Zeitgeist[*]: information literacy and educational change

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Abstract Information literacy is a mosaic of attitudes, understandings, capabilities and knowledge about which several myths persist. A first myth is that it is about the ability to use ICT to access a wealth of information. A second is that students entering higher education are information literate because student centred, resource based, and ICT focused learning are now pervasive in secondary education. A third myth is that information literacy development can be addressed by library centric and generic approaches. A fourth myth is that it is about the effective use of information. Because information literacy is about learning how to learn it should be utilised as a catalyst and framework for reconceptualising the nature and outcomes of formal education for the information intensive 21st century.

In his 1920 treatise *The outline of history*, H G Wells asserted that 'human history becomes more and more a race between education and catastrophe'. The intensity of that race in the early 21st century is arguably even greater now than it was in 1920. Education, however, means different things to different cultures and religions. Yet despite those differences, in all forms of education there is a simple divide.

As Illich and Freire concluded, it is never neutral. Education's purpose is to either domesticate or liberate. It domesticates where knowledge is deposited into learners and where the relationship between educators and learner is that of subject to object. This paper argues that for the future of an enlightened and less fearful world, and in that race between education and catastrophe, education must seek not to domesticate, but to liberate. It also contends that such liberation requires growing the global community of the informed *and* questioning as fast as possible. Whether the challenges are environmental, health, political, democratic, economic, cultural, religious or racial, the one thing they have in common is that their solutions can only be addressed by people of open mind who recognise their own need for good information, and who are able to identify, access, evaluate, synthesise and apply the needed information. In other words, people who are information literate.

Information literacy is therefore not the same as information skills acquisition. However, still overlooked by those who do equate information literacy with information skills is the absolute importance of recognition of the information need, something that needs to be taught and developed. As the 19th century British prime minister and novelist Benjamin Disraeli put it

[*] *Zeitgeist* German *zeit* time and *geist* spirit. In English 'spirit of the times'

'To be conscious that you are ignorant is great step to knowledge'.[1] In the 21st century that consciousness eludes the dangerous people of this world, whether they are the president and vice president of the greatest military power on earth, fundamentalist economists, or the fundamentalist adherents of the world's religions—and our world will count the cost for decades to come. The debacle that is now Iraq would stand well as a case study of the information illiteracy of its perpetrators. Nothing would build the profile of the information literacy movement more than an information literacy analysis of such events worldwide.

The information literacy movement: its provenance

In this audience there is no need to explore in depth the provenance of the information literacy movement since the term was coined in 1974. However the best description of why the idea of information literacy has taken such strong root since the mid 1970s is to be found in Dr Christine Bruce's seminal text *The seven faces of information literacy*, in which she states

> …the genesis of the concept has come from the need to describe something very real. That 'something', has been the information literate individual, the ideal 'information consumer' in a rapidly and continually changing world of information. These changes in the world of information are characterised by increases in the volume of information, changes in information technology and changing communication patterns. These changes are accelerating and likely to be ongoing. People, to function effectively in their personal and professional lives, need to understand and interact effectively with their ever changing information environment. Recognition of this need, often described in terms of 'empowerment' of the individual, contributed further to the emergence of the concept of information literacy.[2]

It is of passing interest that, although we tend to see ourselves in the 21st century as overwhelmed by information, in the 1860s in Victorian England social commentators, such as John Ruskin, were lamenting the speed of change and of life, and the stress created by overabundant information resources. A catalyst for the information literacy movement has thus been building for nearly 150 years.

Information literacy: a matter of definition

Information literacy is the functional literacy of the information age and information society. There remains some equivocation about the term 'information literacy' although as Curran[3] points out, it comprises two common words, first linked by Paul Zurkowski in 1974. This was about the time that lifelong learning also entered the language of education. Those two words, information and literacy, educated people understand. *Information* means interpreted data, news or facts. *Literacy* is conventionally the ability to read, but increasingly has become associated with the ability to understand or to interpret specific phenomena. Examples are visual literacy, numerical literacy, cultural literacy, computer literacy, digital literacy, IT literacy and electronic literacy.

