# Digital literacy and cultural institutions

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## Introduction

Major Australian cultural institutions such as museums and libraries are demonstrating a growing desire to reach wider audiences via an expanded online presence. Such initiatives are tempered by the prohibitive cost of digitising existing collections which are currently archived using complex professional taxonomies.  Significant amounts – perhaps the majority – of compelling cultural content remain inaccessible to online communities of interest. Yet the same communities increasingly expect a far greater degree of online cultural participation. Web2.0 platforms have given rise to a growing number of tools including RSS feeds, content shares and podcasts. These social media are redefining the exchange of information and meaning between content-rich institutions and content-hungry, digitally literate cultural communities.

Within the context of cultural institutions, I propose that digital literacy refers to the sociotechnical elements required for ICT-based interaction with content. These elements include: choice of and control over content consumption; and the ability to create and distribute content. So defined, digital literacy refers to not only an individual and or organisational skillset, but also a set of accessible digital tools and techniques.  I use this definition in conjunction with an interpretation of a dynamic cultural audience based on a rhetorical communication model. I argue for the use of social media to provide channels for a higher level of online interaction between institutions and cultural audiences, both passive and active.

## Creating cultural audiences through digital interaction

For those unfamiliar with the evolving concept of literacy, there are a number of terms which describe the myriad skills and knowledge required to leverage digital technologies. These include new literacy; media literacy; new media literacy; information literacy; and digital literacy. They don't all mean quite the same thing: for example, Leu *et al* suggest that "The new literacies of the Internet and other ICTs include the skills, strategies, and dispositions necessary to successfully use and adapt to the rapidly changing information and communication technologies and contexts that continuously emerge in our world and influence all areas of our personal and professional lives" (2004: 1591). This rather broad observation could be applied to many previous technological advances in communication, including radio, telephone, microfilm etc. Livingstone's definition of media literacy further defines the "skills" mentioned by Leu *et al:* "Media literacy – indeed literacy more generally – is the ability to access, analyze, evaluate, and create messages in a variety of forms". She adds that "These four components – access, analysis, evaluation, and content creation – together constitute a skills-based approach to media literacy" (2004: 3-14). Rather than spend more time on a critique of other commentators' definitions, I shall build upon Livingstone's definition, the strength of which lies in its clear acknowledgement of the interactive potential of digital formats.

Cultural institutions are becoming aware that engaging physical and online audiences in content creation activities is not only a means to increase site visitation, but also to engage digitally literate online consumers. As Gillard notes, "cultural products or activities *create* audiences as people engage with them" (2002: 177). Through creative engagement with cultural consumers, institutions can build a dynamic

relationship and work with these consumers to develop a cultural digital literacy. However – referring back to Livingstone's definition of media literacy – we may recognise how an ability to access, analyse, evaluate and create messages using information and knowledge can be quite challenging to traditional notions of the role of some cultural institutions. For example, in the museum sphere, limited access is usually granted to the collection via exhibition: the majority of the collection remains unseen by the public. Analysis and evaluation by the audience is rarely facilitated; these functions are performed by the curator, who encodes and sends authoritative information in the form of exhibitions and publications to be decoded by the audience. The emphasis is on the clarity of the message, rather than the quality of any interaction it might provoke. Borrowing from Tyler's discussion of audience and visual communication, the audience in its turn "decodes or interprets a visual statement but is not an active participant in the formation of meaning". The enforced isolation of the audience is considered even more prevalent in the gallery or art museum, in which an object within a collection "is seen as isolated as a formal esthetic expression, with the audience... regarded as a spectator" (Tyler, 1995: 104-5). This is not to say that cultural institutions ignore their audiences. Since the 1960s, cultural institutions in the USA and UK have broadened their public programs to include education through content creation initiatives. However, these initiatives were often limited to entertaining ways of 'making meaning' from existing content. Interaction and longer-term engagement were not priorities (Vergo, 1993: 41-59).

