

# **Digital Literacies: Policy, Pedagogy and Research Considerations for Education**

Colin Lankshear and Michele Knobel

Opening Plenary Address to ITU Conference  
Oslo, Norway  
20 October 2005

## **Introduction**

This paper is organized in four sections. The first section surveys typical examples of what we see as the prevailing approach to understanding ‘digital literacy’ – which we identify with what we call an ‘It’ perspective on digital literacy. We consider a range of ‘conceptual definitions’ and ‘standardised operationalisations’ of digital literacy, concluding that such accounts are informational, ‘truthcentric’ and ‘monolithic’ in character.

The second section critiques the ‘It’ perspective on digital literacy, drawing especially on arguments derived from a sociocultural perspective on literacy. We argue for the importance of conceptualizing digital literacies as *plural* rather than singular, and observe that truthcentric and informational forms of digital literacies in no way exhaust the contemporary constellation of influential and widely-subscribed *practices* we identify as digital literacies.

Building on the base established in the second section of the paper, the third section sketches some typical digital literacies we consider significant under current and foreseeable conditions. We address weblogging, fanfiction, and ‘memeing’ here, although the list of possible contenders is very long. We also draw on some interview data from young people collected by researchers in order to provide some ‘flesh and blood’ juxtapositions of digitally literate people with typical images evoked from the ‘It’ perspective.

In the final section we consider some implications of this diversity of digital literacies for policy, pedagogy and research dimensions of education.

## **Digital literacy from the prevailing point of view: The ‘It’ perspective on digital literacy**

We detect two tendencies unfolding in conceptions of digital literacy that parallel those already apparent in the familiar domain of conventional (typographic) literacy. First, currently prevailing views of digital literacy share in common the ideas that there is a ‘thing’ we can call digital literacy; ‘it’ is singular; its essence can be rendered as a standardised measurable competency – or unified set of more specific competencies and skills; and it comprises a ‘truthcentric’ ideal of information proficiency. Second, in the established world of conventional print-based literacy various agents and organisations take it upon themselves to define what literacy is, to teach it, measure it, assess it, and remediate it – in a word, to universalise and standardize it. Similarly, we find government bodies as well as non-governmental organisations like the Global Digital Literacy Council, the Educational Testing Service (ETS, USA), the International Society for Technology in Education (ISTE), and the OECD’s Program for International Student Assessment (PISA) currently taking it upon themselves to do exactly the same in the area of digital literacy.

We will begin by briefly outlining some typical conceptual definitions of digital literacy and then consider how some agencies are translating such conceptions into standardized sets of operations intended to serve as national and international *normalisations* of digital literacy. Such conceptions and operationalisations of digital literacy are ‘sold’ on the grounds that involve the kinds of skills, competencies and knowledges that are vital for being able to function adequately and, indeed, successfully in the digitally mediated environments of the early 21st century.

(a) Some typical conceptual definitions of ‘digital literacy’

In a short but widely read and referenced statement published in *Scientific American*, Richard Lanham (1995: 198) claims that under contemporary conditions ‘literacy’ has extended its semantic reach from meaning ‘the ability to read and write’ to now meaning ‘the ability to understand information however presented’. Lanham emphasizes the multimediated nature of digital information, such that the same ‘rich signal’ (Lanham 1995) can render information as text, image and sound with equal facility. To be digitally literate under such conditions involves ‘being skilled at deciphering complex images and sounds as well as the syntactical subtleties of words’ (Lanham 1995: 200). Digitally literate people are ‘quick on [their] feet in moving from one kind of medium to another ... know what kinds of expression fit what kinds of knowledge and become skilled at presenting [their] information in the medium that [their] audience will find easiest to understand’ (ibid). The value of digital literacy is that it makes us adept at suiting the medium we use to the kind of information we are presenting and to the audience we are presenting it to.

Paul Gilster, author of a best selling book called *Digital Literacy* (1997), defines digital literacy as ‘the ability to understand and use information in multiple formats from a wide variety of sources when it is presented via computers’ and, particularly, through the medium of the Internet (in Pool 1997). Like Lanham, Gilster emphasizes what he sees as inherent differences in *digital* information media from conventional print media. Digital literacy involves ‘adapting our skills to an evocative new medium, [and] our experience of the Internet will be determined by how we master its core competencies’ (ibid.). In Gilster’s view, however, these competencies are not merely ‘operational’ or ‘technical’ competencies, since for Gilster digital literacy involves ‘mastering ideas, not keystrokes’ (ibid.). He identifies four key competencies of digital literacy, and describes each at length in his book. These are ‘knowledge assembly’ (Gilster 1997: Ch 7), evaluating information content, searching the internet, and navigating hypertext (ibid: Ch 1-6).

We cannot deal with these in detail here, but a succinct indicative picture can be provided by reference to knowledge assembly. This aims to build perspective on a topic by mobilizing diverse points of view and being open to unexpected insights. It combines use of such resources as customized newsfeeds with informed use of search engines, as well as drawing on sources from conventional print media, television, and so on. Underlying this, however, is awareness of different kinds of information (e.g., hard journalism, editorial opinion, personal viewpoints), the difference between sources that support their views with appeal to authoritative outside support and those that do not, and so on, and of the kind of range of sources that are most likely to lead to ‘balance’ and to generate an adequate context for understanding an issue or topic. Inability to distinguish (qualitatively and epistemologically) different *kinds* of information sources and how

to evaluate their claims leaves one vulnerable to impressionistic and persuasive presentations of information. Likewise, not knowing how to evaluate information and organize it into a coherent point of view means that one is not able to *use* or *generate* information effectively.

Gilster claims that we need to teach and learn ‘how to use the Web properly and how to be critical. We all need to learn that skill’ (in Pool 1997). Hence, with reference to the ubiquitous image of students using the internet to find all manner of information which they cut and paste into a ‘cobbled-together collection of quotes or multimedia items’, Gilster argues that we need to teach students ‘how to assimilate the information, evaluate it, and then reintegrate it’ (in Pool 1997).

Moving from the level of individual authors and commentators to that of national policy, we find in the Norwegian whitepaper *Digital kompetanse: fra basisferdighet til digital dannelse* a conception of digital literacy as a broad competency that links traditional basic skills – including encoding and decoding conventional print texts – with the capacity to use ICT critically and creatively. According to Yngve Wallin (nd), Norway’s official concept of digital literacy should be seen as ‘an upgrade of the concept of literacy in order to make it useable today’, and as centred on ... the social, communicative and reflective process of learning’; *not* as ‘just a set of technical and critical skills like those being defined in the ECDL [European Computer Driving Licence]’ (ibid., np.).

(b) Some typical ‘standardised operationalisations’ of digital literacy

The idea of ‘standardised operationalisations’ of digital literacy is self-explanatory, albeit an ugly nomenclature. It refers to attempts to operationalise what is involved in being ‘digitally literate’ in terms of certain tasks, performances, demonstrations of skills, etc., and then to render these as a standard set for general adoption. There is no shortage of these and they cover a broad range. Some are little more than codifications of sets of specific operations that are almost at the level that Gilster refers to as ‘keystrokes’. Others seemingly aspire to capture the level of functioning that Gilster refers to as ‘concern with meanings’, via operations conceived as performances that simulate ‘real life situations’.

Nearer the ‘keystroke’ end of the range we find the approach favoured by the Global Digital Literacy Council (GDLC). The Council claims to serve as ‘the preeminent advisory body and as an authoritative voice on issues driving the development and implementation of global digital literacy standards and systems’ (gdlcouncil.org). One of its core objectives is to ‘review and update the Digital Literacy Standards based on input from subject matter experts worldwide’. To do this it hosts bi-annual summits providing a forum where international stakeholders can ‘collaborate, shape and define an emerging, vendor-independent, global standard for Internet and computer literacy’.

According to the Council ‘current GDLC standards are reflected in the Internet and Computing Core Certification (or IC<sup>3</sup>) program. A recent review of digital literacy standards resulted in the confirmation that the 2005 standard is ‘aligned with market needs and expectations’ (in personal communication 27 September 2005). The IC<sup>3</sup> program, provided by Certiport (<certiport.com/portal/desktopdefault.aspx?TZ=-2.5>), offers ‘a worldwide industry standard

that accurately validates computer comprehension and skills in the workplace'. Its certification exam uses 'performance based' and 'knowledge based' items and is recognized as a baseline certification for ICT careers.