Combined, *information* and *literacy* are appropriate to describe the understandings and capacities essential in a world where information, however provided and accessed is the pervasive commodity, and where the requirements of 21st century living give impetus to the concept. Information literacy was a longstanding need and concept awaiting a descriptor, which it received only 30 years ago.

Bawden provides, in a comprehensive paper 'Information and digital literacies: a review of concepts', an analysis of the terms related to information literacy which have been used in the literature. Excluding literacy itself, there are six, some of which have others used synonymously

> information literacy
> computer literacy *synonyms* IT/information technology/electronic/electronic information literacy
> library literacy
> media literacy
> network literacy *synonyms* internet literacy, hyperliteracy
> digital literacy *synonym* digital information literacy

It is perhaps appealing to spend time discussing the finer points of sometimes contradictory definitions, but as Bawden states

> To deal with the complexities of the current information environment, a complex and broad form of literacy is required. It must subsume all the skill based literacies, but cannot be restricted to them, nor can it be restricted to any particular technology or set of technologies. Understanding, meaning and context must be central to it.[4]

Information literacy is that complex umbrella form of literacy, a way of learning through engaging with information which extends far beyond formal education, and one which has evolved rapidly as a field of research, scholarship, educational practice and conference, journal and monographic publication.

1n 1758 Melchior von Grimm wrote that 'Every week new writings on education appear'.[5] Something similar could be said about publication on information literacy since the 1990s, but not enough of it is grounded in practice and research. One recent exception is Mandy Lupton's *The learning connection: information literacy and the student experience*, which is described later in this paper.

An even more recent exception is Susie Andretta's book *Information literacy: a practitioner's guide* to be published by Chandos in London next week. This provides a timely exploration of two information literacy frameworks, that pursued in the UK, and that pursued in the US, Australia and New Zealand.

Despite this rapid evolution there are myths about information literacy which still need to be countered.

A first myth: information literacy is about using ICT effectively

A first myth is that information literacy is about the use of information and communications technology (ICT) to access a wealth of information, and by extension that addressing the so called digital divide in all nations will eliminate the inequities between the information rich and the information poor.

Particularly in Anglo Saxon countries, easily beguiled politicians, bureaucrats, governments and educrats—and a largely ill informed and unquestioning media—have succumbed too easily to the hype of the ICT marketers, and the simplistic notion of a technological panacea for the complex challenges of 21st century formal and self directed education.

To date, none of the three levels of formal education—primary, secondary, tertiary—has really grasped the implications of a world which has a surfeit of data and information, or of the impossibility of sustaining lifelong learning in the 21st century without information literacy.

What they have tended to clutch at is the promise of information technology and e-learning, with to date little educational return on great investment in both. There has been a misjudgment that the key educational issue and investment requirement of the information

age is information technology, rather than information literacy. The consequences of that assumption have been evident for several years, and the perspective of the increasing number of critics of technology waste I have reviewed elsewhere.[6]

It suffices to note here that it is calculated that in the USA $35 billion has largely been wasted over the last ten years in networking schools—wasted because, apart from self assessments by the promoters of ICT in education, there is almost no properly researched evidence that such enormous expenditure has actually improved learning outcomes. On a per capita basis a similar amount is being wasted in countries such as Australia and the UK, at a time when public schooling in particular has much more profound needs. Most pcs in most schools are unused most of the times, and schools which have insisted that all students have laptops have found little educational utility in them.

As one critic, Dr Jamie McKenzie, points out in his book *Beyond technology: questioning, research and the information literate school*

> …we have scanty evidence that the huge expenditures have improved student performance. Politicians wax eloquent about knowledge economies while squandering money on poorly conceived educational ventures that ignore what we know about teachers, teaching and change in schools. It is time we replace the term IT (information technology) with (IL) information literacy. IT is mainly about flow—the movement of information through networks… Information literacy is about interpretation of information to guide decisions, solve problems and steer through uncertain, complex futures.[7]

Another manifestation of the technorealist perspective is from the Professor of Education at Stanford University, Larry Cuban, in his book *Oversold and underused: computers in the classroom*. His greatest concern is that the original goal of public education, creating good citizens, is being usurped by economic interests.

