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# Information Literacy in participatory environments

## The turn towards a critical literacy perspective

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Turn towards  
a critical  
literacy  
perspective

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### Abstract

**Purpose** – The purpose of this paper is to make a contribution to the theoretical and pragmatic positioning of critical information literacy by interpreting it in the light of epistemological shifts brought about by Web 2.0. Epistemological shifts are elaborated from educational and institutional perspectives as well as from that of scientific research.

**Design/methodology/approach** – This paper brings a theoretical analysis drawing on relevant literature for the purpose of identifying the grounds for the mapping of concepts associated with critical information literacy and participatory information environments. Based on descriptive analysis, the paper clarifies distinctions between/participatory/and /information bank/environments and identifies correlations existing between CIL and participatory information environments.

**Findings** – There are conceptual disagreements between IL as it was defined and perceived by Zurkowski and how it has to be perceived in the context of contemporary participatory information environments. Current environments are congruent with the core principles and values of critical information literacy and call for the reshaping of IL by introducing into it critical and transformative elements. Not technological aspects of Web 2.0 are crucial in this regard, but epistemological shifts.

**Practical implications** – Owing to the fact that Web 2.0 and critical information literacy share many similar features, information environments based on participatory technologies and services provide a context ideally suited for the application of the principles of CIL.

**Social implications** – The paper highlights the correlating dimensions between Web 2.0 and critical information literacy and proposes that Web 2.0 makes necessary a more critical outlook on information literacy.

**Originality/value** – The paper highlights the correlating dimensions between Web 2.0 and critical information literacy, indicates specific differences between information literacy and critical information literacy and closes with the conclusion that Web 2.0 makes necessary a more critical outlook on information literacy.

**Keywords** Information literacy, Web 2.0, Critical literacy, Participatory environments, Threshold concepts, Zurkowski

**Paper type** Conceptual paper

### 1. Introduction

For more than a decade there has been a general consensus on the definition of IL, based on the insight that it is characterised more by convergence than by divergence (Owusu-Ansah, 2003). However, such common agreement is present more on the pragmatic level, denoting “what generally counts as information literacy”, while the theoretical level is teeming with differing conceptualisations coexisting in an often uneasy atmosphere of theoretical pluralism.

On both theoretical and practical levels IL is still often thought of in functionalistic terms, principally being associated with abilities such as those to access, evaluate and use information. This basic nucleus is contained and clearly articulated in many widely accepted definitions, early publications and statements concerning IL (ALA, 1989;



Association of College and Research Libraries, 2000; UNESCO, 2003; Australian and New Zealand Information Literacy Framework, 2004; etc.). However, for several years now the approach characteristic of these statements has been qualified as functionalistic and therefore criticised for limiting information literacy to a set of decontextualised skills (Jacobs, 2008) that can hardly be applied in real-life situations. In such a context IL is conceived purely as a means to achieving one specific and instrumentally defined purpose, not enabling a deeper understanding of a problem at hand (Whitworth, 2009). The functionalist approach provides IL with a measurable framework, but reduces it to fragmented and isolated units (Webber and Johnston, 2000). Precisely critical information literacy provides an adequate conceptual counterbalance to this pragmatic, but nevertheless limiting perspective of IL, incorporating but not being limited to instrumental and functional dimensions (e.g. how to pursue an aim or fulfil a specific task) and encompassing ethical issues and issues associated with critical thinking and awareness. Taking such an approach, information literate people may be described as those who “are aware of when it is necessary to bring functional skills into play, but also when to transcend them” (Whitworth, 2012). Thus, the re-conceptualisation of IL based on the principles of CIL results in its becoming holistically dimensioned, similar to what has already been articulated by Bruce (1997). However, the question of how to “engage in this expanded notion of information literacy” still remains unresolved (Jacobs, 2008, 2014; Elmborg, 2012).

Critical information literacy has emerged as a significant area of inquiry, offering an alternative paradigm, or “lens”, through which to look at information literacy (Jacobs, 2014). This alternative view that CIL offers provides IL with a less prescriptive and measurable dimension focusing on “conscientization”, i.e. awareness-raising, which is equally difficult to capture in theory as it is to achieve it in practice. Referring to the same problem, Elmborg (2012, p. 78) posed the question of what it actually means to “do” critical information literacy.

The aim of this paper is to make a contribution to the theoretical and pragmatic positioning of CIL by interpreting it in the light of recent shifts in information environments. To be more specific, CIL will be described within the context of epistemic shifts brought about by Web 2.0 and social media. The paper will demonstrate the conceptual disagreements that we believe exist between IL as it was defined and perceived by Zurkowski (1974) and how it has to be perceived in the context of current information environments, which – being participatory, conversational and constructive in nature – are congruent with the core principles and values of CIL. The paper will also highlight the correlating dimensions existing between Web 2.0 and critical information literacy, indicate specific differences between information literacy and critical information literacy and close with the conclusion that Web 2.0 makes necessary a more critical outlook on information literacy.