The sample test items available on the Certiport site indicate the nature and scope of content covered in the program. There are three main content areas: Computing Fundamentals, Key Applications, and Living Online. The Computing Fundamentals test items involve such tasks as asking learners to click on all the 'output devices' from a list containing items like joystick, monitor, speakers, keyboard, etc.; to choose among four items (one thousand, one million, one billion, one trillion) for the number of bytes in a megabyte; to create a new folder on the C drive within a simulated file manager, and to match 'operating system', 'application' and 'utility program' to three provided definitions. The items testing Key Applications use a range of simulations and ask learners to insert content from the clipboard at the designated insertion point, change the width of columns in a table without using click and drag, and exit Word without using the close box. The items assessing knowledge and skills related to Living Online include the use of simulations to have respondents enter a subject in an email message and send the message, go to a specified address on a web page, and locate the history of sites visited in a web browser.

*[The IC<sup>3</sup> program counts toward credit at almost 2000 degree conferring colleges, universities and other education-related institutions affiliated with the American Council on Education in the US alone.]*

Toward the other end of a continuum we might locate the recent work in the U.S. of the Educational Testing Service (ets.org), which has worked with a consortium of U.S. universities to produce 'a comprehensive test of ICT proficiency specifically designed for the higher education environment'. The assessment is constructed at two levels of difficulty, and is designed to test ICT literacy, which is defined as 'the ability to use digital technology, communication tools and/or networks appropriately to solve information problems in order to function in an information society'. According to this construction, digital literacy comprises

the ability to use technology as a tool to research, organize, evaluate, and communicate information, and the possession of a fundamental understanding of the ethical/legal issues surrounding the access and use of information

The ETS operationalisation involves real time tasks that are 'scenario-based' (for examples of tasks see < [ets.org/Media/Tests/ICT\\_Literacy/pdf/ict\\_literacy\\_task\\_matrix.pdf](http://ets.org/Media/Tests/ICT_Literacy/pdf/ict_literacy_task_matrix.pdf)>). Using ICTs, test takers perform a range of 'information management tasks', including 'extracting information from a database, developing a spreadsheet, or composing an e-mail based on research findings'. The seven competencies are identified as 'Define', 'Access', 'Manage', 'Integrate', 'Evaluate', 'Create' and 'Communicate'.

To give a sense of the competencies we refer to the 'Evaluate' and 'Communicate' competencies as follows. *Evaluate* comprises 'The ability to determine the degree to which digital information satisfies the needs of the task in ICT environments. This includes the ability to judge the quality, relevance, authority, point of view/bias, currency, coverage, or accuracy of digital information'.

Examples of relevant activities here include: ‘Selecting the best database for an information need’, ‘Determining the sufficiency (or lack) of information in a Web site, given the information need’; ‘Ranking Web pages in terms of their meeting particular criteria’ and ‘Determining the relevance of postings on a Web discussion board’. *Communicate* comprises ‘The ability to communicate information properly in its context of use for ICT environments’ and includes ‘the ability to gear electronic information for a particular audience and to communicate knowledge in the appropriate venue. Examples of activities here include: ‘Formatting a word processing document’; ‘Recasting an e-mail’; ‘Adapting presentation slides’ and ‘Preparing a text message for a cell phone’.

The test comprises 12-15 tasks, with each task calculated to take up to 4 minutes to complete. Tasks include subject matter from the areas of humanities, natural science, social studies, popular culture and practical affairs, and use a generic version of one or more of 12 named ICT tools. These are: Word Processor, Presentation software, Email Client, Database Search Engine, Web Search Engine, Spreadsheet or Table, Graphing Software, File Manager, Electronic Bulletin Board, Instant Messenger, Web Browser and Concept Mapping Software.

(c) Key features of these conceptual definitions and operationalisations of digital literacy

There are many other conceptual definitions and standardized operationalisations of ‘digital literacy’ than these, and many definitions of close family relations of ‘digital literacy’, like ‘information literacy’, ‘computer literacy’, ‘e-literacy’, etc. (see Bawden 2001 for a review). The examples we have addressed are, however, typical.

Perhaps the feature that is most immediately striking about these accounts is the extent to which they confine ‘digitality’ to roles concerned with *information*. The extent to which ‘digital literacy’ is reduced to a concern about information is highlighted in the ETS operationalisation, where the competencies called ‘Create’ and ‘Communicate’ are cashed out purely in terms of information. [‘Create’: ‘The ability to generate information by adapting, applying, designing or inventing information in ICT environments’. ‘Communicate’: ‘The ability to communicate information properly in its context of use for ICT environments. This includes the ability to gear electronic information for a particular audience and to communicate knowledge in the appropriate venue’.]

More than this, the definitions of digital literacy that abound conflate interaction with information with *epistemic* engagement with information. That is, digital literacy is about interacting with information, and interacting with information is about assessing its ‘truth’ (or validity), ‘credibility’, ‘reliability’ and so on. In other words, digital literacy is constructed in what we might call ‘truthcentric’ ways, and as some kind of defence against being manipulated, improperly persuaded, or duped. It is packed out with values and orientations associated with liberal and ‘critical’ conceptions of media awareness and the like.

Looking at these conceptual definitions more broadly, we see that they envisage digital literacy as an ‘it’ – some kind of a ‘thing’: a capacity or ability, a skill (or set of skills), or ‘master competency’ (composed of more specific competencies and dispositions). It is something you ‘have’, or not, and anyone who does not have it ‘needs’ to get it. Accounts differ about what is

actually ‘in’ this thing. For example, is respect for property rights an inherent part of it, or a desirable ‘extra’? Is ‘internet safety’ an inherent part of it, or is it enough to be able to discriminate credibility of (re)sources?

When people ‘have’ this ‘thing’ they can read and write information effectively. They can put it to use in consuming and producing information in all kinds of settings and roles – as private citizen, worker, parent, teacher, learner, etc. Just as has been claimed for conventional literacy, digital literacy has causal efficacy; it generates outcomes in the world. A digitally literate population will function better in the information age, in a knowledge economy, etc. Digitally literate people will be better equipped to promote their best interests and those of others who depend upon them. When one ‘has’ digital literacy good things can happen; when one lacks digital literacy one is vulnerable and undesirable things can happen.

### **(Sociocultural) critique of digital literacy from an ‘It’ perspective**

In this section we advance multiple related lines of critique against what we have identified as the prevailing line on digital literacy. The heart of our critique involves advancing a sociocultural approach to understanding (digital) literacy against what we have called the ‘It’ perspective. Before turning to that, however, there are specific points of critique that, while they are consistent with a sociocultural perspective on literacy, do not formally presuppose it. We will begin with three of these.

First, outside of a purely technical definition of ‘information’ (as anything transmitted in a signal that is not noise constitutes ‘information’) other categories of text-mediated interaction, like communicating and relating *cannot* be construed in terms of transmitting and receiving information. Yet we want – and, indeed, *need* – to be able to distinguish between forms of interaction carried textually that are mediated digitally in ways that do not reduce all interactions to some kind or other of *information* exchange. Consequently, and to this extent, it distorts social practice and human intent if digital literacy is defined purely or predominantly in terms of interacting with *information* (cf., Schrage 2001)

Second, we take issue with the truthcentric stance toward information, and the way that the ideals of ‘credibility’ and ‘validity’ are cashed out in terms of conventional norms of epistemic authority of the kind that we associate with academic veracity. Indeed, we question the appropriateness of imposing characteristically *modernist* norms of rationality on the definition of information *concerns* so far as the digisphere is concerned. We are not (necessarily) saying that these are not important matters. Rather, we are saying that defining digital literacy by fiat in such delimiting ways needs to be seen for what it is: namely, an artificial and arbitrary constriction, with deeply modernist trappings. Much of what many people are doing with information a lot of the time on the internet does not bespeak concern for truth or about being manipulated or duped. Increasingly, information becomes grist for participation in practices of affinity (Gee 2004). It is taken up at the level of information, and engaged with as information, but often without any concern whatsoever for truth or the risk of manipulation, or anything similar.

