

# The impact of digital persona on the future of learning: A case study on digital repositories and the sharing of information about children at risk in Western Australia

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## Abstract

*Modern databases and digital depositories have the capacity to store vast amounts of information on individuals. In the case of normal everyday affairs, of course, there may be many databases and many organizations involved in collecting information on individuals. There are two types of digital persona possible in these environments — active persona and passive persona (Clarke, 2001). In this paper the authors will report on initial results from an exploratory study on attitudes towards information sharing in Western Australian education and explore the role of active and passive digital persona in information sharing. Many organizations collect information on students, ranging from health, justice, and social security through to education. Sharing information on students is, the authors will argue, essential to our understanding of the momentum of and the future for the digital and educational technology revolution. Students, in future, may want to have their own active digital persona. How these personae are constructed has implications for privacy legislation and how we construe the provision of education.*

## Introduction

*I think the Privacy Act is a huge edifice to protect the minority of things that could go wrong.* I've got a good example for you, I'm just trying to think ... yeah the worst one I've ever seen was the Balga Youth Program where we took these students on a reward excursion all the way to Fremantle and suddenly this very alienated kid started to jump under a bus, a moving bus so had to be restrained. The cops from Fremantle arrived because all the very good people in Fremantle were alarmed at these grown-ups manhandling kids ... or a kid and what had happened is that DCD had dropped him into the program but hadn't told us that this kid had suicide tendencies. No it's just chronically bad. And there were caseworkers involved and ... there is some information that we have to have that doesn't get handed down. Rather than a blanket rule that everything's confidential coming from them to us and that was a real live situation and you imagine how we're trying to handle it, we had taxis going from Balga to Fremantle to get staff involved and we only had to know what to watch out for and we probably could have ... well what you would have done is not gone on excursion I suppose.

These comments from a principal at a school with disadvantaged children in Perth, Western Australia, exemplifies the key issues of interest to the authors: the importance of information sharing that might be in the public interest, the way that a person is represented in that information sharing, and the consequences when things go wrong.

Privacy is a 'negative right' as it is 'freedom from' interference from others, while agencies 'sharing information' about a person is potentially a 'positive right' as it might be something that is done in that person or society's interests. Positive and negative rights have complex philosophical underpinnings (Holmes & Sustain, 1999) but inform much of how we operationalise everyday life in modern societies. Bans on smoking in public places, for example, are positive rights, as the imposition of the law is said to benefit the individual and society, even if that law may be against that individual's wishes. Compulsory education is another example.

The UK Bolton local authority in 2002 was proactive in pursuing recommendations from the British Laming Report on children at risk by establishing trial methods for identifying, evaluating and tracking children at risk. The Laming Report had found that Victoria Climbié, a young girl, was in the country only 10 months before being murdered by her aunt and boyfriend. This risk of harm was widely known. Her problems, ironically, were known to 6 local authorities, 3 housing authorities, 4 social services, 2 child protection teams and police, the local church, and the hospital, but not education. Her death was, according to the Laming

Report, preventable if there had been interagency sharing of information and appropriate evaluation. The Bolton authorities set up the Bolton Identification, Referral and Tracking Project, now called Bolton Unlimited, to address the Laming Report and Green Paper concerns that ‘every child counts’. There is now a range of similar trials across Britain which attempt to: (i) create an integrated children’s system (ICS), to provide a framework for assessment, planning, intervention and review; and (ii) create an integrated tracking system which collects core data about children from agencies. There was significant debate in the UK about the privacy issues associated with the sharing of information. A QC provided advice to Bolton that it was legitimate for the sharing of information within the parameters of the project. Bolton uses Oracle/Fujitsu as its collaborative partner in database development.

The Bolton project has run parallel to the work of the Smart Communities project in Australia, of which the authors are a part. The exploratory interviews in the Australian Research Council funded project were designed to get a detailed insight into the notion of “children-at-risk” as the term is applied by agencies within Western Australia in order to:

- i. Facilitate an ‘inter-agency workflow’ strategy designed to support ‘at risk’ children and young people participating in the educational portal;
- ii. Provide potential solutions for barriers to inter-agency co-operation (for example privacy limitations);
- iii. Evaluate the effectiveness of service provision through appropriate social and psychological inventories and evaluation; and
- iv. Establish appropriate metrics and benchmarks to measure outcomes.

The question that arises from the participant’s vignette of the Fremantle excursion is, “would the government department concerned have breached privacy guidelines by telling the school that the boy was suicidal?” The answer, from Bolton’s point of view, is no. Interviews from the first stage of the Smart Communities project give an indication why.