## **2. Transformations in information literacy: from observation to participation, from documents to communities**

An analysis of the history of IL reveals its transformative character. Although it is difficult to even enumerate, let alone systematise all the different shifts that IL went through in the course of its development, it is possible to quickly identify one crucial element that has triggered all previous re-conceptualisations, transformations or shifts in the practical understanding of IL – information environment.

Information literacy, at a level of its central features, has always been influenced and determined by the current information environment (Špiranec and Banek Zorica, 2010), changing its scope and focus according to changes occurring in a given information

environment. Explicitly or implicitly, many authors have so far acknowledged the causal relationship existing between information environments and IL (Shapiro and Hughes, 1996; Sundin, 2008; Špiranec and Banek Zorica, 2010; Markless and Streatfield, 2009; Farkas, 2011; Mackey and Jacobson, 2011). IL reflects the characteristics and features of an information environment within which it evolves, is researched or implemented. It is precisely owing to challenges arising from contemporary information practices and due to the need for engaging with today's complex information ecologies that the concept has appeared in the first place. However, if we take a closer look at the first formulations and definitions of IL we quickly notice that they were rather technology-and-resource oriented, meaning that they presented IL as almost exclusively based on information tools and resources. To be more precise, we could say that the main factor that triggered the introduction of IL was the growing complexity in the handling of information resulting from the related rapid growth in the amount of information. For instance, Zurkowski (1974, p. 6), who coined the term, defined information literates as those who are trained in using information resources in their work, along with explicitly specifying different types of information resources as information banks, various databases or indices provided by only several companies. The trend of commenting on IL developments from the perspective of technological changes occurring in the information environment continued throughout the 1980s (Behrens, 1994).

Although later writings about IL continued to insist on technological changes as a major driver of its development, looking at IL through a solely technological "lens" would leave us with a rather limited framework for interpreting its development. In the process of the conceptual evolvement of IL we can see how its interpretations have gradually been taking it farther and farther away from bare technological literacy. Representative in this regard are the writings of Shapiro and Huges, who defined IL as encompassing a set of skills ranging from knowing how to use a computer and access information to being able to critically reflect on the nature of given information, i.e. its technical, social and cultural dimension as well as the impact it has on its environment (Shapiro and Hughes, 1996). Similar arguments can be found in Gilster (1997) who, in describing the term "digital literacy" stressed the need to use a wide variety of information and information sources, in whatever format. Thus, the development of IL is conditioned not only by changes in technology, but by changes in the overall information environment as well, and taking this into consideration enables us to take one holistic approach necessary for interpreting the development of IL and its transformations so far. Information environment, not technology, was indicated as the key driver for the development of IL by Talja and Lloyd (2010, p. X): "As literacy originated from text-based information environments, so too did information literacy as a teaching project, stimulated especially by the availability of reference databases and other finding aids in libraries. Information literacy was first understood as 'systematic research skills' and, more specifically, 'library-based research'".

In much the same vein, Bawden (2014, pp. 14-15) argued that technology-focused IL conceptualisations are rather narrow, proposing that IL should be regarded as "a conceptual understanding of, and ability to adapt to, changing information environments/ecologies/contexts". Whitworth (2014, p. 56) stressed that IL was never conceived to be wholly technical and in this context cited IL pioneers such as Zurkowski, Burchinal and Hamelink, who, in varying degrees, insisted on distinguishing IL from information systems owing to its intrinsic human element, which does not easily lend itself to systematisation and which makes necessary

approaching IL as encompassing “people not as akin to components in a machine or information system, but as manifesting essential aspects of knowledge formation which cannot be systematised”.

Changes in information environments have led to transformations in IL, at both its theoretical and practical level. In pragmatic terms, IL appeared owing to transformations which resulted in user education being succeeded by more specific bibliographic instruction (BI), whose place was then taken by IL. While BI mainly focused on teaching tools, techniques and strategies for using a specific library’s information resources, IL is concerned with more general concepts and problems, thus moving away from isolated instruction exclusively bound to library context towards partnerships where educational institutions and libraries collaborate in teaching IL. BI as a forerunner of IL was clearly oriented towards print-based environments and deeply rooted in the text-and-document paradigm. Craig Gibson (2008) stressed that the BI movement could be considered successful in terms of the response it provided in relation to book-oriented library tasks, but criticised it for its being reactive, limited, place-bound and constrained in terms of its ability to achieve wider impact. IL transcends this library-oriented paradigm, as pointed out by Owusu-Ansah (2004, p. 5), who argued that “IL goes beyond teaching mainly retrieval skills, to addressing a more total research environment in the course of finding and using information”.