[A good example here is provided by the case of ‘Walter’s Mission’. In 2000, a number of online magazines (e.g., Dreamcast 2000, Suck 2000) described a young man’s special mission and

encouraged readers help him meet his goal. On his now-defunct website ([geocities.com/Walters\\_Mission](http://geocities.com/Walters_Mission)), Walter, ostensibly a 16-year-old Canadian high school student, described his special mission. A girl from his school had told him she would have sex with him if his website received a million hits within a given period. Pictures of Walter were published alongside the articles featuring his mission (Dreamcast 2000). They showed him to have an almost-shaved head, braces on his teeth, a sparse goatee, and what would generally pass for an ‘unattractive air’. Online articles urged readers to visit Walter's website to help him complete his mission before his time ran out. The response was overwhelming. According to Suck magazine, ‘Walter's [website] log ultimately showed referrals from 2630 sites, many displaying banner ads in a show of solidarity, and sympathetic visitors flocked from around the world’ (2000: 1). Some of these sources also stated that while Walter's Mission might be a hoax people should visit his website anyway, just in case the endeavor was for real (cf. Dreamcast 2000).]

Third, a major concern we have with the ‘It’ perspective is, paradoxically, related to what is presumed by its advocates to be its strength: namely, that once you identify what ‘it’ is you can teach (for) ‘it’. Ironically, given his personal antipathy toward digital technologies, we think Ivan Illich’s (1971) metaphor of ‘schooling’ applies powerfully here. Like conventional literacy, digital literacy is being ‘schooled’ to conform to the logic of manipulative institutions (compulsory consumption of services), and to be made into something manageable at the level of totalizing systems. The institutionalization of new technologies would fall to the right of Illich’s institutional spectrum – and nowhere more obviously so than in the standardised operationalisations of certification practices mediated by artifacts like IC<sup>3</sup>. Given space, we would run a full argument for cultural practices of computing that parallels Illich’s argument for how learning as cultural practice has been schooled under the logic of manipulative institutions. Indeed, within official constructions of ‘digital literacy’ cultural practices of computing are actually turned into compulsory consumption of curricularised and certificated learning.

Meanwhile, however, we might simply note some typical points at which this relationship between an ‘It’ perspective and a curricular concern are made entirely explicit. Commenting on the account of ICT core competencies identified by the Flemish community, Wallin (nd) reports the identification of nine core competencies to be pursued in primary school. With respect to the category of technical and operating skills that enable students are able ‘to use ICT equipment in relevant contexts’, Wallin notes that while such skills ‘are not an objective in themselves in primary education’ they are nonetheless ‘best learned within classroom practice’. In similar vein, the 2001 World Employment Report of the International Labour Organisation identifies schools as providing perhaps the most effective, income-neutral means of gaining access to the networking society. We will come back to this theme in the third section where we report some insider perspectives on schooled apprenticeships to the digisphere expressed by adolescents.

Our main line of critique, however, argues for the benefits of adopting a sociocultural approach to ‘digital literacy’ rather than an ‘It’ perspective. This amounts to rejecting an ‘autonomous’ model (cf. Street 1984; Lankshear 1987: Ch 2) of digital literacy.

According to the ‘autonomous’ model, literacy consists in a skill, tool, technique, or set of (mainly cognitive) competencies that can be applied in diverse contexts and put of a range of uses and applications. In the case of western alphabetic literacy, then, literacy consists in mastery

of letters and phonemes such that one can encode and decode print. With this ‘capacity’ in place, people then apply what is essentially a ‘neutral’ technology in different ways and for different purposes. But within this model ‘literacy’ itself always refers to the abstracted ‘skills’ or ‘techniques’ – mastery of the technology of alphabetic text/print – and learners are taught to encode and decode as preparation for reading and writing in various settings.

This resonates with the different accounts of digital literacy we have described above. ‘Digital literacy’ consists in so many lists of what the abstracted skills and techniques are that a proficient person can ‘do’. Once they ‘have’ them they can then put them to useful purposes in work, at home, at school, etc., and function ‘competently’. Courses then set about ‘teaching’ learners these tools and techniques, and certify them when they are finished. (The process is almost precisely the opposite from what, for example, young people do when they set about learning how to play an online game and to become part of an online gaming community.)

Critique of the autonomous model of literacy from the standpoint of sociocultural theory does not deny that elements of skill and technique are involved in practices of reading and writing. Obviously, they are necessarily present. The point is, however, that these ‘skills’ and ‘techniques’ actually differ in important ways when they are embedded in different practices which involve different purposes and where there are different kinds of meaning at stake (compare, for example, ‘searching’). Moreover, the skills and techniques of decoding and encoding do not actually take us very far at all on their own. This is because reading and writing is always ‘reading and writing with meaning’ and this meaning is *not* primarily, or even substantially, a function of some ‘skill’ or ‘technique’ that might be called ‘comprehension’. It is predominantly a function of social practice, social context, and of Discourse (Gee 1996) in a sense that is very close to Wittgenstein’s (1953) concept of ‘forms of life’.

For, example, fundamentalist Christians and Liberation theologians can decode the same biblical text and arrive at polarised meanings. They decode exactly *the same*, but they *mean* exactly the opposite. This is not because they have different comprehension *skills*, but because they are reading and writing out of different forms of life, or different Discourses. They bring to their encoding and decoding different values, goals, identities, purposes, affinities, and so on. Fundamentalist and Liberationist literacies are to all intents and purposes *different*, despite sharing the same alphabetic script (code) and capacities for encoding and decoding. (In precisely parallel manner, different people can and do conduct online ‘searches’ very differently, according to their purposes, mindsets, available time and other resources, etc.)

The way sociocultural theorists express this is by saying that there is not just reading and writing; there is not just *literacy*. Rather, there are very many social practices of reading and writing, and many different conceptions of what is involved in reading and writing. There are very many cultural *ways* in which people read and write. And individual persons can and do move in and out of multiple ways of reading and writing. This is to say, precisely, that there are very many *literacies*. It is what Brian Street (1984: 1) means when he says that the word ‘literacy’ should be understood as ‘a shorthand for the social practices and conceptions of reading and writing’.

This has crucial implications for ‘digital literacy’. It means that we should think of ‘digital literacy’ not as something unitary, and certainly not as some finite ‘competency’ or ‘skill’ – or

even as a set of competencies or skills. Rather, it means that we should think of ‘digital literacy’ as a shorthand for the myriad social practices and conceptions of engaging in meaning making mediated by texts that are produced, received, distributed, exchanged etc., via digital codification. Hence, there will be myriad digital *literacies*. Indeed, there will be myriad social practices that from an ‘It’ perspective are seen to fall under the names of discrete ‘skills’. There will be multiple social practices and conceptions of searching, of navigating links, of evaluating credibility of sources, of ‘posting’, and so on. These will vary according to how people ‘identify’ themselves: according to the values they have, the social groups they relate to, the affinities they invest in and attach themselves to, the purposes they see themselves pursuing, the kinds of images they seek to project, and so on. Other people may value these literacies differently and be in positions of power to reward or sanction them differentially (e.g., the teacher who rejects an essay written using SMS texting protocols). But they are nonetheless discernible literacies and their public and political valuation is a different matter from their ontological status as extant phenomena.

To make our case we will briefly illustrate some of the many digital literacies evident in the ‘literacyscape’ of the contemporary ‘digisphere’ and briefly report some thoughts bearing on our topic as expressed by some typical ‘digitally literate youth’.

### **Digital literacies in everyday life**

In this section we refer to weblogging, fan fiction writing, ‘meme-ing’ and aspects of digital gaming to exemplify the advantages of adopting a perspective that regards digital literacies as diverse forms of social practice that emerge, evolve, get transformed into new practices and, in some cases, fade away and get displaced by new forms. Indeed, it will quickly become apparent that even digital literacies that fall under the same name, like ‘weblogging (or blogging)’, are profoundly plural. The social practices of any two bloggers may seem as different from each other as writing an academic paper is from emailing a parent, spouse or sibling.