Why, he asks, 'should we spend billions on the latest technology when schools are begging for so much other support? The most serious problems afflicting urban and rural poor schools…have little to with lack of technology?[8]

In a recent paper 'Why IT has not paid off as we hoped (yet)' ICT specialists Ayers and Grisham note that

> At each step along the way, some of the more impressionable among us thought that one innovation or another would push us over the top, that we had finally gained the critical mass that would channel the undeniable power of IT into higher education. We watched as commerce was transformed, as entertainment was transformed, as personal communication was transformed, and we kept waiting for the moment when higher education would be transformed in the same way.
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> In particular, we waited for the time when the very heart of education—the classroom and the scholarship taught in that classroom—would be transformed. But despite the tremendous investments that all institutions of higher education have made in IT, despite the number of classrooms we have wired and the number of laptops we have mandated, the vast majority of our classes proceed as they have for generations—isolated, even insulated, from the powerful networks we use in the rest of our lives.
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> Moreover, the form in which scholarship appears has barely changed, despite all the revolutions in computing. Across almost every field, researchers, no matter how sophisticated the technology they use in discovery, translate those discoveries into simple word processed documents.

In a statement which first drew me, as a librarian, to their critique, they also note

> The accomplishments of colleges and universities, like their technology, have tended to become invisible because they have been so successful. If you had told people ten years ago that card catalogs would virtually disappear over the next decade, to be replaced by the systems we now enjoy for the management of all forms of information, they would not have believed you. The real heroes of the digital revolution in higher education are librarians; they are the people who have seen the farthest, done the most, accepted the hardest challenges, and demonstrated most clearly the benefits of digital information. In the process, they have turned their own field upside down and have revolutionized their own professional training. It is a testimony to their success that we take their achievement for granted.

They conclude, in arguing the case for the fostering and creation of content, that

> Over the last decade, as a result, American higher education has created a doughnut IT infrastructure: all periphery and no centre. We have invested in the machinery but not in the teachers and the scholars to make that machinery worthwhile in the classroom and in scholarship. The massive investment in networks and computers will not pay off until we fill in the hole, until we work together to create content.[9]

That massive investment will also not pay off until we work together, and invest more consciously, more systematically and much more heavily in developing people who are information literate and have learned how to learn.

In similar vein is a June 2004 report *Thwarted innovation: what happened to e-learning and why*[10] which trumps three of e-learning's most troubling assertions, and concludes that e-learning will only become pervasive when academic teachers change the way they teach.

However ICT has become organisationally embedded, and computer, IT or e-literacy is a prerequisite for information literacy. This is described well in the February 2004 second edition of the Australasian and New Zealand *Information literacy framework: principles, standards and practice*

> Information literacy incorporates, and is broader than, fluency in the use of information and communications technology (ICT). With digitisation of scholarly publications and the growth in online delivery, fluency with information technology requires more than the learning of software and hardware associated with computer literacy. Information literacy is an intellectual framework for recognising the need for, understanding, finding, evaluating, and using information. These are activities which may be supported in part by fluency with information technology, in part by sound investigative methods, but most importantly through critical discernment and reasoning. Information literacy initiates, sustains, and extends lifelong learning through abilities that may use technologies but are ultimately independent of them[11]

A second myth: students are information literate when they enter higher education

A second myth is that students entering higher education are information literate because student centred, resource based and ICT focused learning are pervasive in secondary education. This is a myth because despite the rhetoric about educational change and student centred learning in secondary education, the reality rarely meets that rhetoric. Most classroom teachers, school leaders and educators of teachers still do not recognise or understand the information literacy agenda or its implications.

