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Digital utopia or dystopia: should educators assume information literacy?

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Introduction

It is often assumed that students are completely Web literate by the time they enter college. What is this assumption based on? This paper draws on collaborations in information literacy between History of Art and the Boole Library at University College Cork. It surveys student feedback to test this assumption. The growing prevalence of online plagiarism has resulted in universities developing sophisticated detection software. Should educators filter or facilitate Web content?

Alan Liu, in his keynote paper, "Peopling the Police: A social computing approach to information authority in the age of Web 2.0", presented at the Digital Resources in the Humanities and the Arts conference at Cambridge University in September 2008, drew on his experience as a professor of English and investigator into the application of learning technologies at the University of California to reflect on the evolving nature of online literacy. Liu is currently a researcher on the University of California's *Transliteracies Project* (http://transliteracies.english.ucsb.edu/). This project, established in 2005, was set up to investigate the technological, social, and cultural practices of online literacy. Liu's study of wiki behaviour amongst his own students at Santa Barbara showed that they had enough media proficiency to set up a wiki, but, as regards content management, they were often not attuned to established literacy skills. Citation within the wiki did not extend beyond Wikipedia. Mark Bauerlein (2008) believes that screen reading, involving content skimming at speed, is fundamentally different from the slow reading of a hard-copy text. Bauerlein's countercultural essay urges the preservation of slow reading and writing spaces in North American educational institutions at a time when the predominant learning culture in Western society is both advocating and facilitating greater information acceleration. Liu's case study illustrated that what now passes for student research largely consists of cutting and pasting from the Web involving rapid content skimming with little or no process of critical reflection.

Web 2.0: digital utopia or dystopia?

Liu's analysis focuses on a central question regarding information authority: how much online information is trustworthy, and how do we know? Luca De Alfaro is a researcher at the University of California, Santa Cruz where he is currently working on a MediaWiki extension: Wikitrust (http://wiki-trust.cse.ucsc.edu/index.php/Main_Page). Wikitrust is a colouring system for text on a MediaWiki website that uses a computed trust metric for authors to colour the words on a page depending on how reliable they are computed to be. The words of a well-trusted author appear white while the words of an untrustworthy source are highlighted in bright orange. Everybody else is coloured somewhere in the middle of the scale. In Wikitrust, there would be a "Trust" tab at the top of every page that you could click on to see what parts of the page are the most stable, and which are most suspicious. This is a development envisaged as helping to counteract plagiarism.

In the United Sates, the pioneers of Web 2.0, dubbed Digital Utopians by some commentators, inspired by the idealism of 1960s Counterculture, envisaged the Web as a tool to counter globalisation and promote digital democracy (Turner, 2008; Žižek, 2003, pp.192-195). American media mogul, Tim O'Reilly, is popularly credited with defining the term Web 2.0. It is now used as an umbrella term referring to the Internet as a communal platform for information exchange. Every day millions of users log on to access social networking sites like MySpace, online encyclopedias like Wikipedia and video-sharing sites like YouTube. To quote educators like David Cromier (2008) and critical theorists like Gilles Deleuze and Felix Guattari (1980/1987), and Jean Baudrillard (1981/1994), as information consumers, we are all centre-points in a knowledge "rhizome"—a communication node characterised by collective and individual information consumption. Borrowing the rhizome model, metaphor for unmediated knowledge, from Deleuze and Guattari (1981/1987), Cromier's perception is potentially utopian. He sees the rhizomatic education model, exemplified by educational wikis, as a potentially democratic exchange site allowing for the construction and transfer of utilitarian knowledge. Wikitrust still uses the community to authenticate and validate content. Is this a potential weakness? Baudrillard (1981/1994, p.91) sees the rhizome in essentially dystopian terms being a metaphor for shallow information consumption.

