information and ICT literacy.

- Collect data that are significant, reliable, and generalizable in order to make a case to the public. Education has become evidence-based. Information literacy assessment should be attempted at the national level so the scope of the problem can be established.
- Consider alternatives. If information literacy is a public problem, there are many alternative solutions to it. For example: Public libraries are a less obvious choice but they may be a productive place to site large-scale information literacy training and instruction for K-12 students. Public librarians have been largely left out of the discussion on information literacy. Yet, public librarians own their own culture and operate independently from the schools. Public libraries are also a known public good. Despite continuing budget cuts, public libraries continue to reach students directly by providing (unmandated) after-school care. Public libraries have been good at framing and garnering support for reading literacy and should move on to information literacy issues if that is a desired outcome.
- Focus any alternative strategies of intervention to solve a discrete problem. As an example: The American Library Association might resolve that an information literacy policy should be broadly implemented in the K-12 arena. It decides to increase information literacy for school-aged children within the next 10 years. Policymakers might consider any one of the following alternatives: 1) Partner K-12 schools with the public libraries for information literacy after-school homework instruction; 2) Pilot a peer mentoring program between K-12 teachers, librarians, and college librarians in a district; 3) Change college of education curricula to include information literacy, since teachers will increasingly teach information literacy to grade school students; or, 4) Recast LIS curriculum as a teaching social science, to encourage all librarians as teachers, from the primary to higher education levels (Bruce & Lampson, 2002).

Each of these possible alternatives could be investigated as discrete policy implementations.

- Decide on trade-offs for any alternatives. What can the LIS community live with or without?

- Become familiar with educational policy. Partner with educational policy researchers and study the policy and implementation literature. This is a singular opportunity since the current policy community is likely interested in nontraditional (e.g., library) participants and academic exchange based on the momentum from educational technology policy directives (NETP, 2010).
- Recognize that educational change will mean cultural change (Fullan, 2010).

CONCLUSION

For many reasons information literacy has not been recognized as being important enough to raise a claim for public resources. Perhaps the term is too finely put. In the near future, the very notion of literacy may be up for grabs as ways of learning and knowing are changed by technology. What has taken hold of the imagination of political stakeholders are technologically related concepts of information literacy: issues of digital divide, digital exclusion (NETP, 2010, p. 19), and digital/technological fluency. This focus on technology may be a function of American pragmatism: Technology works quickly as an easy fix, and the Web makes the appeal of digital literacy technological, not curricular. Barring policy efforts, it is likely that, at least within the K-12 arena, information literacy will be subsumed within the domain of digital literacy (NETP, 2010). Based on the direction that current education policy is headed, it is probably a matter of time before information literacy is allocated within some other “twenty-first century” literacy agenda.

Making the case for information literacy may become the purview of higher education alone, where the dominant literature on information literacy now resides. Higher education is concerned with research at a level most feasible on college campuses. Intensely local, curricular efforts will no doubt continue there. These may help information literacy gain traction as an agenda item on a local or contingent level (Honig, 2009), but they will not solve the issue broadly. If information literacy is a public concern, then to reach the greatest numbers for the greater good is a significant K-12 public undertaking. The future depends upon how or whether the library science field can make a policy case to educators and the public. Information literacy, at least as defined by the communities of practice that have shaped its most critical development, may have a tough time going it alone.

NOTES

1. This tension between a framework and a skill-set is evidenced in two versions of an accreditation document from the Middle States Commission on Higher Education. The 2002 version defined information literacy as: “an intellectual framework for identifying, finding, understanding, evaluating, and using information . . .” (p. 32), whereas the 2006

- document moved away from a conceptual framework and instead positioned information literacy as an essential set of skills (p. 42).
2. Critics of ability- and skills-based meanings related to the term have perennially asserted that any authentic discourse include epistemological considerations focused on knowledge (Elmborg, 2004; Kaptizke, 2003; Mutch, 1997), as well as more thoughtful research regarding the literacy continuum, information illiteracy (Mani, 2004; Mutch, 1997), and information construction theories and practice (Mutch, 1997).
 3. Potential and current actors for information literacy include: librarians (school, academic, teacher-librarians, library administrators), educators (elementary and high school teachers, faculty members), administrators (principals, superintendents, college administrators, educational boards), education organizations (accrediting bodies, library and information science (LIS) associations, education associations), communities (students, parents), private industry (public and private sector business, and technology organizations [information technology, educational technology, information and communication technology]). Assuming policy, future government actors would include those in a policy-making and administrative (implementation) capacity.
 4. The business community had an early stake in information literacy that merits attention since the public interest is currently concerned with global productivity. Business leaders have long commented on the need for information-ready workers (Harris, 1993; Katz, 2007). Business community concerns were reflected in the Department of Labor's Secretary's Commission on Achieving Necessary Skills reports of 1991 and 1999, popularly known as the SCANS reports (U.S. Department of Labor, 1991 and 1999). Both SCANS reports outlined competencies and foundational skills for American graduates entering the workforce, that is, provided a solid basis for moving a business information literacy agenda forward. Despite the fact that research abounds on the need for competent knowledge workers, a business agenda for information literacy has been slow to emerge. Terminology may be an issue here; business literature prefers terms such as "knowledge management," "information and communication technologies (ICTs)," and "information technology." In any case, librarians have been focal figures in promoting business information literacy, typically in college settings (Klusek & Bornstein, 2006; O'Connor, 2007; Simon, 2009).
 5. In addition to curricular and student achievement emphases, much work was done on models and standards. These included the AASL (2007) and ACRL (2000) standards, as well as state standards (Florida, Nevada, Alaska, Ohio, Colorado, etc.). Several information models developed for K-12 schools, including Big6, the Information Search Process, and the Stripling and Pitts Research Process Model, reflected a desire to reduce a complex information process to a set of stages or linear steps.
 6. Surprisingly, empirical research has only recently begun to inform instructional practice, and by extension, policy process (Maroulis et al., 2010). Some education experts have posited that good policy research has been in historically short supply due to low demand, signaling a "market failure" in K-12 education (Jacob & Ludwig, 2005).
 7. Positively, the research agenda for educational policy is expanding to include nontraditional models of education, such as organizational learning (building policy from practice), and community-based learning initiatives, which depend upon outside actors (Honig, 2006; Ladson-Billings & Tate, 2006). Education's policy agenda is more inclusive than in the past, which should be encouraging to those seeking to craft information literacy policy within education. However, local initiatives implicitly run counter to broad-based implementation. Librarians' efforts are already local in scope.
 8. Section 2422 of the Elementary and Secondary Education Act (2010) mandates that the Secretary for the DOE create "A national long-range technology plan that describes how the secretary will promote: (a) higher student academic achievement through integration of advanced technologies, including emerging technologies, into curricula and instruction; (b) increased access to technology for teaching and learning for schools with a high number or percentage of children from families with incomes below the poverty line; and (c) the use of technology to assist in the implementation of state systemic reform strategies."
 9. The plan has been eloquent in its rationale for new schools technology policy, quoting former Secretary of Education Rod Paige: "Education is the only business still debating the usefulness of technology. Schools remain unchanged for the most part despite numerous reforms and increased investments in computers and networks" (United States Department of Education/Office of Educational Technology, 2004).

10. See C. Haras (2011). There is emerging evidence that even poor, minority, second-language students have multiple accesses to information technology such as handheld devices, and may also participate regularly in social utilities.

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