Expressing a similar view, Farkas (2011) made a distinction between separate evolutionary stages in the development of IL appearing as a result of the succession of different information environments, and these are: library-focused user education, internet-focused IL education and IL in the context of Web 2.0. During its first era IL directly reflected its print-based environment, where its purpose was mainly to educate the user to find information using the available print resources (e.g. how to use library catalogues, bibliographies, etc.). The second stage coincides with the appearance of the web and internet. Farkas (2011) refers to this phase as being skills-oriented, drawing attention to its focusing on procedural skills to be applied in closed and highly structured systems such as academic databases. The third stage is a result of the emergence of Web 2.0 and it is characterised by lower predictability, more complex information structures, socially produced information and the unprecedented need for critical thinking and the ability to evaluate information. Mackey and Jacobson (2011) also have emphasised the influence of social media environments and online communities that have challenged traditional definitions of IL. They argue that producing and sharing information are significant activities in social media environments and need to be considered in conceptual frameworks for IL. The impact that developments in particular information environments have on IL was also interpreted by Sundin (2008), who identified four approaches to IL: the source approach, behavioural approach, process approach and communication approach. These approaches differ in aspects such as user engagement, teaching interests, features of information seeking, context, etc. Sundin’s research, as part of which he came up with an empirical framework of IL, led him to outline stages in the development of IL where those initial are closely related to user education and characterised by a rather specific resource orientation, making his conclusions similar to those of Zurkowski. The last stage identified by Sundin is that of communication and it emerged as a result of new multimodal and socially mediated information landscapes. The features of this stage are compatible with the characteristics of information environments that have arisen from the Web 2.0 environment and call for shifts in the understanding of IL.

As in the case of pragmatic shifts, variations at the theoretical level of IL can also be explained in the light of changes in particular information environments. Looking at IL through a theoretical lens involves taking into consideration various epistemological schools of thought as well as different approaches, e.g. behavioural, cognitive, constructivist, relational, etc. According to Julien and Williamson (2011), authors such as Tuominen, Elmborg and Lloyd favoured constructionist approaches to IL research over those associated with taking constructivist or cognitive perspectives. These constructionist-oriented writings suggest that IL is influenced by complex contextual, social and cultural factors and in this way take IL away from neutral and linear perspectives focusing on skill deployment which have also been challenged by other authors in the field of both LIS and IL (Marcum, 2002; Webber and Johnston, 2000; Markless and Streatfield, 2009; Bawden and Robinson, 2009). Although linear and neutral approaches may to some extent be suitable for the analyses and conceptualisations of IL in print-based and analogue environments, they are nevertheless entirely unable to respond to challenges posed by the web and highly participatory information environments brought about by its rapid growth.

### 3. Web 2.0 and shifting epistemologies

As discussed in the previous section, IL has so far gone through theoretical and pragmatic shifts resulting from transformations in specific information environments. Advanced approaches and issues in IL appeared as a result of the emergence of the world wide web and increasingly complex and non-linear information environments arising from it. Still, during the web's first couple of years the individual was pretty much a passive user, i.e. a recipient of information, while the production of knowledge continued to proceed based on "the rules of the game" that originated in print-based environments. However, the advent of Web 2.0 spawned a knowledge paradigm that marked a departure from linear notions associated with the accumulation, growth, acquirement and "hierarchisation" of knowledge. In this new paradigm users are able to switch between several roles by also becoming the producers, creators and co-creators of information. Diverse populations of users, new frontiers for information creation, issues associated with the organisation, dissemination and provision of information, as well as information-related services, all feature as major challenges identified with this "World 2.0", which is equally characterised by new technologies as by extremely dynamic societal developments (Allard, 2009). In effect, as expressed by Bollier (2003, p. 20), the Web 2.0 environment unleashes the full potential of peer production, in which context everyone may be a creator and which thus stimulates "more idiosyncratic, unpredictable, and democratic genres of expression". Common attributes used to describe the impact that Web 2.0 and social media have on knowledge generation and use are "democratic", "disruptive" (Cope and Kalantzis, 2009), "shifting" (Dede, 2008) and "distorting" (Schiltz *et al.*, 2007). By drawing on distinctions between traditional perceptions of knowledge and approaches to knowledge present in Web 2.0 environments, Dede describes a Web 2.0-generated "seismic shift in epistemology". From a traditional perspective, according to which a single right answer is believed to underlie each phenomenon, "knowledge" consists of firmly structured interrelationships between facts obtained as a result of unbiased research providing unambiguous evidence on systemic causes. On the other hand, "knowledge" in the context of Web 2.0 is defined as a collective agreement on the description of a particular phenomenon where facts may be combined with other aspects of human experience such as opinions, values and spiritual beliefs (Dede, 2008).

