Speculations on Combating Information Overload in Amateur and Professional Environments

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Abstract: *In this paper, based on desk research, we point out some of the relationships that exist between information overload, Web 2.0 (often called new media) and information literacy. The proliferation of new media augments information overload in both amateur and professional environments. The adoption of information literacy, tailored to the needs of the given environment, alleviates the symptoms of overload by fostering a critical approach to information.*

Keywords: *Information overload, new media, information literacy*

Introduction

Information overload (IO) is a major problem that affects all spheres of our life, and represents one of the most important disturbances to the business world, academia and the professions (Bawden & Robinson, 2009).

Our hypothesis was that the extensive use of Web 2.0, often called new media, is one of the main present-day causes of IO (Koltay, 2011c). Our main argument was that IO is one of the phenomena which can be combated by efficient and goal-oriented information literacy (IL) education. In order to test our hypothesis, we have done desk research that identified the concepts underlying our assumptions. We examined the nature, potential and appropriateness of IL when offered to professionals (writers and scholars), contrasted to the importance of their roles in the amateur setting of new media environments. In doing this, we focused on some features of scientific research (scholarship) and on some of the activities of professional writers.

The concepts used in this paper are the following:

Information overload is an impediment to efficiently using information due to the amount of relevant and potentially useful information available (Bawden & Robinson, 2009).

Information literacy refers to the process of recognizing information need, finding, evaluating, and using information (Boekhorst, 2003).

Web 2.0 is generally taken to encompass a variety of sites and tools for shared information creation and updating, social networking and communication (Bawden & Robinson, 2009).

The main feature of *new media* is the presence of Web 2.0 software, bringing with it the capacity to input data and exercise manipulative control over it. This software enables mass participation in social activities and results in a visible growth of user-generated content (Jarrett, 2008).

A substantial number of Web 2.0 users can be qualified as *amateurs* of our era, who can be defined as persons who love to be engaged in a particular activity. They may be knowledgeable or not, but usually they lack credentials (Keen, 2007). Amateur settings are different from professional environments that foster both scientific inquiry and information use by members of a given profession. The latter includes activities of professional writers.

Combating Information Overload

The phenomenon of overabundance of information is not only a continuation of the often experienced and lamented growth of information of earlier times, due to the ease of publishing and storing information that motivates people to produce, but not to remove their production (Brown, 2010). In spite of this, information overload is mainly a social condition, propagated by people (Davis, 2011).

 IO has to be seen in the context of new media. The underlying context of new media, Web 2.0 is characterized by its simple and easy–to-use tools. This results in a mode of operation where users do most of the organizing and structuring for themselves (Hinton, 2009). These users are encouraged to produce anything, without paying attention to its value, and they are discouraged from being critical. The majority of users are not aware of this. They do not perceive it (Koltay 2011a).

As the tools enable and encourage rapid updating and posting of new material, constant novelty is expected and easily achieved. Such expectations can be satisfied by producing ephemeral artefacts and by re-using existing material (Bawden & Robinson, 2009). All this contributes to a landscape based on shallow novelty, that characterizes a substantial part of amateur production and is usually not suitable for fulfilling professional goals. Having said this, we have to acknowledge that not all amateur content is shallow. Perhaps the most notable exception is Wikipedia, first of all by virtue of its reliance on references (Sundin, 2011) and the fact that it is not based on any commercial enterprise. The intellectual rewards of writing Wikipedia articles are also different from "collecting friends" on social networking sites, although it is similar to placing posts and leaving comments on blogs. In comparison to the majority of new media applications Wikipedia is not a herd-like project, especially because participants write full-fledged articles with the intent to enhance this encyclopaedia, which they have found useful (Huvila, 2011).

For amateurs it is not always indispensable to compete for attention, and the consciousness of competition is considerably lower than that in the corporate sector and especially for the providers of the Web 2.0 applications themselves. This is one of the reasons why the world of the new media is not an ideal one, where every participant would be an expert in producing information, as Huvila (2011) suggests.