## Brief background to privacy

The Commonwealth Privacy Act 1988 governs in Australia the way in which personal information is to be collected, used and stored. ‘Personal information’ in this Act is defined as “information or an opinion (including information or an opinion forming part of a database) whether true or not, and whether recorded in a material form or not, about an individual whose identity is apparent, or can reasonably be ascertained, from the information or opinion”.

The Act contains two sets of privacy principles for the management of personal information:

- i. The Information Privacy Principles (IPPs) that generally applies to the Federal and ACT Government agencies; and
- ii. The National Privacy Principles (NPPs) that have applied to private sector organisations since December 2001.

Australian States and Territories have created privacy principles and guidelines that are based on the IPPs. Western Australian Government agencies, such as Health, Justice and the Police have created their own specific guidelines that govern management of personal information.

The Smart Communities study therefore fits into the research literature that is attempting to address both identification of children and youth at risk and issues in sharing information about them (Choate, 1993; Druian & Butler, 1987; Henderson-Sparks, Paredes, & Gonzalez 2002; Natriello, McDill, & Pallas, 1990; Richardson, Casanova, Placier, & Guilfoyle 1989; Rossi & Montgomery, 1994; Stephens, 1997; Wolf, 1993).

## Research methodology and findings

The researchers conducted interviews with 27 participants. Interviews were conducted with schools principals, teachers, chaplains, school psychologists, police, and vocational education specialists. This led in turn in traditional ‘snowball sampling’ procedure to contact with state government departments such as the Department for Community Development (DCD), Department of Justice (DoJ), Department of Indigenous Affairs. Within these state government organisations contact was made with caseworkers and divisional managers to get a perspective of both at-risk individual interactions and policies affecting service delivery.

In some cases this meant that case workers came from different sub-agencies such as the Strong Families Coordinator within DCD. At the federal government level Centrelink (the social security agency) is probably the key player. Interviews with senior management and a caseworker were undertaken. Non-government agencies supporting at-risk individuals, such as the Smith Family Foundation, were also interviewed. A number of respondents came from local government agencies, particularly involved with children and young adolescents.

The qualitative interviews were complemented with a risk matrix. This matrix, derived from the research literature on perceived elements of ‘at risk’, allowed participants to tick those elements they thought most associated with definitions of at risk. The findings from this matrix are not reported here. The qualitative interviews were semi-structured and the questions focused on participants’ experience in classifying or seeking information on children or youth at risk and the major issues that faced them in this regards. The results were subjected to a traditional thematic analysis, identifying key concepts and issues raised by participants.

There are formal systems of information and tracking, such as those set up by Centrelink, but such systems do not necessarily encompass all agencies associated with a child at risk. The interviews yielded the following themes:

- i. Information is shared with consent (formal consent-based persona).
- ii. Information is shared with/without consent (informal imposed persona — an informal professional-rapport based method exists where barriers to information sharing are perceived to exist and urgency takes the priority).
- iii. Information is shared with forced consent (formal imposed persona).

The analysis of the data indicates that there is a demand for a more transparent and efficient system for sharing information. A brief summary of participant representative comments under each of these themes is provided below. As in the Bolton project, it is not clear where privacy begins and where privacy ends, especially where extensive information is already held but not used, where one agency might give information without a client’s consent and another agency will not.

#### ***Information is shared with consent (formal consent-based persona)***

The first model has each agency having its own digital repository and consent is sought from students or parents/guardians to record particular types of information and that information is subsequently shared internally or among cognate organizations.

The difficulty with this model, even though it approximates the ideal of privacy legislation, is when information needs to be shared between agencies, for example between a health department and a justice department or a community development department and an education department. Senior officials interviewed as part of the Smart Communities project identified the conundrum:

“We spend a lot of time forcing upon them [staff] the fact that it is extremely private and you’re not allowed to divulge it to anyone else and you shouldn’t even know it yourself unless you have to. But it makes it very difficult when the local agency rings up and says oh we’re trying to deal with Billy and they go oh we can’t say anything about Billy, you’ve got to get a formal approval from Billy and then we’ll talk to you and then other staff will use a bit of commonsense sometimes and discuss it with them so they’re getting two pushes, the staff - one, don’t do it under any circumstances and one, oh we got to make the system work.”