Thus, it is obvious that collective production and sharing of information deeply affects the generation of knowledge as well as the role of the individual user, who is no longer at the “bottoms of the intellectual totem poles” but is now “situated well within its horizontal structure – a node in the network” (Han, 2010, p. 2). Jarrett (2008) expands on this perspective by relating it to the re-distribution of social influence and the social and political empowerment of the individual: “Key sites of the Web 2.0 phenomenon have been celebrated as locations for the articulation of individual and collective social power by enhancing participation in media production and cultural expression”. Such a profound impact is a direct result of the following characteristics of Web 2.0 practices (Bonderup Dohn, 2009, p. 345):

- collaboration and/or distributed authorship;
- active, open-access, “bottom-up” participation and interactive multi-way communication;
- continuous production, reproduction and transformation of material in use and reuse across contexts;
- openness of content, renunciation of copyright, distributed ownership; and
- lack of finality, “awareness-in-practice” of the “open-endedness” of the activity.

In attempting to establish correlations between the transformative and critical perspectives on IL and the Web 2.0 environment, we may analyse epistemological shifts in this context from three different perspectives: institutional (Elmborg, 2012; Deodato, 2014), research-related (Veletsianos and Kimmons, 2012; Shanbhag, 2006) and educational (Eijkman, 2008).

Epistemological shifts brought about by Web 2.0 are absolutely relevant in relation to perceptions of information within LIS, with particular significance for the activity of libraries as institutions. Although they declare themselves to be guided in their work – and the organisation of information in particular – by the principles of neutrality, objectivity and positivist-oriented views on knowledge and “truth”, they have been criticised for actually reinforcing a worldview dominating a society which they operate as part of (Elmborg, 2012; Deodato, 2014) and organising information in a manner that “silences” particular social groups (Doherty, 2007). Deodato further argues that libraries do not simply organise knowledge but construct it. These “constructs” tend to reflect and reinforce the values, biases, and worldviews of the dominant culture and maintain and reproduce existing power relations. Thus, being based on the traditional view of information as something intrinsically objective and unproblematic which may more or less easily be organised in an objective and neutral way, libraries feature as counterpoints to transformative and emancipatory perspectives. A shift towards subjective, user-oriented and contextual perspectives brought about by Web 2.0 has recently resulted in the introduction of more variable, heterogeneous and dialogic approaches into knowledge organisation, providing ample opportunity for user-participation and “facilitating the expression of marginalized discourses within the construction of knowledge” (Deodato, 2014, p. 743).

The second perspective that we may analyse epistemological shifts from is related to research processes, and these have undergone significant changes under the influence of Web 2.0 environments. Traditionally, research proceeds based on the following of a rather centralised and highly structured model: in the creation of new knowledge the researcher goes through the processes of peer review, using specific

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methods and adhering to equally specific values in both the creation of knowledge and its communication. During this process, he has little choice but to use the already well-established channels of dissemination accepted and preferred by the research community. It was with the growth of Web 2.0 and social media that this epistemologically ordered, linear and tightly controlled model began to change. This traditional model also decisively shaped the core concepts and practices of IL by determining appropriate genres and places for researching and communicating information, not at all accounting for the existence of different and often conflicting versions of reality. This was well expressed by Shanbhag (2006), who argued that absolute dependence on such a traditional model is problematic, since it relies on a linear and over-simplified trajectory of knowledge and fails to convey the process of knowledge production as a continuous negotiation between different stakeholders in time and space. On the other hand, possible alternative models would facilitate critical inquiry that would be taking into consideration multiple ways of thinking, learning, reasoning and arriving at “the truth”. Writing about new models of scholarship in the context of social networks, Veletsianos and Kimmons (2012, p. 770) argue that these new models “break away from norms of 20th century university scholarship with regard to fundamental epistemological questions regarding what knowledge is, how it is gained, how it is verified, how it is shared, and how it should be valued. These epistemological reframings of learning take form in scholarly practice in a variety of ways, but they are perhaps most noticeable in how scholars are increasingly beginning to question many heretofore non-negotiable artefacts of the 20th century scholarly world”.