#### (a) Weblogs/blogging

A weblog – or ‘blog’ – is ‘a website that is up-dated frequently, with new material posted at the top of the page’ (Blood 2002a: 12). Blogs began in the early 1990s as websites that listed annotated hyperlinks to other websites containing interesting, curious, hilarious and/or generally newsworthy content located by the publisher of the weblog. Early blog publishers – ‘bloggers’ – tended to be computing ‘insiders’ because some knowledge of webpage and hyperlink coding was needed for posting material to the Internet. Since 1999, however, easily-used weblog publishing tools and readily available web hosting have spawned a new mass generation of bloggers that is *much* more diverse than the original blogging generation. On 7 October, 2005, the internet weblog search engine Technorati.com claimed to be searching 19 million weblogs worldwide. Many bloggers use weblogs as a medium more like regularly updated journals than indices of hyperlinks, and postings can document anything and everything from what the blogger had for lunch that day; movie and music reviews; descriptions of shopping trips; through to latest illustrations completed by the blogger for offline texts; and the like. Posts may combine photographs and other graphics along with text and hypertext. Weblogs are largely interest-driven and intended to attract readers with similar interests and affinities. Many weblogging

practices are primarily concerned with creating social alliances (Blood 2002b: x). Some bloggers choose to update several times a day, while others may update every few days, once a week, or even less regularly.

Blogs are created and maintained for very diverse purposes. These include, but are far from exhausted by (combinations of) the following: as personal diaries/journals; to provide alternative accounts of events and other phenomena to those of mainstream media; as teaching and learning media; to sell products; to provide information on current news events; to critique mainstream broadcasting of news events; to distribute corporate news and updates; to parody other blogs and other media; to express personal opinion; to archive memories (e.g., photo blogs, audio blogs, video blogs); to augment fanfiction writing or drawing; to archive or index profession-related materials (e.g., hyperlinks to relevant policy documents and news reports etc.); to augment hobbies and pastimes (e.g., collecting items, techno-gadgetry, genealogy studies, sport) to notify fans of popular culture events and information (like band tour dates, author readings and book events, art and design world developments); to create fictional characters or lives (e.g., found photo albums are used to invent a fictitious life, hoax blogs that deliberately mislead readers), and so on.

The case for understanding digital literacies as social practices by reference to weblogs, as well as for understanding blogging itself as composed of many different forms of social practice can be made by reference to just three very popular weblogs, selected here because they have all been winners in the peer-reviewed Bloggies Awards (and not because they are representative in any way of blogs or bloggers overall). These are Stevenberlinjohnson.com (a blog of annotated links and commentary), BoingBoing.net (a collective blog offering ‘a directory of wonderful things’) and Littleyellowdifferent.com (a journal-esque blog). Should we initially think that competence with weblog software is what underlies the blogosphere, the character and diversity of these three blogs – let alone of the millions of other blogs that exist – quickly make it apparent that ‘the digits’ (the ‘operational’ technique bits of producing digital texts) are the least of it.

#### i. [stevenberlinjohnson.com](http://stevenberlinjohnson.com)

Steven Johnson might best be described as an internet public intellectual. His weblog has become a popular source of opinion on matters relating to internet culture, politics, brain theory, urban development in New York, hi tech news, landscape architecture and design in general. Carefully archived, the blog has a clear and economical design, is rich in hyperlinks on topics covered in his posts (currently averaging around one per week), and keeps Johnson’s work and personal profile strongly in the foreground. At the time of writing, the right hand column featured a small color photo of Johnson, a brief promotional update on his latest book, a short list of links to some of his recent published essays, a list of topics covered in his recent postings, small cover photos of his with hyperlinks to their listings on Amazon.com, a calendar of upcoming appearances in US towns, a list of sites and publications (with hyperlinks) he has written for, a short list of links to other blogs, a search tool for trawling Johnson’s blog, hyperlinks to his blog archives, and a sign up box for receiving email updates on his new books, articles and appearances.

When we look at Johnson's blogging as a digital literacy it is easy to identify features that characterize it as a particular form of social practice involving online texts; features that make it more or less similar to other social practices and conceptions of online reading and writing and more or less different from others. For example, Johnson works very hard on how he wants to be seen publicly. In part, this is about the way he constructs his identity in and through his posts. It is also partly about the way he links to his published articles so that readers can situate him in the world of media. It is also partly in the way he attaches himself to other people (and other people to himself) and builds potentially powerful affinity maps over time. (Compare, for example, his post of 16 September 2005, where providing a cultural commentary on the show *Lost* serves also as a pretext for informing us about the *London Times* syndicating his book, and how he conversed (presumably *not* in economy class) with the Editor-in-Chief of the *Times* who had read Johnson's book, and how that same Editor-in-Chief later recalled him saying something interesting about *Lost* and subsequently had an Editor write Johnson to see if he would like to write an article about it for *The Times*). He enacts a range of social purposes through his blog. These range from taking a position on current issues he sees as important, through self promotion and advertising, to enhancing his presence in the money and attention economies. His purposes will resonate with interests of some blog readers, but not with those of others. His writing is erudite, yet accessible to reflective readers. There is very little humour or levity in the writing. He writes in *arguments*, building up the case for a point of view. Even when he is writing about domestic matters the work moves toward realizing its theme in a disciplined and reasoned manner. His blog would capture the attention of an overwhelming minority of blog readers. But these would represent a demographic spectrum vital to paying Johnson's way in the world.

(ii) [BoingBoing.net](#)

BoingBoing.net is currently authored by five long-established writers and in October 2005 was the most popular weblog on Technorati.com's ranking system. It has won a number of awards, including overall winner (2004) and best-group blog (2005) in the peer-reviewed Bloggies contest. The site is strongly sponsored and a healthy array of advertisements frame the two sides of the top portion of the page. There are plenty of colourful graphics. Posts are typically succinct, rich in links, and take the form of punchy fragments that are 'points in themselves' rather than arguments in the manner of Johnson's blog.

Content is eclectic. BoingBoing revels in showcasing the weird and wonderful, such as the posts (Friday 7 October 2005) showing a Jamaican barber who has sculpted his hair as a gendarme styled hat and providing a link to instructions for making your own silver Flying Spaghetti Monster Brooch. In similar vein, the blog also alerts readers to new technogadgets. These apparently 'lighter' interests are complemented by serious and astute commentary on and predictions about popular technologies, art and culture, and social networking. Moreover, all five authors are strongly committed to community development projects and to participating in social critique. The site might, perhaps, be fairly described as a high form of 'digirati cool' and the humour index is high.

BoingBoing's writers are keen to keep readers abreast of actual and anticipated developments within technology, art and communication access fields. They provide links to diverse types of posts on other blogs concerning such developments and provide their own first-hand accounts

whenever possible. Consequently, BoingBoing becomes the first port of call for many readers who want to stay in touch with techno-trends, technology-mediated projects in developing countries, digital art developments, and similar themes. The fact that the authors are well-reputed commentators on technology and communications-related news, together with their extensive social network of colleagues in journalism and areas of technology development, mean they can also provide readers with authoritative accounts of topics that might otherwise go unnoticed in mainstream media venues – like national and international policy negotiations and agreements, and heavy-handed copyright actions on the part of giant corporations.

The BoingBoing writers share journalistic backgrounds in the sense that many of them have written for or continue to write for *Wired* magazine or other periodicals. *Wired*, in particular, is long-running arbiter of techno-cool published within the U.S. In many ways, BoingBoing reiterates the short, punchy, techno-culture oriented articles within *Wired*, while at the same time reinventing the ‘magazine’ genre to include the arts (all media forms), intellectual property rights, socially aware projects and commentaries, and unquestionably weird and quirky items and events taken from everyday life. Each post usually contains at least one hyperlink to elsewhere on the internet which, when followed, taps the reader into a rich network of subsequent interconnected links, ideas, and other points of view. Just as magazines in the past were the way young people kept up with popular trends, BoingBoing has become the go-to place for anyone interest in predicting what will be The Next Big Thing with respect to new technology uses and developments.

The blog is collaborative, but not collaboratively written, in that each post is generally a self-contained text written by one of the contributing writers. Over time, regular readers are able to build up mental classification systems of each writer’s interests, passions and ideologies (e.g., Xeni Jardin focuses most on popular culture and technology and prides herself on being a techno-gadget trend spotter; Cory Doctorow, on the other hand, loves being a fiction writer and is passionate about intellectual property rights issues). Most of the posts seem to follow a similar pattern and read like short news reports on speed—the facts are stated, a quote or description concerning the focus of the post is given, and links to relevant websites is provided. Posts tend to be short; they range from approximately 15 words rarely more than 350 words per post. The authors all share a delight in the absurd and the tenor of their posts can range from ironic (e.g., “UPDATE: Site seems to be ~~down~~ intermittently available right now”, Oct. 7, 2005) to slapstick (e.g., “Another highlight on the event schedule – ‘Bad Sex With Neal Pollack.’ Is there any other kind? Ba-dump”, Oct. 7, 2005) and all five make good use of hyperbole (e.g., liberal use of adjectives like ‘stupendous’, ‘you’ll love this’). Serious events—such as the recent devastating hurricane that hit Central America—are also reported, and the tenor of these posts is much more serious and heart-felt.