Australia, for example, has a large number of dually qualified teacher librarians, particularly in secondary schools. They have taken significant initiatives to bring the issue of student information literacy to the fore, often ahead of higher education. Numerous Australian government reports have identified and reflected on the issue. Probably no Australian school,

however, has at the very top of its educational and teacher development agenda, and resource allocation, a priority to develop information literate students. Yet this is the single most pervasive educational issue for the 21st century, of which librarians are particularly conscious because it is they who know just how underdeveloped is the information literacy of so many students, and what are the consequences. That underdevelopment is often transferred to higher education or to public libraries which can only observe with bemusement or frustration what they have inherited. The reality is that education in many countries, such as Australia, operates in substantially disconnected silos of mutual ignorance. Too often higher education experiences the neglect of information literacy in secondary schools and before that in primary schools, despite the best efforts of teacher librarians in schools. Information literacy development, like reading literacy, is far too important to be left to the later stages of formal education, or to chance, or to some process of osmosis. Indeed, as one writer has asserted 'the training of future citizens to handle information should start in primary schools',[12] but very few primary schools worldwide would be doing so.

A third myth: library centric information literacy development meets the need

A third myth about information literacy development is that it can be addressed largely by library centric and checklist assessment approaches, and that it is about information skills development—a rebadging of traditional library user education or bibliographic instruction. Librarians are tending to substitute 'information literacy skills' for 'information skills'. The use of 'information literacy skills' suggests that some librarians have not moved beyond a training paradigm. It is a usage which should be firmly resisted.

This third myth is addressed in the *Australian and New Zealand information literacy framework* which accommodates a generic approach but focuses on the embedding of information literacy in the framing of curriculum objectives, learning outcomes and assessment criteria.

An Australian information literacy researcher, Mandy Lupton, has critiqued the limitations of library centric approaches in her book published in May 2004 *The learning connection: information literacy and the student experience*.[13] Her research, which uses a phenomenographic approach, complements Limberg's[14] Swedish study of Year 12 students researching an assignment, and Bruce's study of the information literacy conceptions of higher educators.[15]

Lupton's research was prompted by her discontent as an educator with library centric, decontextualised and generic views of information literacy. She also found that a confused aspect of information literacy is whether it involves learning or whether it leads to learning, and that the information literacy agenda has gained momentum in Australian universities due to the graduate qualities or attributes movement since the mid 1990s. Lupton does praise academic libraries for their proaction

> … in taking responsibility for information literacy education, mainly due to it being a national extension of their user, education and bibliographic role.

She concludes, however, that this has led to 'rebadging the old ways, thereby limiting information literacy to the library, and not taking into account contemporary constructivist pedagogy'. Furthermore, she perceives an issue of competition with faculty for resources and time, and that

> Issues of power and control over curriculum arise when librarians are perceived as usurping academic territory…which also entrenches the separation of information literacy from the academic curriculum.[16]

The practice in higher education across the developed world is now commonly a mix of generic, parallel, integrated and embedded approaches to information literacy development. Nimon[17] contends, however, that ultimately generic programs are an educational nonsense, something emphasized by Booth's assertion that 'separating the *what* from the *how* of learning and attempting to train the *how* without reference to the *what* appears to be doomed to failure'. [18]

As Lupton and others observe, a 'shift from a training paradigm to an education paradigm is a challenge for current information literacy practice in higher education', in part because generic skills development is easier, more tangible, more readily assessable, and cheaper. Lupton comments that

> To facilitate the shift in educational focus from user education and bibliographic instruction to information literacy there has been widespread acknowledgement of the need for academic librarians to be provided with professional development in educational theory and practice. [19]

Bell and Shank also emphasise, in describing their concept of the 'Blended Librarian', that

> …one area in which academic librarians lag is in our understandings of pedagogy and adoption of instructional design theory and practice. These skill sets have long been ignored within library education, despite academic librarians being integral to the teaching and learning process. Many members of our profession are woefully deficient in their knowledge of how learning takes place, how structures for effective learning are designed, and how learning outcomes are assessed. The concept of the Blended Librarian is largely built on creating a movement that will encourage and enable academic librarians to evolve into a new role in which the skills and knowledge of instructional design are wedded to our existing library and information technology skills. It is the Blended Librarian who will excel as the academic professional offering the best combination of skills and services to enable faculty to apply technology for enhanced teaching and student learning. We define the Blended Librarian as
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> *An academic librarian who combines the traditional skill set of librarianship with the information technologist's hardware/software skills, and the instructional or educational designer's ability to apply technology appropriately in the teaching learning process*. [20]

In Australia and New Zealand this need has been responded to by the Australian and New Zealand Institute for Information Literacy (ANZIIL www.anziil.org). This was initiated by the University of South Australia in 2003 to design and coordinate teaching development for librarians, to achieve those 'blended librarians' able to partner academic teachers, learning advisers, instructional designers and information technologists in curriculum embedded information literacy development.