Finally, when analysing epistemological shifts triggered by Web 2.0, it is crucially important to take into account the third, i.e. educational perspective. In this regard, Eijkman (2008) argues that the architecture of user-participation, so characteristic of and deeply ingrained in Web 2.0 environments, calls for a radical reframing of our approach to knowledge and learning. He goes on to devise an epistemological spectrum accounting for differing approaches to knowledge, whose one end represents approaches based on a view that truth is in its nature external and objective and where the academic community is recognised as its ultimate source, whereas its other end represents approaches based on a view that reality (and therefore knowledge that may be extracted from it) is socially constructed. This “other” end is the one that Web 2.0 is providing momentum for and which is increasingly challenging conventional views on the very nature of knowledge, learning and academia’s role as the supreme authority for the affirmation of (“true” and “valid”) knowledge. Thus, Web 2.0 spawns a new paradigm precisely because its architecture of participation encourages a non-elitist social construction of knowledge in which the authority for the validation of knowledge rests with decentralised and diverse networks employing a great variety of approaches to arriving at knowledge. Eijkman particularly emphasises the difference between educational practices based on the traditional educational paradigm, rooted in the acquisition metaphor, as opposed to Web 2.0-based practices, which are rooted in the participation metaphor. Being aware of this split and looking at it in the context of shifting epistemologies, we may conclude that Web 2.0 has the potential to trigger off conceptual shifts in IL and introduce into it participatory and other transformative aspects. A strong transformative quality and participation are the central features of a subcategory of IL, usually referred to as critical information literacy or CIL (Swanson, 2004; Kapitzke, 2001; Jacobs, 2014; Whitworth, 2014), and described in greater detail in the next section.



#### 4. Critical information literacy

Critical perspectives have been central to IL since its very beginnings and critical thinking has always occupied a prominent place in literature dealing with the evaluation of information sources (e.g. Breivik and Gee, 1989). Whitworth ascribed this to the impact of the criticism of positivist-oriented social science and the related introduction of the interpretationist approach. However, really taking a critical perspective requires one to take a step further and overcome limitations inherent in the interpretationist approach, which does not allow “an examination of the conditions which g[a]ve rise to the actions, rules and beliefs which it [or rather now, the information literate actor] seeks to explicate” (Whitworth, 2006). The notion that the interpretationist approach enabled not much more than a mere recognition, deconstruction and only a superficial interpretation of these underlying conditions prompted a reconceptualization of the normative postulates of IL based on critical pedagogy. It was the work of Paulo Freire, introduced to IL in the 1976 paper by Hamelink, that provided authors like Elmborg (2006) and Jacobs (2008) with ideas for developing alternative IL practices. Critical pedagogy reshaped their outlook on IL and made them recognise a need for both reflective and transformative practice, i.e. a praxis where practice is informed by theory and vice versa. Such CIL praxis has to be deeply rooted in the actual context surrounding a given issue or phenomenon, its “life” and problems, but also be characterised by a strong transformative quality, being able to bring about changes. Thus, a critical perspective implies an orientation towards change and transformation, looks to the future and always questions and challenges the current “state of affairs”, whether it be related to an individual, organisation or the entire society. Still, as it was previously pointed out, these theoretical orientations do not provide satisfactory explanations to what it actually means to “do” CIL, along with leaving unanswered the question of the kind and amount of knowledge added as a result of this expanded notion of IL. According to critical pedagogy it is necessary to re-examine both the content of as well as the approach taken in IL instruction. Another significant presumption in this context is that the student should be placed at the centre of the learning process and empowered to think and solve problems on his own. In this way the student assumes primary responsibility for his own learning, with his teacher acting as facilitator. Ensuing from this is a proactive approach aimed at resolving research questions in a manner in which the obtained answers have actual, i.e. real-life value, instead of being made up simply to corroborate the teacher’s explanations (Freire, 2000).

The new Association of College & Research Libraries (2014) Information Literacy Framework for Higher Education, formulated to update and in some of its aspects entirely replace ACRL Information Literacy Competency Standards for Higher Education (2000), expresses well what a more critically-oriented IL instruction is all about, especially in terms of the content it should address. The 2015 ACRL Framework is especially interesting in the context of advocating CIL-oriented perspectives, since it integrates all elements of criticism of the international IL community directed at the 2000 ACRL Standards on account of its positivist orientation. Furthermore, the Framework introduces one particular novelty – the controversial “threshold concepts”, or TCs. They were defined by Meyer and Land as “the core ideas and processes in any discipline that define the discipline, but that are so ingrained that they often go unspoken or unrecognized by practitioners” (Townsend *et al.*, 2011, p. 854). By introducing TCs the Framework has integrated insights from all major alternative theoretical IL perspectives (best outlined by Limberg *et al.*, 2012 and subsequently synthesised by Whitworth, 2014). Abiding by its declared purpose, which was to re-think IL