### iii. [Littleyellowdifferent.com](http://littleyellowdifferent.com)

*Little.Yellow.Different* ([littleyellowdifferent.com](http://littleyellowdifferent.com)) is authored by Ernie Hsiung, a 29-year-old, self-described overweight, short, gay, Chinese-American web designer and developer who works for Yahoo! It is a regularly-updated, journal-like space that Hsiung uses to inform his readers about events going on in his life, (e.g., emceeing at a Filipino wedding), aspects of his relationships and interactions with his parents and relatives, and his ideas and views on elements

of popular culture. While many journal-type weblogs (which tend to be heavy on accounts drawn from the author's life and light on annotated hyperlinks) have been criticized on the grounds of being somewhat banal celebrations of mediocrity and the microinformation of everyday life, *Little.Yellow.Different* has attracted a strong following of readers who are keen to read Hsiung's semi-regular, often hilarious – although frequently *serious* and almost always '*pointful*' fun – accounts of what has been happening to him lately.

Hsiung's accounts of navigating American and Chinese cultures are often deeply ironic (and infinitely patient) and regularly offer insights into what it means to be on the receiving end of the US mainstream's tendency to homogenize "Asians". His practice of recounting word-for-word dialogue in his blog posts becomes the perfect medium for both unveiling cultural ignorance on the part of others and for making pointed social commentary without resorting to blunt-edged, heavy-handed criticism. For example, he recounts an exchange at work as follows:

**Engineering lead:** We don't have a lot of time to finish this project. It's a good thing another country has implemented an avatar system already.

**Ernie:** (looks through code) Uhm, this is a lot of code. And these javascript comments are in Korean.

**Engineer:** But aren't -

**Ernie:** ...I'm Chinese.

**Engineer:** Oh. This project is still due next Tuesday.

A trademark of the blog is Ernie's self-deprecating humour and his capacity to capture moments of utter social powerlessness, particularly in cross-cultural settings. Recounting his experience as a Chinese Presbyterian emceeding at the Catholic Filipino wedding of two friends, he writes (from 25 September 2005):

The reception went well, I think. When the program got slow, like when people were waiting for a slideshow to be set up, Mark and I would go into a, uhm, spirited rendition of the theme from *The Love Boat* [hyperlink here in the original]. It kept people occupied and I thought it went off well, until literally the last minutes of the night saying good-bye to the groom's mother:

**Groom's mother, a delightful Filipino woman:** You two, you sung very well.

**Mark and I:** Oh, thank you. We were just doing our job.

**Groom's mother:** (turning to Ernie) ... and people were saying to me, "Oh, it's William Hung on stage..." [William Hung was a contestant on a U.S. talent contest television show in 2003; he became instantly famous when he was stopped from completing his opening song and dance routine by the judges themselves].

**Ernie:** ...

**Groom's mother:** "...but with more weight!"

**Ernie:** ...

**Groom's mother:** And I said to them, no no, he sing *much* better than William Hung. You did very very good!

**Ernie:** ...

**Groom's mother:** Okay, good night! (walks away)

**Ernie:** ...

**Groom:** You alright, bro? You're lookin a little pale.

**Ernie:** ...

This is an entirely different social practice of online writing from the other weblogs surveyed here. The social purposes are different, the tenor is different. Ernie's posts are simultaneously intensely private and thoroughly public, with many of his posts regularly attracting up to 30 comments, which is considered out of the ordinary within the blogosphere. There is also a dimension of whimsical playfulness to his blog that bespeaks a particular kind of digital 'insiderness'. For example, Ernie provides the human stories behind the development of new Yahoo! online services once they have been launched; his blog includes a 'mini-blog' that is heavy on links and light on personal reflection and anecdotes in keeping with more traditional blogs; and he includes an option for customizing the 'skin' of the blog to give it a different look and feel, just as many iPod or mobile phone owners are wont to do.

(b) Fanfiction

In fanfiction—or “fanfic” to aficionados—‘devotees of a TV show, movie, or (less often) book write stories about its characters’ (Plotz 2000: 1). Fanfic based on video game plotlines and characters is also on the increase. Fanfic tends to be mostly narratives, although songfic and poetryfic are increasingly popular forms, as are manga drawings and animations. In the main, fanfictions chronicle alternate adventures, mishaps or even alternate histories/futures for main characters from a series or movie, relocate main characters to a new universe altogether, fill in plot holes, or realize relationships between characters that were only hinted at, if that, on screen, etc. Fanfiction writing practices have been dated back as far as the 1400s (Black 2006), and even earlier, but have really come into their own as distinct, recognised social practices since the advent of serialized television shows. In particular, the Star Trek television series, which first aired in 1966 and rapidly gained a cult following, is credited with helping to establish fanfiction as a distinct genre. Right from the first episode, fans wrote their own Star Trek based stories, which they then mimeographed and bound into handmade books or magazines and distributed at Star Trek fan conventions, fan club meetings, or via postal mail. Since then, fans of any number of popular media texts have generated countless volumes of fanfic writing in a range of forms and media.

The internet has played a prominent role in the proliferation of fanfic writing and has enabled more people than ever before to actively participate in contributing and critiquing fanfic. A Google.com search early in October 2005 for the term, ‘fan fiction,’ returns 3,700,000 hits which can be read as a barometer of the popularity of this practice online. Fanfic itself can be classified into a number of different types. These include, for example, ‘in-canon’ writing, which maintains as much of the original media text as possible; ‘crossovers,’ where characters from two different media texts (e.g., from a video game and a movie) are brought together in a new story; ‘(relation)shipper’ narratives, that focus on establishing or exploring an intimate relationship between two characters (this includes heterosexual and homosexual relationships); ‘alternative universe’ stories, where the characters from an original text are transposed into an

entirely new or different ‘world’; and ‘self insert’ fanfic, where the writer inserts herself as a recognizable character into the narrative.

Most fanfic writers value good quality writing, which for them includes well-developed characters, engaging and logical plotlines, and good grammar and spelling. For example, many fan-produced online guides to writing good fanfic stories warn writers of falling victim to the ‘Mary Sue’ syndrome (cf. Hale 2005, M.P. 2005). ‘Mary Sue’ (along with her male counterpart) is a character who embodies the author’s all-too-charming-and-perfect alter ego, and as such, tends to dominate the entire story and squeeze the lifeblood out of it.

Online fanfic writing groups come in a variety of forms, but perhaps the most common is the searchable archive-plus-discussion board format typified by Fanfiction.net. Fanfiction.net hosts tens of thousands of fanfics, which are organized into 8 categories (i.e., anime, book, movie, cartoon, comic, game, television show and miscellaneous). At the start of October, 2005, for example, clicking on the sub-category entry for *Inuyasha*—a popular anime television series—takes the reader to a listing of 51,788 fanfic narratives based on this series. Clicking on any one of these listed narrative takes the reader to a fan-produced text, with many of these texts running into multiple chapters. Once a particular story has been accessed it is possible to read all of the reviews posted for this story. The stories themselves can become serialized, with chapters written over the course of a number of years and each new chapter or installment often responds to reviewer feedback and suggestions for future storyline or character developments. In this way, fanfiction writing online is often a highly collaborative act.

Collaborative writing seems to be especially prized among adolescent female writers in particular, who often draft or rehearse written stories via role-plays and plot discussions conducted using instant messaging (cf., Chandler-Olcott and Mahar 2003, Thomas 2004a). Collaborative writing practices found within the fanfic world also include borrowing other fans’ originally-conceived characters and putting them into new stories, and developing what is known as ‘plot bunnies’—ideas for new storylines and/or characters—and making them publicly available for others to develop into fullblown stories. The majority of fanfic writers online are women, and it seems that the purposes served by fan fiction often are tied to pleasure and identity (cf., Bury 2005). Fans writing fiction based on a favourite movie, book, television series, or video game are not only prolonging the pleasure they obtain from these original media texts, but also actively writing themselves into the picture by appropriating characters, motivations, and settings, and shaping these within personally interesting and satisfying narratives. In short, fanfic is more than simply ‘writing stories’. The kind of collaborative appropriations found in fanfic practices clearly challenge the commercial media’s hold over everyday textual narratives (Jenkins 1998; see also, Black 2006, Bury 2005).