By way of confirmation of the need for pedagogical partnerships between faculty, librarians and other academic professionals in information literacy education, Lupton states that

> It is obvious that there is a qualitative difference between thinking of information literacy primarily as information seeking, and thinking of information literacy as information use. For librarians who base their information literacy programs on technology, sources, process and control, it is a challenge to think beyond information seeking.[21]

Therein lies a conundrum for librarians, who do substantially deserve the credit for getting information literacy on to the educational and societal agenda. Without their vision, commitment, leadership, and tenacity it would not be so. It is a conundrum described well by Edward Owusu-Ansah in a 2004 paper which argues for the evolution of the academic library into a bona fide teaching department, but that 'To assert that the library needs a distinct

approach coming out its own institutional setting and depending primarily on its resources is not to reject the need for a holistic solution'.[22]

This point is also discussed at some length by Anthony Onwuegbuzie and others in their new book *Library anxiety: theory, research and applications*, in which it is stated

> According to the Information Literacy Process (ILP) Library Anxiety Model, library anxiety interferes with information literacy on three distinct levels: input, processing and output.[23]

A fourth myth: information literacy is about information

A fourth myth is that information literacy is just about information, rather than about learning how to learn. This is reflected in the lack of comprehension about the potential of the information literacy framework to drive much needed educational change, something which Bruce argues well in a recent conference paper *Information literacy as a catalyst for education change: a background paper.* She observes that

> Information literacy is conceivably the foundation for learning in our contemporary environment of continuous technological change … Information literacy education is the catalyst required to transform the information society of today into the learning society of tomorrow. [24]

In a paper *Beyond information: the academic library as educational change agent*[25] I gave earlier this year in Bielefeld I observed that what universities—and the same is partly true of other levels of formal education—are generally failing to deliver is a planned educational experience appropriate to the information intensive 21st century. University students need to learn the pathways to knowledge but may well at the end of their first degree have acquired little more than clumps of loosely connected and rapidly outdated higher order content reflecting staff interests rather than student needs. They focus on answers which continually change, rather than on questions which rarely change. Despite all of the rhetoric about student centred learning, the shift from institutions for teaching to institutions of learning is inexorably slow, and very uneven.

It is true that many universities have tried in the last few years to delineate educational outcomes in lists of several graduate qualities or attributes, one of which invariably is focused on information literacy development. A fairly typical recent example of an information literacy policy by an Australian university, the University of Tasmania, is available at www.utas.edu.au/library/ about/infolit_policy.pdf. Universities may expect new programs to identify and to score how a program underpins each graduate quality but this can too easily be a superficial exercise. What is needed is for the graduate qualities to fundamentally inform the curriculum, content, pedagogies and assessment, not to be a measurement afterthought. If this approach is taken it would result in information literacy, as the graduate quality enabling all of the others, becoming the driver and framework for that educational change called for by Maurice Line, the British university librarian and Director-General of the British Library when he asserted that

- the division in universities between teaching, the library, ICT and educational technology is increasingly meaningless
- the importance of learning how to learn and of information literacy should lead the partnership between teachers and librarians
- the entire university should be restructured to meet societal and individual needs[26]

Librarians as educators

Thinking is about analysis of information, and the key outcome of 21st century education has to be people meeting the Socratic ideal of challenging of lazy assumptions. The issue, to paraphrase Jamie McKenzie, is how do we develop people able to explore complex issues by generating webs of questions to find what Michael Leunig calls 'the difficult truth'.