#### ***Information is shared with/without consent (informal imposed persona)***

Here we have a tension between those staff that will enforce the consent model and not share information and those that give the wellbeing of Billy as primacy, overriding the imperative for privacy. The trigger for bypassing consent is “immediate risk”, a phrase that has no formal definition in the agency lexicons but is a rationale for sharing information: “we probably expect a lot of other agencies to share everything with us but we always you know seek a client’s consent for that unless it’s an immediate risk situation and we don’t have time to you know follow up with the parents and get their consent.”

The second model, Figure 1, has each agency holding information about a student, and information is shared by email, telephone or meetings, but there is no formal exchange from digital repositories.

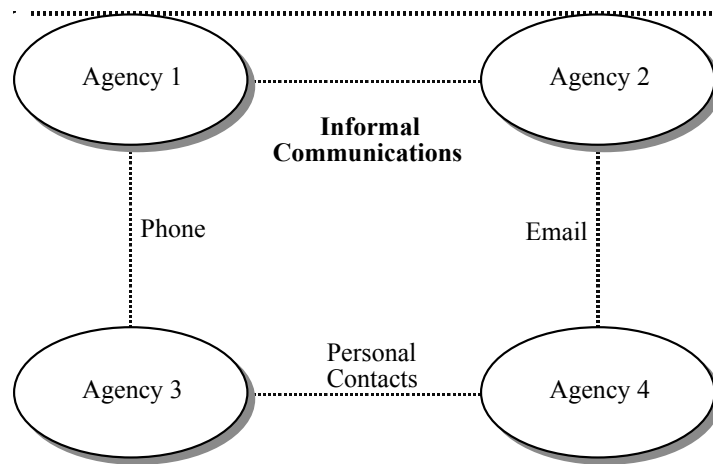


Figure 1: Informal sharing of information

But the sharing of information without consent requires a rapport within a professional context across agencies and quid pro quo.

“Once there is that professional liaison and you understand why you’re meeting and what your understanding is and where this information is going and everybody has this high confidential manner about them and the information is going to be used in the correct way then you probably would be more willing to disclose information out. Most of the information is done informally, the sharing information.”

### **Information is shared with forced consent (formal imposed persona)**

The third model involves contexts in which a student or parent/guardian may be “forced” to give consent to information sharing. This usually occurs when financial benefits to the person are involved, or as one participant in Centrelink interviewed said: “you have the option of not telling us your tax file number but you’re not getting any money.”

Forced consent represents problems in a modern liberal democratic society as it does not build trust into a digital repository, even if that forced consent is intended to benefit society and the individual (Heery & Anderson, 2005). Australians have always been suspicious of government departments collecting information about them (Clarke, 2001).

Participants’ concerns about holding information on individuals, while linked to the wellbeing of a classroom or the wellbeing of the individual or the wellbeing of the government in terms of payments criteria, are not simply concerns about records. A ‘persona’ is created when organizations collect information on an individual.

“There is something innately threatening about a persona, constructed from data, and used as a proxy for the real person. It is reminiscent of the popular image of the voodoo doll, a (mythical) physical or iconic model, used to place a magical curse on a person from a distance. Similar ideas have surfaced in ‘cyberpunk’ science fiction, in which a ‘construct’ is “a hardwired ROM cassette replicating a ... man’s [sic] skills, obsessions, knee-jerk responses” (Gibson, 1984, 97).

As Clarke (2001), an expert on the idea of digital person and privacy points out, the ability to create a persona may be vested in the individual, or in other people or organisations, or in both. “The individual has some degree of control over a projected persona, but it is harder to influence imposed personae created by others.” In the Smart Communities project participants were aware that there are dangers with an imposed persona, including:

- Dangers of personal dataveillance
- Wrong identification
- Low quality data
- Non contextual use of data
- Low quality decisions
- Lack of subject knowledge of data flows
- Lack of subject consent to data flows
- Denial of redemption
- Denial of due process (see also Clarke, 2001).

At present, in Western Australia, in the context of sharing information about children at risk, there is an ‘imposed persona’ that occurs through informal sharing of information and an imposed persona that is formally on record in different agencies. The psychology of wellbeing can override the formal imposed persona by adding information and allow the sharing of the imposed persona in different agencies.

Put another way, there is a ‘positive right’ to wellbeing that is not enshrined in legislation in Western Australian but is acted upon by professionals ‘as if’ it were legislated. Digital personae are by extension emerging, therefore, as a positive right.

## Passive and active digital persona

All participants in the Smart Communities interviews agreed that a better system is possible. The idea of a ‘whole picture’ matches the Bolton objective of ensuring that when ‘immediate risk’ occurs at the least relevant agencies know. Bypassing consent, based on need, already exists.