In contrast, Shedroff –  from an interaction design standpoint – stresses the importance of creative engagement: "People are naturally creative and are almost always more interested in experiences that allow them to create instead of merely participate" (1999: 137). Although there may be some question as to just how many people are "naturally creative", Shedroff suggests that we consider all experiences as inhabiting a "continuum of interactivity" (1999: 136). This continuum encompasses passive traditional media experience (reading, talking) from interactive experiences, the latter being distinguished by:

- The amount of control the participant has over tools, pace, or content.

- The amount of choice this control offers.

- The ability to use the tool to be productive or to create.

Within the context of cultural institutions, I propose that digital literacy refers to the sociotechnical elements required for ICT-based interaction with content. Borrowing from Shedroff, these elements include: choice of and control over content consumption; and the ability to create and distribute content. So defined, digital literacy refers to not only an individual and or organisational skillset, but also a set of accessible digital tools and techniques.  This paper focuses on the relationship between the cultural institution and communities of interest since the institution is a repository of publicly accessible content. The current relative lack of online copyright-free content sources could be a hindrance to the development of online digital literacy programs. Cultural institutions may be able to redress this scarcity by structuring creative digital literacy programs around their collections and knowledge bases (see Russo and Watkins, 2006: 27-33). This move towards a more creative institution is described by Holden and Jones as follows:

> "In the past, museums, libraries and archives have been seen as suppliers, away from the action of creativity and occupying the supporting role of attracting workers to the

creative industries. In truth, they are crucial in inspiring creativity. Forty-four per cent of museum visitors say that they feel motivated to do something related to what they have seen – it is this stimulation that is the essence of the sector's provision and, 63% agree strongly that their visit was inspirational" (2006: 23).

## Cultural communities of interest

The sector seems to be acknowledging that some cultural consumers expect a higher level of participation. Holden and Jones suggest that:

> "The increased value attached to cultural experience has led to more systematic and determined cultural participation. For many, leisure is not a passive consumer activity, but is active and participatory. One effect of this is to bring into question the previously clear distinction between professional and amateur. Museums, libraries and archives have worked to encourage the participation of these 'pro-ams', enabling them to engage with culture, science, natural history and many other subject areas on their own terms" (2006: 28).

This 'engaged cultural participant' finds a theoretical underpinning in a rhetoric theory of communication, which characterises the audience not "as a reader but as a dynamic participant in argument... The specific audience's experiences within society and its understanding of social attitudes are an essential aspect of argument and necessary to the communication goal" (Tyler, 1995: 104-5). A rhetoric model of communication is gaining ground in the cultural sector. Gillard suggests that "One of the major shifts in understanding occurring in new audience research is the definition of audience as a dynamic relationship rather than groupings of human subjects". This "dynamic relationship" is an important observation and Gillard uses it to revisit the concept of the cultural audience: "audiences are understood as being forms of engagement created around contents... The contents encountered or actively sought contribute to understanding, enjoyment and creativity in the lives of individuals and groups" (Gillard, 2002: 177). A dynamic relationship with the audience is not a new idea. McLuhan observed the divide between consumer and producer created by the broadcast paradigm, and looked forward to a dynamic audience enabled by technology:

> "As Joyce expressed it in the Wake, 'My consumers are they not my producers?' Consistently, the twentieth century has worked to free itself from the conditions of passivity, which is to say, from the Gutenberg heritage itself... What will be the new configurations of mechanisms and of literacy as these older forms of perception and judgment are interpenetrated by the new electric age?" (McLuhan, 1962: 202).

One of the more interesting "configurations of mechanisms" is the corresponding evolution in web-based applications to support a higher level of many-to-many communication. Such applications are known variously as social media, social networks or social utilities; regardless of their description, they can facilitate a greater degree of online community participation. The need to consider the behaviour of communities rather than individual users is a challenge to interaction designers and content creators; particularly in the cultural institution sector. For the purposes of this discussion, 'community' is defined as a social entity comprising two elements:
1. "A network of affect-laden relationships among a group of individuals, relationships that often crisscross and reinforce one another (rather than merely one-on-one or chainlike individual relationships)".