Librarians have always been in the educational business. The most enduring and flexible agency for learning is the library, organised for well over two millennia—predating the first universities by over one millennia—to provide self directed, self paced and self selected transmission of knowledge. Librarians are strongly committed to social inclusion through information equity, but understand that digital equity does not mean information equity. They recognise that the divide is between those who have the attitudes, understandings and learning capabilities to contribute effectively to that society and those who do not—and that this constitutes the information literacy divide, of which the digital divide is only one aspect. More librarians are now accepting, indeed are enthusiastic about, the fact that the role of the librarian as the identifier, collector, custodian, organiser and disseminator of the record of human civilisation now has another element which is just as critical. This element is one of engagement with how people recognise their need for information and develop the capacity to identify, access, evaluate, synthesise and apply the needed information. It is something implicit in their personal and collegial vision of an information enabled better world for all because librarians know that information can be transformational and that used well it changes and liberates people, perceptions, society and improves lives.

Yet within higher education, in particular, librarians continue to encounter the unsatisfactory outcomes of programs and pedagogies which do *not* deliver a planned educational experience, and which assume that students are, by osmosis or inheritance from their secondary school experience, information literate and have learned how to learn. Therein lies the tension, because information literacy is an issue for librarians but it is not, fundamentally, a library issue. It needs to be understood and assumed by all educators, primary, secondary and tertiary. But what do librarians do if other educators equivocate about, sideline, or refute such ownership?

Owusu-Ansah addresses this issue well, but Lupton does not address it in her criticism of librarians for generic approaches to information literacy development. However the reality is that turning information literacy and learning how to learn into 21st century substance will, it seems, continue to require leadership by librarians. They will have the rare challenge of promoting critical educational change, of contributing to it, but of not wanting to own it. This is indeed a conundrum because that leadership will not often come from

- academic administrators, despite their capacity and responsibility to promote change
- discipline focused academic teachers who may have difficulty in grasping the issue in an holistic way
- teachers who may be reluctant to move beyond a lecture and content transmission model, despite all of the evidence that this 750 year model is largely ineffective. As long ago as 1971, just before the emergence of the information literacy concept, Harold Taylor wrote about ways of teaching and learning to replace the whole system of which lecturing is part. He contended that

> One of the educational advantages of removing the lecture system is that it is then impossible to avoid thinking about live students and what to do with them. The educational problem shifts to two other matters—how to convey the information and ideas which at present the lecturer passes on through the spoken word, and how to design a schedule for a

> set of activities and experiences to give the most help to the student in learning what he needs to know.[27]

- teaching and learning development centres, which may see information literacy not as *the* fundamental issue, but as just one issue they need to promote for educational change

- professional associations, such as in medicine and law, which may have a financial interest in constraining the information literacy of potential clients of their professions

- the multinational corporate sector, which tends to prefer that people do not know and do not question

- politicians and bureaucrats, who also tend to prefer that people do now know and do not question

This requires librarians, with what Owusu-Ansah calls 'a lot of daring', because the questions it raises are threatening of almost everyone in the formal educational enterprise. It inevitably produces negative reactions in those who have an anachronistic view of the role and interest of librarians and an inflated view of their own educational understandings and contribution. Yet, as Harrison and Owen emphasised over ten years ago, those questions must be asked

> …because the quality of higher education will not be improved without such questioning. Effective teamwork has never been a characteristic of much of the educational enterprise, but it needs to become an essential model within which the librarian will have a unique and valued contribution to make, and be able to debate and question curricular, pedagogical and assessment practices in their universities.[28]

Information literacy: *zeitgeist* of our times?

The title of my paper derives from a 1996 assertion by Australian educationalist Professor Phil Candy[*] that

> … information literacy is the *zeitgeist* of the times … an idea whose time has at long last come. It is consonant with the reform agendas in government, in communications technology and in education … with employers' demands for an adaptable and responsive workforce. It is increasingly multidisciplinary and must be included across the curriculum at whatever level of education or training we are involved in. And finally it is consistent with the notion of lifelong learning and the fact that the only constant is change.[29]

When it comes to educational change as a constant, it is now clear that ICT and so called e-learning are not the change agents to be employed, although they will contribute. Something more fundamental and universal is required. That change agent should surely be the information literacy framework, because it is fundamentally about learning how to learn and developing people able to explore those complex issues by generating those webs of questions. There is no other educational change agent which makes sense in an information intensive society. Dr Samuel Johnson, the English savant and lexicographer, had the essential two part formula for 21st century education right when he observed that

> Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it.