“for a world that has changed radically since the turn of the 21st century” (Gibson and Jacobson, 2014), the Framework makes a marked turn towards the reflective CIL sphere and in its central ideas bears a strong resemblance to views which were already expressed in earlier writings on CIL. For example, it is pointed out in the Framework that authority is constructed and contextual, much like it was emphasised earlier by Kapitzke that “information and its outcome, knowledge, are not static, unquestionable, and authoritative entities; rather, they are products of culturally specific spaces and relations of power that directly or indirectly include and exclude those without access to their discursive forms and practices” (2003, p. 9). The Framework further states that scholarship may be regarded as conversation, as it was previously stated by Holschuh Simmons, who argued that “students must be given the opportunity to see discourse within disciplinary genres not as natural but as constructed for specific communicative and dialogic reasons” (2005, p. 306). As opposed to many points that the Framework shares with CIL theory, it is also different from it in that it does not focus that much on challenging structures such as knowledge structures or political, economic and social structures. As to criticism that the Framework itself has so far received, authors such as Saračević (2014) Wilkinson (2014) or Morgan (2015) challenge threshold concepts as the basic foundation of the Framework. Saračević criticised TCs for their not being empirically testable nor based on any practical evidence and thus not providing a reliable pragmatic framework, while Wilkinson and Morgan defined the characteristics of TCs as being probable, intentionally vague, conceptually muddled, agent-relative and reductionist.

On the other hand, insights gained from critical theory indicate that pragmatic grounding is not in itself sufficient. As Shor and Freire (1987) would argue, education is always directive. Even though we may try to decentralise authority in the pedagogical process we still require our whats and hows to be rather clearly defined. These contradictions may be overcome by taking into consideration the proposal of critical theory according to which whats and hows should come neither as general prescriptions nor be based on narrow situational contexts, but instead be derived from praxis. In the next section we will discuss factors shaping this praxis, which has recently been under the strong impact of participatory information environments.

### **5. Critical information literacy in the age of participation**

The main distinctive features of CIL are its transformative quality and activist potential, in the sense that CIL requires individuals to step outside their personal paradigms and consider alternative paradigms in order to re-examine, enhance or completely transform either themselves or society. Since the basic characteristics of Web 2.0 services go hand in hand with these predominant features of CIL, it is only logical to conclude that Web 2.0-based participatory information environments may facilitate and prompt CIL, in which context the technological aspects of these environments play only a secondary role. The factor that is making Web 2.0 so stimulating for CIL are the previously discussed epistemological shifts prompted by Web 2.0 and the related new potentials of information production that it has unleashed. Web 2.0-based participatory information environments made possible hearing and being heard, enabling the individual to hear other, alternative voices outside accepted canons and paradigms, as well as to be heard as one of these alternative voices. This being heard implies that he produces his own information, in which capacity, according to Andretta (2006), he fits the profile of the active citizen.

CIL can be understood as an evolution and maturation in the development of more generic IL concepts and the shift towards more critically-oriented IL concepts may be interpreted in the light of transformations occurring in the information environment. A useful framework for analysing such shifts are IL conceptualisations outlined by Lupton and Bruce (2010, p. 4), who have identified three conceptual lenses that have shaped IL discourses:

- generic skills (behavioural) lens;
- situative and social practice (sociocultural) lens; and
- transformative (critical) lens.

Using these lenses, which can be understood as a general frame or a constellation of ideas, enables us to encompass all information environments that have appeared so far, from print-based to socially constructed, participatory and controversial information environments.

These different conceptual lenses cannot be perceived as occurring in sequence, with later lenses appearing as replacements for the previous, but denote shifting perceptions of literacy which are prompted by transformations in the information environment. Lupton and Bruce (2010, p. 5) point out that when looking at literacy from the first, generic perspective, it represents a discrete set of skills to be acquired and is neutral, objective, text-based, apolitical, reproductive, standardised and universal. When taking the second, situative and social perspective, literacy becomes contextual, authentic, collaborative and participatory, while the third, transformative lens, takes literacy beyond sociocultural practices where it becomes associated with emancipatory processes challenging the status quo in order to bring about (social) change(s). It is in this context that literacy is regarded as critical, awareness-raising, empowering, political, etc.

The first, behavioural and generic-skills-oriented perspective clearly reflects an ordered, centrally managed and document-centric information universe, while situational, social and critical perspectives encompass user-centred and participatory approaches with new frontiers for the creation, organisation and dissemination of information, as well as information-related services. Generic approaches, which are widely present and implemented in IL standards, mainly focus on documents and document-like information sources and collections, which have to be searched, accessed, evaluated and used, and in which context the user searches/evaluates/uses/creates a single document (1:1) or a number of documents belonging to one or several different collections (1:n). As opposed to such a linear, "lockstep" model, where information interactions occur between one person and a more or less strictly defined body of knowledge, interactions in Web 2.0-based information environments involve large numbers of people and occur within communities (Harris, 2008), meaning that people discover, evaluate, use and produce information being part of various networks and communities. Collaborative and participatory Web 2.0 environments have spawned conditions where, to an unprecedented extent, literally all individuals, authorities and communities may function as sources, filters, digesters and (co-) creators of information. In such an environment IL may no longer be conceptualised as individual, but as intrinsically social and participatory, in which context we may clearly see that features setting apart participatory environments from former information environments similarly set apart generic IL from CIL. Another significant element in which these two concepts significantly diverge is the way in which

information is understood within the two – as a “thing”, according to a truth-as-object disposition of IL, or as a product of human interaction, according to a truth-as-conversation disposition of CIL, so markedly congruent with a dialogic character of Web 2.0.