2. "A measure of commitment to a set of shared values, norms, and meanings, and a shared history and identity – in short, to a particular culture" (Etzioni, 2004: 225).

Fahy suggests that although the web has the ability to connect spaces, places, people and information, it has been employed predominately in the sector in two discrete models, which focus on either services or technology (1995: 97-129). The service model aims to produce and disseminate information products such as databases, research services, books, journals or video. The technology model produces technology-based goods which enable interaction with existing content and to create new content through co-creation programs. Often the library has adopted the service model, whereas the museum has somewhat favoured the technology model. Fahy's work finds parallels in Feenberg and Bakardjieva's 'consumption' vs. 'community' models of online community. To some extent the consumption model reflects Fahy's service model: it is derived from the online library / research centre in which "Users scarcely talk to each other... and never see or sense each other's presence. Privacy, anonymity, reliability, speed, and visual appeal are desired properties of this virtual space, mobilizing armies of designers in search of competitive technical solutions" (Feenberg and Bakardjieva, 2004: 1). This metaphor certainly reflects the impact of digitisation on libraries, where efficient content management systems (CMS) allow online users to browse and select books from the collection. In effect, the library CMS is supporting multiple one-on-one searches between the collection and the user, without attempting to create any kind of community. Library professionals may argue that online title searching is the primary user requirement, and therefore the creation of community is not part of required CMS performance. Nevertheless, museums and libraries small and large already serve as hubs for dispersed communities of interest built around their content, collections and/or knowledge bases.

**Examples**
The Australian Museum is one of a number of cultural institutions exploring innovative forms of cultural digital literacy. The Museum is very involved in informal learning programs: its own studies suggest that communication with communities of interest requires more than just efficient information transfer mechanisms (Groundwater-Smith 2006); and learning messages can be enhanced through use of narrative, storytelling and the human face (as opposed to the anonymous graphics panel so prevalent in museum exhibitions). After testing a range of social media tools, the Museum has successfully completed a number of biodiversity vodcasts in collaboration with external communities. The Museum will expand its social media strategy in line with the implementation of a redesigned website with Web 2.0 functionality (see Watkins and Russo, 2007). The Powerhouse Museum, Sydney is experimenting with social media such as blogs and folksonomies (user-generated taxonomies) in order to create and sustain online communities of interest. In 2006 the Museum launched a new online database which enables audiences to self-classify the collection. OPAC 2.0 provides a best-practice example of how social media can bring together similar assets (collections, activists/protagonists, audiences, content creators) to engage in cultural debate (Russo *et al*, 2006: 19-29).

Further afield, the European Union's Research Network on Excellence in Processing Open Cultural Heritage is trialling models for the evolving digital cultural communication pipeline. EPOCH aims to foster integration of technology in the sector; create a joint research infrastructure; and raise awareness of cultural heritage.

In the USA, the National Design Museum (Smithsonian Institution) is applying social media to museum learning programs. Its Educator Resource Center utilises physical and online resources to link educators to the museum's various programs, creating a community of practice which shares education experiences and provide best practice examples of design education and museum learning (Russo *et al*, 2006: 19-29).

The growth of cultural communities of interest online is particularly relevant to Australia: most of the major cultural institutions are situated within state capitals and are difficult to access for regional and rural populations. Furthermore, the remote location of the country itself makes visitation by an international audience problematic. Therefore the successful implementation of online cultural communication could have particular value to Australian museums and libraries. However, any such implementation will not be straightforward. First of all, there is the traditional site-specific nature of many institutions: the focus of staff is squarely on the preservation and exhibition of the physical collection. Any technology initiative that might reduce visitation to the physical site could be frowned upon as an unwelcome distraction from the business of getting visitors through the door. This attitude is captured by Nie and Erbring in their warning against online communities: "The Internet could be the ultimate isolating technology that further reduces our participation in communities even more than did automobiles and television before it" (in Etzioni 2004: 229). However, as long ago as 2000, a Harris poll found that "many more people say that they meet and socialize with friends and family more often because of the Internet than do so less often (27 percent vs. 9 percent). This debunks the theory that Internet users cut themselves off physically from social interaction" (in Etzioni 2004: 232). Shedroff echoes this finding from an interaction design viewpoint: "Interfaces are becoming increasingly social as they mediate more social activities (such as conversations) in more sophisticated ways. This makes them cultural products. We already attribute social behaviors to our interfaces, and this trend is growing" (2003: 155).