[*] Professor Candy is also the author of a substantial August 2004 Australian government report *Linking thinking: self-directed learning in the digital age*
www.dest.gov.au/research/publications/linking_thinking/report.pdf

and

> Lectures were once useful, but now, when all can read and books are so numerous, lectures are unnecessary.[30]

Over 200 years later much of formal education, with its hesitancy about information literacy and continuing focus on content transmission through didactic pedagogies, still ignores that formula.

Imagine, if you will, the benefits to learners and teachers, at every level of formal education—primary, secondary, tertiary—if every piece of curricula, every pedagogy employed, and every assessment utilised is mapped against an information literacy framework such as that developed by the Australian and New Zealand Institute for Information Literacy. This mapping is already occurring, but to become pervasive it requires

- all countries—as in New Zealand for example—and educational institutions to adopt information policies which recognise the centrality of information literacy development for citizens and students

- each country to develop an information literacy framework which is available electronically and as a quality print publication. This latter is required, from the Australian and New Zealand experience, for effective marketing and assertion of its importance

- librarians to be very careful about pursuing information literacy development only by a generic 'bolt on' approach which may undermine the one true opportunity to revolutionise formal education for relevance in an information intensive world

Educational conservatism and narrow discipline interests are formidable barriers to such reconceptualisation of the form and outcomes of education in the 21st century. The educational leaders—university rectors, presidents or vice chancellors for example—can provide an invaluable lead in encouraging academic teachers, and academic professionals such as librarians, to collaborate as bona fide partners in the total educational process. It is easy to conclude, because of entrenched interests and attitudes, that this will never occur.

However in several countries and in numerous institutions examples of developing good practice are already to be found. These precedents suggest that the growing interest in, and experimentation with, concepts of information literacy will continue throughout this century.

Information literacy: the democratic imperative

It is vitally important that the growth in attention to the educational change potential of information literacy does continue. For the sake of humanity and democracy the world will have increasing need of truly information literate and questioning citizens able to, what the American Library Association describes as 'spot and expose chicanery, disinformation and lies' or, to quote a recent Australian writer on the issue of misinformation 'Read more widely, see more clearly, think more clearly, challenge authorities on every occasion, more importantly challenge themselves'.[31] Witness the constraints on so called Freedom of Information legislation and access, company information, consumer information, journalists, books, the internet, and the imprisonment of librarians in Cuba and Burma. Witness also the consequences for public libraries of the Patriot Act in the US, and similar anti democratic legislation in other countries such as Australia.

The United States of America has had just a few outstanding men as its president. One was its third president Thomas Jefferson, to whom is attributed the observation that 'Information is

the currency of democracy'. Clearly, information alone is no democratic guarantor. The necessary complement to it is people who are information literate, because sheer abundance of information and technology will not in itself create more informed or enlightened citizens.

This is the essence of the challenge for all of us as educators and citizens in the 21st century. It is a challenge now being grappled with in a variety of embedded and generic ways. It is just as surely a challenge which those who follow us will be grappling with at the beginning of the 22nd century, and beyond. Futurist Kim Lang in his annual 1990 *Forecaster* assessed information literacy as a faddish buzzword that would be as transitory as many other educational buzzwords. He was wrong. Patently information literacy is no passing fad. It is truly the educational *zeitgeist* of not only our time, but of times to come. We should be confident in this, celebrate what has already been achieved, but be realistic about the great educational change agenda upon which we are now embarked.

For it is our hands, and other educators who recognise the need for educational change, that lies the development of information literate and questioning people able to learn for life. It is also about how we sustain open, humanistic, societies which, post 11 September 2001, will surely be under increasing duress in this 21st century.