(c) Meme-ing

Memes (pronounced “meems”) are contagious pieces of cultural information that are passed from mind to mind and which directly shape and propagate key actions and mindsets of a social group. Memes include popular tunes, catch-phrases, clothing fashions, architectural styles, ways of doing things, and so on (Dawkins 1997). The study of memes and meme-ing—the practice of creating and passing on memes—enables insights into the modes and means of social and

cultural production and transmission. Although memes have always been around, electronic networks of communication like the internet provide ideal conditions for propagating and dispersing memes.

The term 'meme' itself was coined by Richard Dawkins (1976), who identified three characteristics of successful memes that remain relevant today: fidelity, fecundity, and longevity. Fidelity refers to qualities of the meme that enable relatively straightforward 'copying' of the meme that keep it relatively intact as it passes from mind to mind. Fecundity, Dawkins' second key characteristic of successful memes, refers to the rate at which an idea or pattern is copied and spread. In other words, the more quickly a meme spreads, the more likely it is that it will capture robust and sustained attention, and will be replicated and distributed (Brodie 1996: 38). Longevity is the third key characteristic of a successful meme. The longer a meme survives, the more it can be copied and passed on to new minds, exponentially ensuring its ongoing transmission.

Online, meme vehicles can be purely text-based, or include a range of media. They tend to fall into one of two categories: (a) memes that are dispersed intact via email or hyperlinks to the original meme (e.g., Jonah Peretti's Nike Sweatshop Shoe meme is a good example of this; see Knobel 2005), and (b) mutating memes, that play on an original idea but tweak how it is presented. The 'lost frog' meme is a good example of this kind (see [lostfrog.org](http://lostfrog.org)). This meme was sparked by a child's hand-produced flier announcing a lost pet, and which had been scanned and sent to an online image-sharing community. Members of this group quickly picked up on the pathos and determination in the child's language and hand-drawn images. They used image editing software, such as Adobe's Photoshop, to manipulate and expand upon the original flier. In general, key features from the flier remain, and, in particular, include the image of the frog drawn by Terry and some of the distinctive language he used (especially, 'him name is hopkin green frog' and 'p.s. I'll find my frog'). These meme mutations were gathered together by Harold Ikes and archived on [lostfrog.org](http://lostfrog.org). The archive captured widespread attention and quickly became a popular hyperlink in blog posts (e.g., see BoingBoing above) and discussion forums as well as a hub for promoting more widespread contributions to the meme itself by others outside the original group. Each photoshopped image is humorous and often touching, and across the archive the images variously make use of typical 'missing persons' announcement vehicles (e.g., broadcast media news reports, milk cartons), crowd scenes seemingly devoted to spreading the news about the lost frog (e.g., a 'lost frog' march), and a host of other 'remember hopkin' scenarios (e.g., lost frog video games, lost frog scratch-it lottery tickets, Hopkin's ID on someone's instant message buddy list, Hopkin as a 'not found' internet file image).

Background research conducted Mike Whybark (2004) found that the original flier had been produced by Terry, a 16-year-old autistic boy, who had lost a toy frog that had been very special to him. However, despite the mystery of the flier being to all intents and purposes 'solved', the meme clearly has longevity and photoshoppers continue to contribute to the archive ([lostfrog.org](http://lostfrog.org) currently hosts almost 120 mutations of the original flier, with 9 of these added since March, 2005). Collectively, these 'lost frog' images narrate massive, albeit fictional, citizen mobilization in the ongoing search for Hopkin Green Frog. The meme has spilled over into meatspace as well; many others infected by the meme did their own independent background research and purchased replacement frogs on eBay to send to Terry. Businesses are cashing in on the meme as

well, with a 'lost frog' t-shirt ([store.northshoreshirts.com/ilomyfrhisna.html](http://store.northshoreshirts.com/ilomyfrhisna.html)) and a postcard ([cafepress.com/hopkin.15679312](http://cafepress.com/hopkin.15679312)) available for purchase online.

Participating in the 'lost frog' meme involves much more than technical expertise in manipulating image editing software, creating hyperlinks to an online archive, or creating a blog post about the meme. This meme is thoroughly social in the way it taps into shared experiences of pets lost during childhood and popular culture cross-references (e.g., an image of Hopkin imprinted on a piece of toast and photoshopped to look like an eBay auction page invokes an earlier eBay auction for a toasted cheese sandwich bearing an image of the Virgin Mary). Within the lost frog meme, 'truth' and 'information' take a back seat to insider practices that have more to do with social participation than with technical digital literacy competence.

(d) Perspectives of some digitally literate young people: juxtaposing the 'It' perspective

One very important point to note about many accounts of digital literacy from the 'It' perspective is the extent to which we might reasonably think of them as 'the new functional literacy' – the current equivalent to such statements from the 1970s and 1980s as the U.S. Office of Education's definition of the functionally literate person (cited in Levine 1982: 256), the conception adopted in the British policy statement *A Right to Read* and, par excellence, the skills and content-based account of functionality advanced in the Adult Performance Level Study (APL) undertaken for the US Office of Education (for description and critique, see Lankshear 1987: 62-67).

The 'logic' of functional literacy puts all the emphasis on the minimal content and reading skills people are presumed to need in order to 'go about [their] daily activities successfully on the job, or to move about society normally with comprehension of the usual printed expressions and messages [they] encounter' (US National Reading Center, cited Levine 1982: 256), and sublimates all the important things that people *already have*. It focuses recipients' attention on what they don't have, rather than on what they do have and that can leverage powerful effects for *them*. It displaces the latter in order to incorporate 'functional illiterates' into those routines, values and norms that constitute the cultural and economic advantage and interests of social groups who benefit from existing arrangements. And by decontextualising the 'functional content and skills' from practices and ways in which recipients of functional training are already strong and on the basis of which they can make their way in the world and pursue satisfactions, functional programs *rob* recipients twice. They deny recipients access to where 'power' and 'success' and 'satisfaction' really lie, and impose upon them low level competencies that put them at the disposal of others. Meanwhile, in the case of basic digital literacy 'competencies' the irony is that these are readily acquired *in situ* and (like print functionality) readily mystified when 'taught' out of context.

A major implication of the everyday digital literacies sketched above is that 'the digits' (in the sense of knowing how to do the 'machine bits' – to drive bits of hardware and software) are in most cases 'the very least' of what the social practices involve. The 'most' of what participants in these digital literacies bring to the practices are what might be termed 'cultural' and 'critical', rather than 'operational' (Lankshear and Snyder with Green 2001). Someone who has the 'ways' of an Ernie Hsiung, for example, can easily acquire the operational requisites for actualizing them in a weblog. The fact that Ernie also draws deeply on 'digital insiderness' based on years of

immersion in digital/cyber cultures – as do the BoingBoing bloggers and Steven Johnson – is somewhat beside the point here, since this is not what digital literacy from the ‘It’ perspective provides. Indeed, it negates it by *beginning* from (and ending with) the ‘operational’. By contrast, those who acquire and refine cultural and critical ‘ways’ within affinity groups (Gee 2003, 2004) get the ‘digits’ free, analogously to the way in which human beings get their first language free within the larger context of enculturation.

Such ideas are verified time and again by young people who are digitally literate in the sense we are advocating here. Two brief examples from qualitative interviews undertaken by Angela Thomas (2004b, 2005) with adolescent ‘insiders’ to online role-playing chat communities can be used to exemplify our points here. They juxtapose powerfully key ideas advanced from the ‘It’ perspective on digital literacies.