An additional argument supporting the view that the Web 2.0 environment is a catalyst for CIL follows from analysing generic and functional approaches originally laid out by Zurkowski (1974). We believe that owing to the opposed features and attributes of Zurkowski’s “information bank” environments on the one hand and contemporary participatory environments on the other, the principal features of IL vary accordingly, depending on which of the two environments IL is a part of. As noted earlier, Zurkowski’s approach to IL may be perceived as functionalist and is characterised by a language focusing on productivity (Elmborg, 2012, p. 87). It openly focused on the economic success of the US industry (Whitworth, 2014, p. 30) and was seen as the means for carrying out the national mission on maximising economic productivity and creating a highly competitive workforce for the twenty first century (Elmborg, 2012). Central to Zurkowski’s approach were the so-called “information banks” – information sources made available by particular “institutions” and used by the information literate, which Zurkowski defined as those “able to find out what is known or knowable”. Owing to its being highly instrumental, such a perspective stands in direct opposition to the core principles of CIL, as well as to the principles underlying contemporary Web 2.0-based participatory information environments, as follows.

### 5.1 “Information banks”

The idea of information banks is based on the notions of structure, compactness and singularity. It presupposes the existence of explicit information that is structured and organised and may be retrieved, along with implying strict criteria defining what information is worth being stored. As opposed to data banks, information banks provide meaningful and useful data, which have been given form and functionality. Both form and functionality are ascribed on the basis of some kind of authority, reflecting perceptions, views or ideas held by particular groups or establishments. In his seminal paper on CIL, Elmborg challenged the existing perception of the library as a passive information bank, where students and faculty make knowledge deposits and withdrawals, and proposed an alternative perception of it as a “place where students actively engage with existing knowledge and shape it to their own current and future uses” (2006, p. 193). Such a turn would make libraries more dialogic in nature and in this way more geared towards the core principles of CIL.

### 5.2 “Being able to find out what is known or knowable”

Considered out of context, it does not seem that this definition by Zurkowski of what it means to be information literate in any way challenges the core principles of CIL. However, regarded in the context of information being pre-selected, stored and organised in information banks, we become aware of boundaries of “what is known or knowable” implied by it. Such limitations contradict the basic principles of both Web 2.0 and CIL, in their disregard for a multitude of views “outside the canon” or accepted paradigms. According to Doherty (2007), giving voice to what so far has been silenced is perhaps the most important role CIL can play. Activist potential, mentioned by many authors in their descriptions of CIL (e.g. Swanson, 2004; Doherty, 2007; Jacobs, 2008),

indicates the requirement for the individual to step outside existing paradigms and pay attention to dissonant voices. In other words, the acquisition and use of true knowledge and a genuine effort to “find out what is known”, and especially “what is knowable”, implies the abandoning of linear and “lockstep” traditional models and a rigidly hierarchical top-down discourse based on the notion of the existence of predefined and straightforward right/wrong answers, and instead acting on principles that are entirely compatible with those of Web 2.0.

### 5.3 “Institutions”

Zurkowski’s approach to IL is rooted in the idea of institutionalised information creation. What is knowable or evaluated as having information value is processed and stored in information banks to be disseminated by institutions privileged to model and spread “authorised” and “proper” knowledge. Such an approach is characterised by an utter disregard for the “availability of multiple and alternative solutions and naturalizes the information process, making it immune to discursive interrogation and transformation” (Kapitzke, 2003, p. 51), meaning that institutions severely restrict the information flow, by preselecting information in the first place, and then by subsequently filtering it even further. Contrary to such conditions, authority in the Web 2.0 environment is decentralised and de-institutionalised, while information, instead of being compact, is granular, multi-layered and context-embedded. The idea of de-institutionalisation discussed as part of CIL discourse was already, though indirectly, put forward by Kapitzke (2001), who argued that making a genuinely critical turn in IL requires taking it out of the confines of the library and transplanting it to the arenas of language, social interaction and multimodal information. Such transformations in curriculum and pedagogy would entail the remodelling of the conventional notions of text, knowledge and authority (Kapitzke, 2001). All this would inevitably challenge many of the institutionalised aspects of information production and use, from academic publishing and peer-review mechanisms to conditions surrounding access to information and the role of libraries and repositories as institutions taking a selective and biased approach in their structuring and organising of information.