“Information sharing ... it happens, the necessary things ... the necessary bits of information like to do with abuse or harm or whatever, may be shared but it’s not effectively networked. I guess that’s what I find - that at times everybody’s got a piece of the puzzle but nobody’s got the whole picture.”

Any discussion of the future of education and technology cannot escape the issue of passive and active digital persona, because digital persona, potentially, ‘give the whole picture’. The informal, non-computer, means of gaining information on children at risk is ‘active’. The current digital collection of information is ‘passive’ (see Figure 2). Active persona originates with the idea of ‘agent’. In a digital context, “an agent acts on behalf of the individual, and runs in the individual’s workstation and/or elsewhere in the net. A trivial implementation of this idea is the ‘vacation’ feature in some email servers, which returns a message such as ‘I’m away on holidays until <date>’ to the senders of messages. (Where the sender is a mailing list, this may result in broadcast of the message to hundreds or thousands of list-members)” (Clarke, 2001).

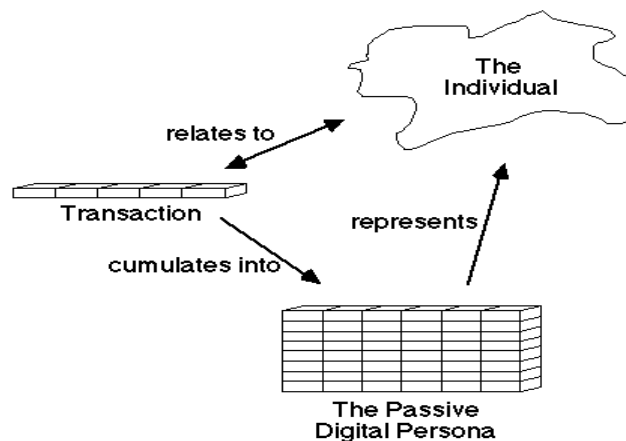


Figure 2: Passive digital persona (Clarke, 2001)

Projected active digital personae include mail filterers, news and ‘knowbots’ (intelligent searches of network)s. Active digital persona can be projected by the individual or imposed by others. The difference between active and passive is in the degree to which control can be exercised over what is happening to the persona. If the individual is projecting their persona, for example, they may wish to create filters around themselves and restrict the bombardment of information through the networked world.

## Trust in digital repositories

Trusting the representation of a digital persona and the means by which is stored and secured are related. The Digital Repositories Review (2005) differentiates digital repositories from other types of collection on the basis that the:

- Content is *deposited* in a repository, whether by the content creator, owner or third party on their behalf
- Repository architecture manages content as well as metadata
- Repository offers a minimum set of basic services, e.g. put, get, search, access control
- Repository must be sustainable and trusted, well-supported and well-managed

The RLG-OCLC report *Trusted Digital Repositories* (2002) identifies minimally three levels of trust that must apply to the establishment of trusted digital repositories:

- i. How institutions earn the trust of their designated communities
- ii. How institutions trust third-party providers
- iii. How users trust the documents provided to them by a repository.

Government and non-government agency electronic collection of information about students, whether that information is about health, justice, social security or other areas, has the characteristics of a 'digital repository'. Studies on digital repositories acknowledge that 'trust' is central to the operation of a digital repository but that trust is difficult to define. If we return to the interviews in the Smart Communities project then we can tease out issues of trust by looking at three models of consent and information sharing.

There are obvious legal questions on the extent to which the current active persona (informal) can be translated into an active digital persona (formal and legislative). It is here that we get an insight into the future of education. While the Smart Communities project is about children at risk and information sharing, there are obvious generic issues that emerge for how future learning environments emerge. A few issues come immediately to mind. If digital persona become important to the understanding of the learning environments in which real people are likely to succeed (which is why information about children at risk is collected) then what do institutions need to know for a digital persona? And does that knowledge need to be collected even without consent? If students in future operate with very complex active digital persona, their own constructions, which also incorporate their learning styles and needs, then how can learning systems interact with those digital personae?

## Conclusion

The results from the initial research in the Smart Communities project, placed in the broader context of research on privacy, allows the authors to construct a model of digital persona that represents the tensions:

- i. Of information sharing between the desire to meet an imperative for ensuring "wellbeing" and the desire to protect "privacy" for children at risk; and
- ii. Between "forced consent", an imposed persona, in order to ensure wellbeing of individuals or the state and "consent" (voluntary person) to ensure freedoms of the individual.