For example, in juxtaposition to the points cited above (p. 6) about the central role of schools in promoting digital literacy competency a 14 year old male informant responds in role as Percirion (President of the United Federation of the Planets) to a question posed online by Thomas (Anya) as follows, while another young informant (Hobbitness) ‘looks’ on:

**President Percirion (UFP):** my school is most certainly teaching us about Technology ... We have a 'Computer lab' [with enough electricity flowing through it to power a small African country  
**Anya:** so what computer skills / knowledge are you getting at your school perc?  
**President Percirion (UFP):** Typing ... I'm a 42-words-per-min typer  
**President Percirion (UFP):** How to Use the Internet ... How *Not* To Use the Internet  
**Hobbitness:** lol  
**Anya:** but you already know.... laugh really? they're giving you rules?  
**President Percirion (UFP):** We usually... have free reign on the internet  
**President Percirion (UFP):** But there's a boundary  
**Anya:**+++++ yes?  
**President Percirion (UFP):** This is where the powerful Imagination kicks in  
**Anya:** tell tell  
**President Percirion (UFP):** 'Inappropriate material', so to speak  
**President Percirion (UFP):** And we're also learning how to use various computer systems ... which I am sure will be out of date by the time we leave  
**Anya:** what various computer systems?  
**President Percirion (UFP):** Excel, Word, More Excel, Office  
**Hobbitness:** aha  
**President Percirion (UFP):** Powerpoint  
**Hobbitness:** \*haha  
**Anya:** ahhh ok

(Data provided as personal communication by Angela Thomas, March 2005)

Percirion and Hobbitness are participants in an online role-playing community known as the *Gathering of the Elves*. This community was created by a young girl named Elianna, who informed Thomas at length about the purposes, motivations and processes involved in instigating

the community and administering site (<sindalindewen.proboards30.com>). Elianna's views assign the kind of weight we think is appropriate to the operational dimension of digital literacies in general. Thomas (2005: 29-30) reports that

When I expressed admiration for her achievement, she humbly deflected my praise to the team of friends who assisted her in administering the site. She identified each friend, telling me their particular area of expertise, and what they had contributed to the site. She claimed she just thought of the idea to create the community and it was easy because her friends helped her to develop it. She didn't see anything remarkable at all in what she was doing, labelling it as 'just a game', 'a bit of fun'. When I pointed out all of the processes she had worked through to set up the community, she dismissed it, saying '...nah, it's easy... you just mess around for a bit and you get it.... You just have to figure out which 'button' works which part lol.... and yeah, just about.... most of it you have to change back and forth, and it's like, ok, so this one changes this and that one changes that, and you just kept messing with it til you work it out'.

### **Some policy, pedagogy and research considerations**

If the arguments we have advanced are accepted they suggest a range of considerations for people working in the policy, pedagogy and research areas of education. Examples are as follows.

#### Policy

(i) Digital literacy needs to be problematised rather than taken as understood. Many current policies reflect foreclosure on what counts as digital literacy, yet dominant meanings are wide open to critique. As has been argued for 30 years now with respect to conventional (typographic) literacy, definitions cast in terms of skills, content, and competencies predicated on *functioning* within everyday economic, administrative, and social routines can be profoundly disabling for those deemed not to be literate. Rather than operating from unproblematic conceptions of digital literacy as an 'It', we need to view digital literacies in a larger frame that resists paying undue attention to 'operational' techniques and skills and, instead, seeks to mobilize and build on what learners acquire and know from their wider cultural participation and affinities.

(ii) Policy makers should resist the temptation to make *curriculum* the default setting for providing access to digital literacy. Subsidised public and home-based access to digital technologies offering opportunities for wide-ranging exploration and experimentation, as well as access to 'insider' expertise and support, are likely to be more effective in the short and long runs alike.

(iii) The need to recognize a much wider range of digital literacies that simply those that are tied to information is also important. Moreover, as studies increasingly show (e.g., Facer and Furlong 2001), it will also be important to consider digitized popular cultural artifacts and pursuits – mobile phones, MP3 players, handheld games – as fruitful *conduits* to familiarity and proficiency with a broad range of digital literacies that are valued scholastically, culturally and economically.

## Pedagogy

Once we move beyond an ‘It’ perspective on digital literacy and take on a sociocultural perspective a host of previously foreclosed pedagogical insights and options are opened up for consideration. We will note just two of the many possibilities here.

(i) It is important to consider the extent to which the ‘digits’ – the operational aspects – are, in fact, the least of what is involved in most digital literacies. The role and complexity of the operational dimension will, of course, vary from one digital literacy to another. But it is necessary always to consider the potential costs involved in hostaging social contexts and practices to ‘skill teaching’ when it would be far more effective to allow operational facility to emerge organically from immersion in uncompromised versions of social practices. We have been mindful of this principle since the time in the mid 90s when a secondary student described her confusion about email and how she didn’t really understand why they were learning it. The learning context had been a ‘game’ in which students in class at a given school emailed students in classrooms all around Australia to gather clues for tracking down the imaginary whereabouts of an imaginary criminal.

For school-based learning to provide a sound entrée to becoming digitally literate in insider or expert-like ways we recommend that educators consider the kind of Knowledge Producing Schools pedagogy being developed on a project by project basis with schools by Chris Bigum and Leonie Rowen and associates (<[deakin.edu.au/education/lit/kps/](http://deakin.edu.au/education/lit/kps/)>. See also, Lankshear and Knobel 2003: Ch 4).

(ii) In his celebrated study of *What Video Games Have to Teach Us About Learning and Literacy* (2003), James Gee explores game playing as sociocultural practice. He investigates six major games genres and distils six learning principles from each genre. Few of these 36 learning principles are apparent on any scale, regularity or depth within conventional classroom-based teaching and learning. Gee’s work begins from the premise that for games to be successful (profitable) they have to be very good at such things as getting themselves learned and sustaining interest, engagement and investment over long periods in the face of often excruciating challenges. Consequently, if we want to know what drives people to learn and to keep learning, and how they achieve and ‘grow’ this learning, then games is an obvious place to look.

While there is no simple or formulaic translation to be made from the work of games to the world of formal learning, there are nonetheless powerful clues to be derived from Gee’s work – and that of other games researchers – about effective learning ‘designs’ and principles. These are clues as to how the range of digital literacies mastered by games players – on- and offline, individually and collaboratively/co-operatively, etc. – are acquired, refined, consolidated and enhanced by and among participants (particularly, as mediated through membership of affinity groups integral to identity constitution). Similar arguments and principles are apparent to greater

or lesser degrees in other digital literacy ‘affinity spaces’ (Gee 2004), as the example of Elianna and *The Gathering of the Elves* intimates.

### Research

We will conclude by briefly noting three considerations for research that seem important in light of our arguments here.

(i) There has been a strong tendency within literacy research toward the emergence and entrenchment of partisan and mutually exclusive ‘camps’ and perspectives. It is important that researchers working from a predominantly sociocultural perspective develop and maintain a close interest in the ways that ‘skills’ and ‘techniques’ are acquired and become practiced and fluent within the context of participating in social practices of digital literacy, along with a focus on the more overtly cultural and critical-transformative-innovative dimensions of learning through participatory practice.

(ii) We believe that in a period of deep and rapid change and innovation researchers need to seek productive balance between theory-driven and more ‘grounded’ approaches to researching digital literacies. As new practices emerge it will not always be appropriate to try and understand them in terms of extant theory – indeed, often it will *not* be appropriate to do so, and the trick is to know when to give new theory a chance to emerge from the data. In addition, we believe it is important for researchers of digital literacies to ‘get out as often as possible’ and investigate cultural fringes as matters of interest in their own right, and not with a view to seeking educational applications.

(iii) Current developments on the internet reflected in talk about a transition from Web 1.0 to Web 2.0 mark changes in the constitution of social practices that call out to be researched carefully with an eye to understanding their implications for learning and expertise. It seems to us that much of what is addressed in the name of digital literacy from the ‘It’ perspective is grounded in Web 1.0. Yet, outside of formal ‘curricularised’ learning contexts – in such spaces as online fanfic communities, the blogosphere, participation in Wikipedia, the open source movement, online gaming communities, and the like – people are absorbing and embracing the cultural logic of Web 2.0. The experience of disjuncture on the part of learners who invest informally in ‘Web 2.0’ when faced with ‘Web 1.0’ within formal settings of compulsory learning is debilitating, confusing and, ultimately, destructive. Research has much to contribute to resolving such tensions within pedagogical sites.