References

1 Disraeli, B *Sybil* Chapter V 1845

2 Bruce, C *The seven faces of information literacy* Adelaide, Auslib Press 1997 pp3-4 www.auslib.com.au

3 Curran, C Information literacy and the public librarian, in Kent, A ed *Encyclopedia of library and information science* 51 1993 pp257-66

4 Bawden, D Information and digital literacies: a review of concepts *Journal of documentation* 57(2) March 2001 pp218-259

5 qv Cipolla, C *Literacy and development in the West* Harmondsworth, Pelican 1969 p69

6 See, for example, Bundy, A *Challenging technolust: the educational responsibility of libraries* www.library.unisa.edu.au/about/papers/techno.htm

7 McKenzie, J *Beyond technology: questioning, research and the information literate school* Bellingham, FNO Press 2000

8 Cuban, L *Oversold and underused: computers in the classroom* Harvard University Press 2001

9 Ayers, E and Grisham, C Why IT has not paid off as we hoped (yet) *Educause review* 38(6) Nov-Dec 2003 pp40-5 www.educause.edu/pub/er/erm03/erm036_articles.asp?id=1

10 Zemsky, R and Massy, W *Thwarted innovation: what happened to e-learning and why* The learning Alliance University of Pennsylvania 2004 www.irhe.upenn.edu/Docs/Jun2004/ThwartedInnovation.pdf

11 Bundy, A ed *Australian and New Zealand information literacy framework: principles, standards and practice* 2nd edition Adelaide, Australian and New Zealand Institute for Information Literacy 2004 p4 available at www.anziil.org/index.htm. Also available for purchase in print packs. Contact Library Publications University of South Australia Holbrooks Road Underdale South Australia, email liz.lindemann@unisa.edu.au tel +61 8 83026299 fax +61 8 8302 6756

12 Hannesdottir, S School libraries: visions and possibilities in Henri, J and Bonnano, K *The information literate school: best practice* Wagga Wagga NSW, Charles Sturt University 1999

13 Lupton, M *The learning connection: information literacy and the student experience* Adelaide, Auslib Press 2004 www.auslib.com.au

14 Limberg, L *Experiencing information seeking and learning* Adelaide, Auslib Press 2004 (in press)

15 Bruce op cit

16 Lupton op cit p16

17 Nimon qv Lupton op cit p17

18 Booth qv Lupton op cit p17

19 Lupton op cit p18

20 Bell, S and Shank, J *The blended librarian: a manifesto for redefining the role of the academic librarian for 21st century higher education*. Unpublished ACRL discussion paper 2004 p3. The authors' email addresses are bells@philau.edu and Jds@psu.edu

[21] Lupton op cit p80

[22] Owusu-Ansah, E Information literacy and higher education: placing academic library in the center of a comprehensive solution *Journal of academic librarianship* www.sciencedirect.com/science accessed 30 January 2004

[23] Onwuegbuzie, A and others *Library anxiety, theory, research and applications* Lanham, Maryland, Scarecrow Press 2004 p71

[24] Bruce, C *Information literacy as a catalyst for educational change: a background paper* Lifelong learning conference, Yeppon, Queensland Australia June 2004 lifelonglearning.cqu.edu.au/keynotes.htm

[25] Bundy, A Beyond *information: the academic library as educational change agent* 7th International Bielefeld conference 3-5 February 2004 available at www.library.unisa.edu.au/about/papers/beyond-information.pdf

[26] Line, M Re-*engineering libraries for a lifelong learning society* Logos 8(1) pp35-41

[27] Taylor, H *How to change colleges: notes on radical reform* NY, Holt Rinehart and Winston 1971 p88

[28] Harrison, C & Owen, R To prod a sleeping plant into action in Doskatsch, I ed *Subject librarianship—the future way? Proceedings of a seminar* 11-12 July 1991 Adelaide, University of South Australia Library 1991

[29] Candy, P in Booker, D ed *Learning for life: information literacy and the autonomous learner: proceedings of the second national information literacy conference* Adelaide, University of South Australia 1996 p139

[30] *The Oxford book of quotations Second edition* London, Oxford University Press 1953 p274,278

[31] Adams, P The misinformation age *The Australian* 19-20 April 2003

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