If we put this into a model, Figure 3, we can see that a balance of positive and negative rights emerges. In the top left quadrant we might find societal definitions of wellbeing overriding information privacy and allowing direct database access. In the top right hand quadrant we might find informal sharing of information to achieve a balance of the aims of wellbeing and privacy. Misuse of information is possible, of course, in both environments. Ideally, in a digital repository, flagging of individuals in need of help could be achieved in ways that achieved a balance of positive and negative rights.

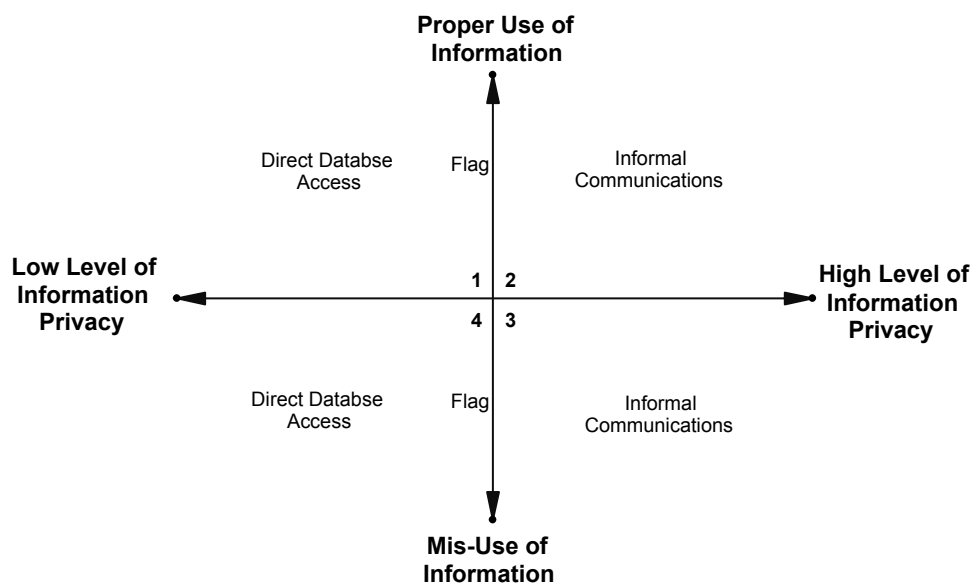


Figure 3: Model of the two rights — positive rights to wellbeing and negative rights to privacy

Imposed personae do not enhance privacy but voluntary personae do. Forcing people to do things would, of course, meet societal definitions of wellbeing. This is not an optimum outcome, however, as there is no privacy for the individual. Similar models would apply to issues in copyright. Digital repositories concerned with scholarly or artistic works will encounter/will have encountered problems in ownership. “Digital preservation has even wider legal implications. How preservation infringes on copyright remains unclear” (RLG-OLCL, 2005).

For example, the idea that the community owns published knowledge is, of course, enshrined in law. Intellectual property law tries to protect the individual and the community interest in knowledge. There is no freedom of access to what a person knows unless that person publishes what he or she knows. Under common law you own your own ideas completely until they are published. ‘Ideas are free; but while the author confines them to his study they are like birds in a cage, which none but he can have a right to let fly; for, till he thinks properly to emancipate them, they are under his own dominion’ (Briggs, 1906, p. 19). People who decide to ‘let fly’ their ideas gain a reward because of their contribution to the public domain. ‘Copyright, which defines the right of an author with regard to his production, is undoubtedly given him to recompense for his creative work’ (1906, p. 22). While the right to tangible expression of knowledge is called a property right, it is more precisely a right to reward to those who surrender their exclusive control of their own thoughts. Freedom of access to the public domain, to the totality of published works, refers to access to the tangible expressions of knowledge, such as documents, signals and data structures.

Once again, we can see here the playing out of positive and negative rights — the right of the community to impose or take and the right of the individual to give or keep. The problem for the digital repository theorists, therefore, is how to re-present the individual’s persona and at the same time balance positive and negative rights. It might be argued that this is not the role of a digital repository theorist, but this is exactly what is emerging in the literature of digital repositories, and not surprisingly. How to visualize data in a repository will be one facet of theoretical thinking about digital repositories but this will be increasingly tied to issues in digital persona.

Stakeholders involved in caring for at-risk children and youth include agencies such as police, social welfare, education system, community development and employment. These various agencies frequently amass information deemed useful in implementing positive change in the lives of youth. Unfortunately, all too often there is little or no communication between agencies that can impede or at worst be detrimental to a holistic approach to solve the broad range of problems these children and youth experience. Clearly there is a need for a more effective communication strategy or network and a digital repository that is sensitive to the construction of digital persona.