On a more general level we can say that new media participants are relatively equal within the Internet, but not within society (Allen, 2008). Equality in the possibility to participate in public discourse and to express ourselves does not mean that we are equally prepared to do something professionally or adapt a professional attitude. This is one of the reasons why widely popularized wisdom cannot be regarded as a feasible means of producing reliable information, at least not for professional goals. Groups of uninformed individuals can be dumb, even if equipped with the newest technology (Morville, 2005), and people gathered together somewhere are not necessarily wiser than the individuals who constitute this crowd (Csepeli, 2008). The wisdom of the crowd does not alleviate IO either, especially not on the qualitative side, because it does not require or stimulate conscious selection. This increases IO, especially in professional environments where information is directed to relatively well defined audiences. Obviously, professional communication is far from being exempt from IO. On the contrary, professional purposes require conscious critical selection of information, which seems to be very much the crux of combating IO.

Both scholars and professional writers are united into communities by their traditions, customs and practices. They share meanings and knowledge and they use regulated forms of communication, which often take the form of norms (Becher & Trowler, 2001). Among professionals, scholars need to be considered as a special group. We can say that the existence of information overload may make the originality of some scientific discoveries somewhat questionable. Nonetheless, scholarship generates information, based on organized scepticismalso in regard to the results of research. It favours cautiously reaching conclusions rather than building on conviction (Macfarlane & Cheng, 2008).

Amateur production usually lacks this scepticism. This is also one of the reasons why amateur content cannot substitute for content created by professionals and used for professional purposes (Koltay, 2011b). Popularity, a cornerstone of new media in many regards, seems to be a crucial factor here. On the one hand, ranking content according to its popularity is not appropriate for the proper production of professional content. Neither is such ranking efficient in combating IO. On the contrary, it is one of the causes of overload.

The question is not if IO hampers the discovery, identification and proper use of information. We have to find out instead which measures (skills and tools) are the most efficient in combating IO.

IO can be counteracted by taking control of one's own information environment, taking measures towards organizing information more efficiently, cultivating a rational personal information management style. All this goes hand in hand with critical thinking (Bawden & Robinson, 2009).

The intellectual standards of becoming a critic of someone's own thinking (Elder, 2011) have to be weighted as well. Focusing on relevance seems to be equally important for both categories. Focusing on fairness is of general importance, although it seems more important for amateurs. Professionals should pay special attention to focusing on accuracy, on depth and on significance. The lack of such critical thinking, the lack of adequate filters to information or failure to apply them appropriately results in IO (Davis, 2011). However, there are a number of literacies, most notably information literacy, that bring in the element of critical reading and writing.

Helpful Literacies

Because of the growing complexity of our environment, we face diverse and abundant information choices in almost all fields (Morville, 2005). Besides the multitude of choices there is abundance of information itself and easy access to information and communication technologies (ICTs). All this does not create more informed citizens without appropriate literacies (Bundy, 2004).

We can count a number of different literacies, because they depend on the varying social contexts and the varying social conditions of reading and writing. Consequently, they change in time, according to purposes and circumstances and to the people and tools involved (Lankshear & Knobel, 2004). Among the influencing factors we obviously find the existence of Web 2.0. On the other hand, we have to agree with Livingstone, van Couvering and Thumim (2008), who direct our attention to a convergence among literacies that appeared as a consequence of convergence between different forms of media and ICTs.

One of the best known forms of literacies is information literacy. IL education emphasizes critical thinking and the necessity to recognize message quality. It has strong positions among literacies despite some (well founded) scepticism, highlighting the fact that this concept and especially the *lack of information literacy* has always seemed to be of more importance to academic librarians than to any other players in the information and education arena (Bawden & Robinson, 2009). Information literacy was dominated by questions of access, because it has been dealing with media that have been far from accessible (Livingstone, van Couvering & Thumim, 2008). However, this situation has radically changed with, among others, the appearance of Web 2.0, because it offers (or rather propagates with a strong push) a tremendous variety and diversity of newer forms of information and communication resources. This requires not only choices but substantially contributes to IO, even though these forms are not entirely and genuinely new, being extensions of issues, techniques and solutions already seen on Web 1.0 (Bawden & Robinson, 2009). This situation is reflected by the appearance of the concept of digital literacy (DLi). Digital literacy links together a number of relevant literacies, including information literacy and the use of information and communication technologies, and includes an active ingredient in the form of communicating (publishing) information (Bawden, 2008). Digital literacy's core lies in the awareness, attitudes and abilities of individuals who need to use digital tools and facilities appropriately to identify, access, manage, integrate, evaluate, analyse and synthesize digital resources and communicate through media expressions with others (Martin, 2006). In DLi information seeking is coupled with critical thinking, similarly to IL, and traditional tools continue to play an important role, while it acknowledges that ordinary people became not only receivers, but senders of messages (Bawden, 2001). In some settings, especially in Central and Eastern Europe, digital literacy is often associated with and restricted to computer literacy, i.e. the skills of using ICTs efficiently (Koltay et al., 2010). Paradoxically, this understanding brings endorsement to DLi from the corporate sector and DLi may have a chance of being accepted more widely than IL. Nonetheless, this represents a chance, which is somewhat similar to the idea expressed by Luke (2002). He suggested that media literacy (another important form of literacy) can be brought into schools through the "back door" into computer literacy education and enrich it at the same time. Why should not information literacy acquire more recognition in this way?