Our reinterpretation of IL as it was originally defined and perceived by Zurkowski in the light of features characterising contemporary information environments clearly shows that these present environments make necessary the reshaping of IL which would make it more critically oriented and transformative in nature. Distinctive features between both the former and present information environment as well as between Zurkowski’s and critical IL have been summarised in Table I.

Current Web 2.0-based environments are essentially participation- and conversation-oriented. Instead of being a passive recipient of accepted and authorised information, the individual is now in the position to (re)structure information environments and knowledge flow(s), as well as to (co)create and negotiate information. CIL is thus not only about acknowledging the plurality of viewpoints existing outside centralised and authoritative information banks and challenging information provided by these information banks, but also about adding one’s own voice or viewpoint to this diversity and participating in ongoing “conversations”. And when it comes to challenging, it is closely related to one’s ability to understand information environments and take a critical outlook on any social, political and economic ideology operating as a background for information. In the words of Elmborg (2012, p. 86), CIL prompts one to “get beyond surface descriptions of information to ask

INFORMATION LITERACY		CRITICAL INFORMATION LITERACY		
Information bank environment	structured systems	information as objective thing	information as ideology	negotiation
	resource-based	informational acquisition	information participation	participatory
	information filters	functional	critical	different voices
	closed systems	monologue	dialogue	conversational
	effective/efficient	instrumental	transformative	personal relevance
	top-down structure	standards	alternative	bottom-up
	pre-selected	limited	creative	multiple paths
	singular	authority/canon	questioning/context	variations
	information organization	finding/using	connecting/creating	relationships
	compact/linear	rules-driven	many perspectives	granular
STATUS QUO		AWARENESS/ACTIVISM		

Web 2.0 environment

Turn towards  
a critical  
literacy  
perspective**259****Table I.**  
(C)IL before and  
after Web 2.0

more fundamental question about global flows of information”, such as who has access to information and who has not, whose voices may be heard and whose may not, etc. Thus, CIL can also be seen as a response and solution to one particular phenomenon occurring in the Web 2.0 environment; the potential phenomenon of “groupthink”, i.e. the promotion of those with the loudest voices, and to the marginalising of unpopular viewpoints. Since the Web 2.0-based environments treat knowledge as an agreement on the description of a particular phenomenon, a critically information literate person would explore the legitimacy of such an agreement. According to Whitworth (2014), because of this flexible notion of knowledge formation IL should be understood “as the scrutiny of claims to cognitive authority in particular contexts”. Groupthink is one of the maladies of a relativistic notion of knowledge formation – a product of the shifting epistemologies in the Web 2.0 environment. “Every society, every epoch in human history is characterised by what it considers as legitimate knowledge, itself a historically contingent category. Therefore every epoch has its own view of what counts as legitimate information sources” (Andersen, 2006; Whitworth, 2014). A holistic notion of IL problematizes the construction of cognitive authority, including effects like groupthink or relativism and equips us with the understanding of knowledge formation processes present and appearing in our time.

Finally, apart from raising all these issues, Web 2.0-based, participatory information environments have enabled their being considered in a truly democratic way, i.e. at a global level and from multiple perspectives. All this being said, it is clear that information environments based on participatory technologies and services provide a context ideally suited for the application of the principles of CIL. Its conceptual similarities with Web 2.0-based environments, show that the concept of CIL might be best suited to address the task of becoming and educating to be information literate in this changed environment.

## Conclusions

Contemporary IL discourse is still under a strong influence of views and concepts formulated and popularised by Paul Zurkowski (1974). His definition of IL continues to be frequently cited despite the fact that it resulted from one entirely different information environment – one reflected in the institutionalised information-banks construct, the principal features of which are based on closed, linear and top-down systems geared towards creating productive users and therefore imply an instrumental, rule-driven and strictly standardised type of information literacy. Web 2.0, however, spawns a different kind of information environment, one prompting the detachment of positivist, formulaic and functional descriptors from IL and the introduction into it of critical and conversational features. We argue that conceptual transformations in IL have brought the concept to a state where its inherent criticality cannot be treated as a mere functional aspect of an exhaustively describable, measurable concept and at which it becomes morally unacceptable and irresponsible to uphold as prevalent the perception of IL as socially disengaged and non-participatory.

In this paper CIL is interpreted as a stage in the development of IL which has not disrupted its conceptual continuity – in a manner similar to that in which IL evolved from bibliographic/library instruction owing to transformations in the overall information environment, CIL may be perceived as another developmental leap from the instrumental type of IL towards the type reflecting open-ended, granular and participatory Web 2.0-based environments, allowing one to hear alternative voices and be heard oneself and making possible the questioning of assumptions, both by and with many, from multiple perspectives.

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