In this context, the research and development of integrated information and communication technology services and associated digital repositories to support and enhance the learning environment of children and young people at risk becomes important. Policy development and programs to enhance children and young people’s achievement of social and educational outcomes include: inclusive practices; disabilities; speech, language and learning (boys in education, gender issues); ADHD; autism; gifted and talented; behaviour; retention and participation; health and well-being; mental health; early intervention; social, emotional development continuum; child protection; health care; family links; family violence/sexual assault; strong families; homeless youth; chaplains; youth suicide prevention; pastoral care; and extra curricula activities. A digital repository, outlined in Figure 4, would overlay all agencies and allow sharing of information. The issue, as noted above, is how to construct the digital repository to meet the balance of positive and negative rights.

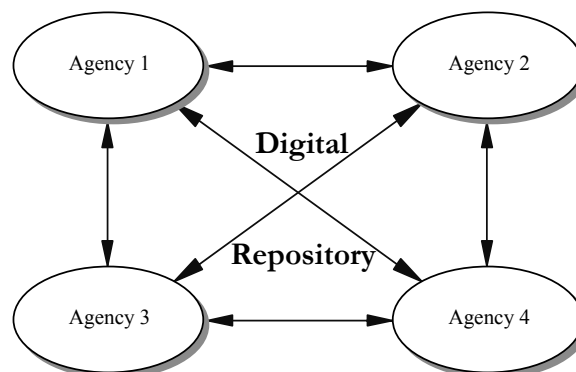


Figure 4: Digital repository

At present, professionals in the primary and secondary school context in Western Australia (and elsewhere) make decisions on persona based on the sharing of information with or without consent, especially when the wellbeing of children is seen as having primacy over privacy. The issue of passive digital persona in this context is by extension relevant to all learning environments. All records of students in databases and digital repositories will in time become enhanced with more complex information and more complex possibilities of understanding student psychology and motivation and backgrounds. If 'wellbeing' as a positive right drives current professionals to share information about students, without consent, for the students' protection, then should this principle also be extended to all contexts where wellbeing is important? At present, lecturers and teachers use teaching evaluations to gauge 'personae', but the sophisticated digital environments that are becoming available will create a much closer and complex relationship between student and teacher.

## References

- Choate, J. S. (1993). *Successful mainstreaming: Proven ways to detect and correct special needs*. Boston: Allyn & Bacon.
- Clarke, R. (2001). *Roger Clarke's dataveillance and information privacy home-page*. Retrieved from <http://www.anu.edu.au/people/Roger.Clarke/DV/>
- Druian, G., & Butler, J. A. (1987). *Effective schooling practices and at-risk youth: What the research shows*. School Improvement Research Series, No. 1.
- Heery, R., & Anderson, S. (2005). Digital repositories review. Bath, UK: UKOLN, University of Bath.
- Henderson-Sparks, J., Paredes, L. N., & Gonzalez, D. (2002). Student teacher preparation: A collaborative model to assist at-risk students. *Preventing School Failure, 46*(2), 80–86.
- Holmes, S., & Sunstein, C. (1999). *The cost of rights: Why liberty depends on taxes*. York: W. W. Norton.
- Natriello, G., McDill, E. L., & Pallas, A. M. (1990). *Schooling disadvantaged children: Racing against catastrophe*. New York: Teachers College Press.
- Peters, T. A. (2002, November–December) Digital repositories: Individual, discipline-based, institutional, consortial, or national? *The Journal of Academic Librarianship, 28*(6), 414–417.
- Richardson, V., Casanova, U., Placier, P., & Guilfoyle, K. (1989). *School children at risk*. Philadelphia: The Falmer Press.
- RLG. (2002). *Trusted digital repositories: Attributes and responsibilities. RLG-OCLC Report*. Retrieved from <http://www.rlg.org/longterm/repositories.pdf>
- Rossi, R., & Montgomery, A. (1994, January). Educational reforms and students at risk: A review of the current state of the art. Retrieved March 2, 2004, from <http://www.ed.gov/pubs/EdReformStudies/EdReforms/index.html>
- Stephens, G. (1997). Youth at risk: Saving the world's most precious resource. *The Futurist, 31*(2).
- Wolf, R. M. (1993). Data quality and norms in international studies. *Measurement and Evaluation in Counseling and Development, 26*(1), 35–40.

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