When treating differences and similarities between IL and DLi we may adopt the point of view expressed by Špiranec and Banek Zorica (2010). According to them IL can overlap or even merge with DLi due to its focus on emerging digital environments. Let us add that it seems to be of lesser importance whether literacies of the information age are called information literacy or digital literacy (Bawden, 2001). Taking all this into consideration, we will stick to the widely accepted concept of information literacy.

Information literacy's interface with IO is relatively clear cut. With the apparent loss of gatekeepers, like reviewers, editors, librarians and others, readers themselves are required to fulfil this function (Badke, 2004). We believe that this loss may prove to be partial and temporal. One of the reasons of this is in the very nature of scholarship. It seems to resist the loss of gatekeepers by preserving peer review.

Nonetheless, the partial loss of gatekeepers causes IO and requires the application of IL skills, because there is a multitude of options, which make decisions more difficult because they require more cognitive effort (Brown, 2010).

With the heavy presence of digital media, contestation over the power and authority related to access, interpretation and production of printed texts has been magnified (Livingstone, 2004). Despite the decisive impact of ICTs on literacies it would be at the very least one-sided if we limited them to the effective use of ICTs (Lankshear & Knobel, 2004). Even more, it would be a failure to concentrate exclusively on the understanding of the technological infrastructure. Beyond that, our view of information should not be limited to issues of representation, storage and processing; we have to consider how information is used in work and social contexts to construct and share meanings and to coordinate action (Beeson, 2005).

On the whole, technology is just a tool; it does not determine how we must act (ACRL, 2000). It is literacies that help to understand the digital world better and to take meaningful courses of action. We have to understand that what is digital is subject to human agency and to human understanding. In spite of close ties to technology, IL is intimately related to literacy in its original sense, which is *reading literacy* that involves the integration of listening, speaking, reading, writing and numeracy. Thus reading literacy can be defined as an individual's ability to understand printed text and to communicate through print. Similarly, ties exist to functional literacy, which most commonly denotes the ability to read and use information essential for everyday life (Bawden, 2001). In accordance with this, we can state

that in our culture and society it is almost impossible to function without mastering the skills of written communication (Morville, 2005).

There are plausible arguments that IL should go beyond caring for the abilities of finding information and concentrating on reading. Literacies have to include the creation of information, i.e. writing (Koltay, 2009; Huvila, 2011), because literacy is a cultural knowledge that enables us to recognize and use language appropriate to different social situations (Campbell, 1990). As a result of the dynamic relationship between analysis and synthesis, information seeking is embedded in writing in a complex way (Attfield, Blandford & Dowell, 2003).

The possible emphases of contemporary education on information creation and organization (in other words IL, which takes writing into consideration) can be the following ones:

- Making information creators think about their audience(s) and emphasizing that they create information for a community of users as a part of that community;
- Focusing on simple tools in order to achieve as much as is feasible but no more;
- Emphasizing the ways information creators themselves can benefit from better-created information;
- Emphasizing that citing, reusing and linking to the existing information is a virtuous habit, while the creation of new information is desirable only when a particular kind of information does not seem to exist (Huvila, 2011).

The latter, i.e. finding or commissioning good texts by selecting, arranging, filtering and recombining pre-existing information instead of creating original texts (Geisler et al., 2001) or "reproduction literacy" as it is called by Eshet-Alkalai (2004), is prevailing in our era. This kind of "remixing" characterizes mainly amateur production. Scholarly and professional writing seems to show a certain amount of it simply due to the importance of citing existing literature. Nonetheless, professionals go beyond that, because their activities are directed towards establishing and occupying niches of research (Swales, 1990). Filling in niches means that we produce new information. This has to be done according to beliefs about performing research properly (Elmborg, 2006).