(iv). In the context of his discussion of how the ways the law is currently evolving are working to limit cultural creativity, Lawrence Lessig (2004) cites John Seely Brown’s observation that we ‘need to understand how kids who grow up digital think and want to learn .. We’re building an architecture that unleashes 60 percent of the brain [and] a legal system that closes down that part of the brain’. We would argue that ‘closing down that part of the brain’ is precisely the effect of current policy directions in education generally, and of official versions of ‘digital literacy’ in particular. Accordingly, we think it is important to consider supporting research that tells us more about ‘how kids who grow up digital think and want to learn’, and the extent to which and

ways in which current educational directions and emphases may negate such ways of thinking and desires for learning.

## Endnote

Digital literacies present significant challenges to policy, pedagogy, and research in relation to education. In our view, facing and meeting these challenges begins from ensuring that digital literacy does not become the post-typographic equivalent of functional literacy from the world of print. This, in turn, presupposes resisting the reduction of digital literacy to an 'It' and, on the contrary, keeping our purview open and corrigible.

## References

- Bawden, D. (2001). Information and digital literacies: A review of concepts. *Journal of Documentaion* 57 (2): 218-259.
- Black, R. (2006). Just don't call them cartoons: The new literacy spaces of anime, manga, and fan fiction. In D. Leu et al., *Handbook of New Literacies Research*. Erlbaum. In process.
- Blood, R. (2002a). Weblogs: A history and perspective. In Editors of Perseus Publishing (Eds.). *We've Got Blog: How Weblogs are Changing Culture* (pp. 7-16). Cambridge, MA: Perseus Publishing.
- Blood, R. (2002b). Introduction. In Editors of Perseus Publishing (Eds.). *We've Got Blog: How Weblogs are Changing Culture* (pp. i-x). Cambridge, MA: Perseus Publishing.
- Brodie, R. (1996). *Virus of the Mind: The New Science of the Meme*. Seattle: Integral Press.
- Bury, R. (2005). *Cyberspaces of Their Own: Female Fandoms Online*. New York: Peter Lang.
- Chandler-Olcott, K. and Mahar, D. (2003). Adolescents' anime-inspired 'fanfictions': An exploration of multiliteracies. *Journal of Adolescent & Adult Literacy*. 46(7): 556-566.
- Dawkins, R. (1976). *The Selfish Gene*. Oxford: Oxford University Press.
- Dawkins, R. (1999). Foreword. In S. Blackmore, *The Meme Machine*. Oxford: Oxford University Press. Vii-xvii.
- Doctorow, C. (2004). All Your Base-style tribute to child's lost-pet flier. Boinboing <[boingboing.net/2004/11/06/all\\_your\\_basestyle\\_t.html](http://boingboing.net/2004/11/06/all_your_basestyle_t.html)> Saturday, 6 November (accessed 10 October, 2005).
- Dreamcast (2000). Walter needs us! June 27. <[dreamcast.ign.com/news/21457.html](http://dreamcast.ign.com/news/21457.html)> (accessed 4 November, 2000).

Educational Testing Service (nd). (<[ets.org/portal/site/ets/menuitem.1488512ecfd5b8849a77b13bc3921509/?vgnextoid=fde9af5e44df4010VgnVCM10000022f95190RCRD&vgnnextchannel=69d246f1674f4010VgnVCM10000022f95190RCRD](http://ets.org/portal/site/ets/menuitem.1488512ecfd5b8849a77b13bc3921509/?vgnextoid=fde9af5e44df4010VgnVCM10000022f95190RCRD&vgnnextchannel=69d246f1674f4010VgnVCM10000022f95190RCRD)>).

Facer, K. and Furlong, R. (2001). The myth of the 'Cyberkid': Young people at the margins of the information revolution. *Journal of Youth Studies*, 4 (4): 451-469.

Gee, J. (1996). *Social Linguistics and Literacies: Ideology in Discourses*. London: Falmer.

Gee, J. (2003). *What Video Games Have to Teach Us About Learning*. New York: Palgrave.

Gee, J. (2004). *Situated Language and Learning: A Critique of Traditional Schooling*. London: RoutledgeFalmer.

Gilster, P. (1997). *Digital Literacy*. New York: Wiley Computer Publications.

Hale, L. (2005) An historical perspective on Mary Sue. *The Fanfic Symposium*. [trickster.org/symposium/symp174.htm](http://trickster.org/symposium/symp174.htm) (accessed October 8, 2005).

Illich, I. (1971). *Deschooling Society*: New York: Harper and Row.

International Labour Organisation (ILO) (2001). *World Employment Report*. Chapter 7. At <[http://www.bib.ulb.ac.be/cdrom/wer\\_lawitie/chapter/ch\\_07\\_1.htm](http://www.bib.ulb.ac.be/cdrom/wer_lawitie/chapter/ch_07_1.htm)> Accessed 3 October 2005.

Jenkins, H. (1992). *Textual Poachers: Television Fans and Participatory Culture*. New York: Routledge.

Knobel, M. (2005). Memes, literacy and affinity spaces: Implications for policy and digital divides in education. Paper presented to the "Policy Options and Models for Bridging Digital Divides" Conference. Global Challenges of eDevelopment Project, University of Tampere, Tampere, Finland. March 14.

Lanham, R. (1995). Digital literacy. *Scientific American* 273 (3): 160-161.

Lankshear, C. (1987). *Literacy, Schooling and Revolution*. London: Falmer Press.

Lankshear, C. and Knobel, M. (2003). *New Literacies*. Maidenhead, UK: Open University Press.

Lankshear, C., and Snyder, I. with Green, B. (2001). *Teachers and Technoliteracies*. Sydney: Allen and Unwin.

Lessig, L. (2004). *Free Culture: The Nature and Future of Creativity*. New York: Penguin Books.

- Levine, K. (1982). Functional literacy: Fond illusions and false economies. *Harvard Educational Review*. 53(2).
- M.P. (2005) The good, the bad, and the ugly in (game) fanfiction writing. *The Fanfic Symposium*. [trickster.org/symposium/symp169.htm](http://trickster.org/symposium/symp169.htm) (accessed 8 October, 2005).
- Plotz, D. (2000). Luke Skywalker is gay? Fan fiction is America's literature of obsession. *Slate*. [slate.msn.com/id/80225](http://slate.msn.com/id/80225) (accessed 19 November, 2004).
- Pool, C. (1997). A conversation with Paul Gilster. *Educational Leadership*. 55: 6-11.
- Schrage, M. (2001). The relationship revolution. [seedwiki.com/wiki/Yi-Tan/TheRelationshipRevolution.htm?wikipageversionid=417577&edit=yes&i=87](http://seedwiki.com/wiki/Yi-Tan/TheRelationshipRevolution.htm?wikipageversionid=417577&edit=yes&i=87)
- Somogyi, V. (2002). Complexity of desire: Janeway/Chakotay fan fiction. *Journal of American & Comparative Cultures*. Fall-Winter. 399-405. Ethnographic study
- Street, B. (1984). *Literacy in Theory and Practice*. Cambridge: Cambridge University Press.
- Suck (2000). Walter's Mission. June 7. [suck.com/daily/2000/07/06/](http://suck.com/daily/2000/07/06/) (accessed 4 November, 2000).
- Thomas, A. (2004a). Literacies of the cybergirl. *E-Learning*. 1(3): 358 - 382.
- Thomas, A. (2004b). e-selves@palace.kids: Literacy and Identity in a Virtual Community. Unpublished PhD Manuscript. Charles Darwin University.
- Thomas, A. (2005). Children online: learning in a virtual community of practice. *E-learning* 2 (1): 27-38. At: [http://www.wwwords.co.uk/ELEA/content/pdfs/2/issue2\\_1.asp](http://www.wwwords.co.uk/ELEA/content/pdfs/2/issue2_1.asp)
- Wallin, Y. (nd). Knowledge Foundation. At [europa.eu.int/comm/education/programmes/elearning/doc/workshops/digital\\_literacy/position\\_papers/wallin\\_yngve.pdf](http://europa.eu.int/comm/education/programmes/elearning/doc/workshops/digital_literacy/position_papers/wallin_yngve.pdf) (accessed 3 October 2005).
- Whybark, M. (2004). Hopkin explained. 22 November. [mike.whybark.com/archives/001951.html](http://mike.whybark.com/archives/001951.html) (accessed 9 March, 2005).
- Wittgenstein, L. (1953). *Philosophical Investigations*. Oxford: Blackwell.
- International Labour Organisation (2001). *The World Employment Report 2001: Life at Work in the Information Economy*. Geneva: International Labour Organization.