We are already experiencing a "disappearance" of technology, to paraphrase Paul Virilio and Slavoj Žižek (2003, p.18), as multi-platform tools become smaller, faster, and disappear from physical sight, only to become more integrated in our daily lives. William Gibson's seminal science fiction novel, *Neuromancer*, that made the term "cyberspace" popular as a metaphor for the Web, has already darkly anticipated this trend. *New York Times* columnist, Randall Stross (2008) has explored how Google's utopian ideal to source the best quality information and make it available on the Web is morphing into a potential dystopia where Google is pushing a transformative, yet potentially problematic, concept under the umbrella terms of "cloud computing". Google Docs, with its real-time access, editing, and storage capacities, is a current example of cloud. This plan, envisages users being able to store all of their data on Google's massive servers -- a network of a million computers that amounts to the world's largest supercomputer, with unlimited capacity to house all the information Google seeks. Supercomputers, like the Grid, and cloud computing are advertised as potentially allowing for greater access to global information with quicker download times on cheaper platforms (Ahmed, 2008, September 29, p. 3). Commercial development is moving towards multi-platform and open source applications. Multi-touch interfaces will replace both keyboard and mouse. A typical mobile phone can now function as a camera, an archive, MP3 player, GPS finder, and web browser and this trend is set to continue. If Web centralisation is pursued, then this has potential to reconstitute the nature of the Web. On the one hand, it will potentially allow for greater speed and connectivity, but on the other, potential implications for civil liberties and data security may arise as a result of the central storage of information.

Characteristics of new literacy

Established literacy behaviours are changing. Online reading experiences do not map exactly onto established literacy behaviours. In the West, reading patterns, established since the invention of printing in the fifteenth century, emphasise the importance of close reading consisting of textual comprehension, and critical reflection often involving re-reading the text. Reading is often a slow, single-attention, solitary act. Reading on the Internet places emphasis on searching, scanning, jumping, and filtering information. Internet reading is often a fast, multi-attention, communal act as seen by web blogs, twitters, and online wikis. Search engines read Web pages by filtering hits according to

popularity or relevance to an online community. Information Communication Technology (ICT) has merged into Information Society Technology (IST). New patterns of online reading complement the emerging technologies that increasingly allow computers to read and write autonomously to each other across platforms and applications such as in XML (Extensible Markup Language) based technologies that underlie the new online text databases, archives, and RSS (Really Simple Syndication, also known as "web syndication") feeds.

The "information bomb", represented by relentless information acceleration, as envisaged by Paul Virilio (1998/2000) has exploded and we are living through information fallout. How is this affecting knowledge construction and ways of knowing? Donna E. Alvermann (2001) identified that adolescents' interest in the Internet, and social communication technologies (e.g., chat rooms where people can take on various identities unbeknown to others) suggested a need to teach youth to read with a critical eye so as to identify how ideas are represented. At the same time, she suggests teaching adolescents that all texts, including their textbooks, routinely promote or silence particular views. Howard Gardner and Michael Wesch are currently exploring this question through their work. Howard Gardner is best known for his theory of multiple intelligences. Gardner's "GoodPlay", arising from the "GoodWork" project (http://www.goodworkproject.org), studies 15-25 year olds who participate in online games, social networking sites, and other online communities. It seeks to understand how young people perceive of their participation in virtual worlds and ethical considerations guiding their conduct. The aim of the project is to develop a curriculum to encourage young people to reflect on the ethical implications of their online activities. Michael Wesch, a cultural anthropologist exploring the impacts of new media on human interaction, is working with the Educause Center for Applied Research on a project called "The Tower and the Cloud" (http://net.educause.edu/ECAR071), examining how higher education institutions (The Tower) may interoperate with evolving network-based business and social paradigms (The Cloud).

Information literacy is wider than the acquisition of traditional information skills (e.g. how to use a catalogue, how to locate a book, how to access an e-journal). The information literate person applies critical thinking in order to analyse and evaluate information for use in assignments/projects and in the general context of problem solving. In Ireland the Consortium of National and University Libraries (CONUL) have

developed an Information Literacy Policy (2005). In common with international good practice, it identifies six key competencies of an information literate person. These centre on ability to recognise appropriate information; an ability to locate the most appropriate information; an ability to critically evaluate that information and an ability to manage and to apply that information within an ethical and legal framework.