As to the use of simple tools, we have to add that professional writers do not focus only on them. They are aware of the fact that ways of producing information should not be limited to amounts of "feasible" information, among others, due to the attention towards their audiences. The question of reaching targeted audiences always has been at the centre of professional writing. These audiences are professional communities that read, interpret texts and reach consensus about interpretation (Elmborg, 2006).

There is a need to offer different literacies. One type of literacy should serve the "general public", while another has to be geared towards the needs of professionals. The example of media literacy as outlined by Potter (2008) can be serviceable to illustrate this difference. Not forgetting that media literacy is not a category but a continuum, we can still differentiate between basic and advanced stages.

The "Development Stage" is a basic one. Still, it is fully functional as people in this stage feel they are exposed to the messages and getting the meaning out of them according to their needs. This stage seems to suffice, even be desirable for amateurs. The "Critical Appreciation Stage", which is characterized by a deep understanding of the historical, economic and political contexts of messages, or the "Social Responsibility Stage" that adds amoral aspect, are required for professionals.

Conclusion

In this study we have examined some issues, related to information overload and underlined the necessity to differentiate between amateur and professional production with the aim of arguing that this dichotomy defines the nature of literacies. We added to this that amateurs and professionals have differing motivations and mental models for handling information. The world of the new media is far from ideal, where every participant would be an expert in producing information.

Information literacy, if it does not limit its scope to the abilities of finding information and reading, can be the most efficient means in combating information overload among scholars and professional writers.

Besides accounting for the complexity and varied nature of literature, we have to acknowledge that there is no single literacy that is appropriate for everyone, every time. Instead, literacies require constant updating of concepts and competencies in accordance with the changing circumstances of the information environment (Bawden et al., 2007; Shenton & Fitzgibbons, 2010).

References

ACRL (2000). *Information literacy and competency standards for higher education*. Association of College and Research Libraries. Retrieved January 8, 2012 from http://www.ala.org/ala/mgrps/divs/acrl/standards/informationliteracycompetency.cfm

Allen, M. (2008). Web 2.0: An argument against convergence. *First Monday*, *13*, Retrieved January 8, 2012 from http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/2139/1946

Attfield, S., Blandford, A., & Dowell, J. (2003). Information seeking in the context of writing: a design psychology interpretation of the 'problematic situation'. *Journal of Documentation*, *59*, 430-453.

Badke, W. (2004). *Research strategies: Finding your way through the information fog* (2nd ed.) Lincoln, NE: iUniverse.com.

Bawden, D. (2001). Information and digital literacies: a review of concepts. *Journal of Documentation, 57*, 218–259.

Bawden, D. (2008). Origins and concepts of digital literacy. In C. Lankshear and M. Knobel (Eds.) *Digital Literacies: concepts, policies and practices* (pp. 17–32) New York, NY: Peter Lang.

Bawden, D. & Robinson, L. (2009). The dark side of information: Overload, anxiety and other paradoxes and pathologies. *Journal of Information Science, 35*, 180–191.

Bawden, D. et al. (2007). Towards Curriculum 2.0: library / information education for a Web 2.0 world, *Library and Information Research, 3*. Retrieved January 8, 2012 from http://www.lirg.org.uk/lir/ojs/index.php/lir/article/view/49/74

Becher, T. & Trowler, P.L. (2001) *Academic tribes and territories: Intellectual enquiry and the culture of disciplines*. Buckingham: Open University Press.

Beeson, I. (2005). Judging relevance: a problem for e-literacy, *ITALICS*, *4*, Retrieved January 8, 2012 from http://www.ics.heacademy.ac.uk/italics/vol5iss4/beeson.pdf

Boekhorst, A. (2003). Becoming information literate in the Netherlands. *Library Review*, *52*, 298-309.

Brown, D. (2010). Eight principles of information architecture. *Bulletin of the American Society for Information Science and Technology*, *36*, 30-34.

Bundy, A. (2004). One essential direction: Information literacy, information technology fluency. *Journal of eLiteracy*, *1*. Retrieved January 8, 2012 from http://www.jelit.org/6/

Campbell, B. (1990). What is literacy? Acquiring and using literacy skills. *Australasian Public Libraries and Information Services*, *3*, 149-152.

Csepeli, Gy. (2008). "Wikitudás," *Kritika, 37*, 2-4.