**Summary**
By using social media to engage communities with rich content and knowledge bases, cultural institutions can take a proactive role in developing digital literacy. The digitally literate community not only consumes digital culture, it can produce and distribute its own artefacts in collaboration with the institution. As creative technologies and practices become further embedded in cultural institutions, they have the potential to create new platforms for community engagement. This paper has argued that a focus on cultural digital literacy could be critical to the further development of a content-rich interaction between institutions and communities of interest. Passive cultural audiences and active cultural participants will continue to expect higher levels of interactivity with institutionally located content; social media can provide channels for such interaction.

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**References**

Etzioni, A., 2004, 'On Virtual, Democratic Communities', in (ed.) A. Feenberg and D.D. Barney, *Community in the digital age: philosophy and practice*, Rowman & Littlefield, Lanham, Md.

Fahy, A., 1995, 'New technologies for museum communication', in (ed.) E. Hooper-Greenhill, *Museum, media, message*, Routledge, London.

Feenberg, A. and M. Bakardjieva, 2004, 'Consumers or Citizens? The Online Community Debate', in (eds) A. Feenberg and D.D. Barney, *Community in the digital age: philosophy and practice*, Rowman & Littlefield, Lanham, Md.

Gillard, P., 2002, 'Museum Visitors as Audiences: Innovative Research for Online Museums', in (eds) T. O'Regan, M. Balnaves, and J. Sternberg, *Mobilising the audience*, University of Queensland Press, St Lucia, Qld.

Groundwater-Smith, S., 2006, 'Millennials in Museums: Consulting Australian Adolescents when Designing for Learning', *Forum of Museum Directors*, National Museum of History, Taipei.

Holden, J. and S. Jones, 2006, *Knowledge and Inspiration: the democratic face of culture*, Museums, Libraries and Archives Council: London.

Leu, D., Kinzer, C., Coiro, J., and Cammack, D., 2004, 'Toward a theory of new literacies emerging from the Internet and other information and communication technologies', in (eds) R.B. Ruddell and N. Unrau, *Theoretical models and processes of reading*, International Reading Association, Newark, DE.

Livingstone, S., 2004, 'Media Literacy and the Challenge of New Information and Communication Technologies', in *The Communication Review*, 7(1).

McLuhan, M., 1962, *The Gutenberg Galaxy: the making of typographic man*, Routledge & Kegan Paul, London.

Russo, A. and Watkins, J., 2006, 'Establishing and Maintaining Cultural e-Communities', in *WSEAS Transactions on Advances in Engineering Education*, issue 1, vol. 3, http://www.worldses.org/journals/education/education-january2006.doc

Russo, A., Watkins, J., Kelly, L., Chan, S., 2007, 'How will social media affect museum communication?', in *Nordisk Museologi*, issue 1, ABM-utvikling, Norway.

Shedroff, N., 1999, 'Information Interaction Design: A Unified Field Theory of Design', in (ed) R.E. Jacobson, *Information Design*, MIT Press, Cambridge, Mass.

Shedroff, N., 2003, 'Research Methods for Designing Effective Experiences', in (ed) B. Laurel, *Design research: methods and perspectives*, MIT Press, Cambridge, Mass.

Tyler, A.C., 1995, 'Shaping Belief: The Role of Audience in Visual Communication', in (eds) V. Margolin and R. Buchanan, *The Idea of Design*, MIT Press, Cambridge, Mass.

Vergo, P., 1993, 'The Reticent Object', in (ed) P. Vergo, *The New Museology*, Reaktion Books, London.

Watkins, J. and Russo, A., 2007, 'Participatory Design and Co-creativity in Cultural Institutions', in (ed) P. Sabine, *Museums in a Changing Climate*, Museums Australia Conference, Canberra.