Gillian Kerins, Ronan Madden, and Crystal Fulton (2004) have explored patterns of information literacy through case studies of Irish engineering and law students. Their observations point to the fact that most students learn their information habits through their respective disciplines. Students tend to be strategic learners and take their cues from their lecturers. The authors highlight a need to foster lifelong skills in the retrieval and exploitation of information. In 2007, Ronan Madden, humanities and multimedia librarian in the Boole Library, was instrumental in developing a series of information literacy workshops to support History of Art students taking the third year supervised research project. The series focused on the application of information literacy to a disciplinary approach. At the end of the series students were expected to recognise reliable information; to locate that information; to critically evaluate it; to correctly cite both online and offline content and to apply these skills to their individual research projects.

Student feedback, revealing their previous online behaviour, challenged assumptions. At the end of the five-week workshop series, Madden surveyed the twenty-five students taking the course. The survey focused on the perceived relevance of the series to individual research projects (see appendix). All respondents found the series very relevant to their disciplinary studies. Through feedback, students revealed that they had previously not known about advanced search engines. Individual responses, wishing to learn about the basics of copyright, especially relating to online images, revealed previous scant awareness of the subject, yet once made aware of the issue they wanted to learn more. When is the most appropriate time to introduce information literacy sessions in a discipline? Collectively, the survey group believed that information literacy workshops should have been embedded into their discipline from first year or at least second year. Based on student feedback, the sessions have been extended to a ten-week series also open to second year students. Online resources have been tailored to embed information literacy. In response to student feedback and in collaboration with the Boole Library, History of Art has launched two online learning resources: LightBox

(http://blackboard.ucc.ie/) and HeART blog (http://visualresourcesblog.blogspot.com/).
Both sites aim to support and promote critical Web literacy. The next phase will be to
critically evaluate student responses to these sites.

Conclusion:

Increasingly, international visions of 21st Century learners include concepts such as
inquiry led learners, facilitated yet self directed, collaborative in the construction of
knowledge, multi-tasking, and problem solving. Our evolving concept of digital
resources in disciplinary fields is that such resources should enhance both the teaching
and learning experience and where possible extend that experience in a seamless way.
For example, in the discipline of art history, a digital panorama may give a greater
experience of spatial relationships in a building or a piece of sculpture than a single slide
or static photograph can and so, in this way, the digital tool helps to enhance the teaching
and learning experience.

Clearly, the speed and availability of information technology means that students
have greater access to information than ever before, but can educators assume that
students know how to pick their way through the mass of content in a discerning, critical,
and ethical manner? The challenge we face as educators (be we academics, librarians,
administrators or technicians) is how can we equip our students for this increasingly
complex information society precisely at a time when negotiating information is seen as a
central mark of being educated?

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Appendix

History of Art HA 3013 Student evaluation form (October to December 2007)

We would be grateful for your feedback on this series. All responses will be treated confidentially.

Survey of the workshop series

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
The objectives of the sessions were well communicated to me	▓	█				
The content of the presentations was what I expected	▓	█				
I have understood most of the material covered in the course	▓	█				
This content was logically organised	▓	█				
This series will be relevant to my reserach	▓	█				

Note: Heaviest shading denotes greatest level of response

This workshop session

				Disagree	Strongly Disagree	
Too much material was presented				█	▓	
The level of the presentation was too high				█	▓	
The pace of the presentation was too fast				█	▓	

What part/s of the series did you find most useful? Information on library resources, e-journals and navigating the Web.

Which part/s of the series did you find least useful? No response to this question.

What would you like to see included/covered in more detail? Responses would have liked more detailed information on image copyright.

What is your overall verdict of the series? All responded that it was a useful support, but they would have liked to have seen it introduced earlier into the degree programme.