Davis, N. (2011). Information overload, reloaded. *Bulletin of the American Society for Information Science and Technology*, *37*, 45–49. Retrieved January 8, 2012 from http://www.asis.org/Bulletin/Jun-11/JunJul11_Davis.html

Elder, L. (2011). Becoming a critic of your own thinking. *HR Matters Magazine*, *15*, Retrieved January 8, 2012 from http://www.hr-matters.info/feat2011/2011.jul.BecomingACriticOfYourOwnThinking.htm

Elmborg, J. (2006). Critical information literacy: Implications for instructional practice. *Journal of Academic Librarianship*, *32*, 192-199.

Eshet-Alkalai, Y. (2004). Digital literacy: a conceptual framework for survival skills in the digital era. *Journal of Educational Multimedia and Hypermedia*, *13*, 93–106. Retrieved January 8, 2012 from http://www.openu.ac.il/Personal_sites/download/Digital-literacy2004-JEMH.pdf

Geisler, Ch. et al. (2001). ITex. Future directions for research on the relationship between information technology and writing. *Journal of Business and Technical Communication*, *15*, 269-308.

Hinton, A. (2009). The machineries of context: New architectures for a new dimension. *Journal of Information Architecture*, *1*, 37-47.

Huvila, I. (2011). The complete information literacy? Unforgetting creation and organization of information. *Journal of Librarianship and Information Science*, *43*, 237-245.

Jarrett, K. (2008). Interactivity is Evil! A critical investigation of Web 2.0 *First Monday*, *13,* Retrieved January 8, 2012 from http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/2140/1947

Keen, A. (2007). *The cult of the amateur*. London: Nicholas Brealey Publishing.

Koltay T. (2009). Abstracting: information literacy on a professional level. *Journal of Documentation*, *65*, 841–855.

Koltay, T. (2011a) New media and literacies: Amateurs vs. professionals. *First Monday*, *16.* Retrieved January 8, 2012 from http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/3206/2748

Koltay, T. (2011b). Information literacy for amateurs and professionals: The potential of academic, special and public libraries. *Library Review*, *60*, 246–257.

Koltay T. (2011c). Information overload, information architecture and digital literacy. *Bulletin of the American Society for Information Science and Technology, 38,* 33–35. Retrieved January 8, 2011 from http://www.asis.org/Bulletin/Oct-11/OctNov11_Koltay.pdf

Koltay, T. et al. (2010). Information literacy in the Visegrad group countries: Literature and initiatives. *Education for Information*, 28, 57–76.

Lankshear, C. & Knobel, M. (2004). *"New" literacies: Research and social practice*. Retrieved April 30, 2012 from http://www.cs.uta.fi/~mm77802/A3/dokkari.doc

Livingstone, S. (2004). Media literacy and the challenge of new information and communication technologies. *Communication Review*, *7*, 3–14.

Livingstone, S., van Couvering, E. J., & Thumim, N. (2008). Converging traditions of research on media and information literacies: Disciplinary and methodological issues. In D.J. Leu et al. (Eds.) *Handbook of Research on New Literacies*. (pp. 103-132.) Hillsdale, NJ: Lawrence Erlbaum Associates.

Luke, C. (2002). Re-crafting media and ICT literacies. In D. Alverman (Ed.) *Adolescents and literacies in a digital world.* (pp. 132–146) Peter Lang, New York, NY.

Martin, A. (2006). Literacies for the digital age. In A. Martin & D. Madigan (Eds.) *Digital literacies for learning* (pp. 3-25.) London: Facet.

Macfarlane, B. & Cheng, M. (2008). Communism, universalism and disinterestedness: Re-examining contemporary support among academics for Merton's Scientific Norms. *Journal of Academic Ethics, 6*, 67-78.

Morville, P. (2005). *Ambient findability*. Sebastopol, CA: O'Reilly.

Potter, W.J. (2008). *Media literacy*. (4th ed). Los Angeles, CA: Sage.

Shenton, A.K. & Fitzgibbons, M. (2010). Making information literacy relevant, *Library Review*, *59*, 165-174.

Špiranec, S. & Banek Zorica, M. (2010). Information literacy 2.0: hype or discourse refinement? *Journal of Documentation*, *66*, 140-153.

Sundin, O. (2011). Janitors of knowledge: constructing knowledge in the everyday life of Wikipedia editors. *Journal of Documentation*, *67*, 840-862.

Swales, J.M. (1990). *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press.