INFORMATION LITERACY AND THE INFORMATION COMMONS
A coevolutionary mode

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▪ In the United States, the first Information Literacy (IL) standards were formalized by the Association of College and Research Libraries (ACRL) in 1999 and approved in January 2000. In March 1999, the article "Conceptualizing an Information Commons" was published, and subsequently described as "…the seminal article that defined the core requirements of an Information Commons" (IC). Thus, in the U.S., the initial formal definitions of IL and IC appeared simultaneously. Since 2000, many Information Commons have evolved into Learning Commons (LC) under pressure from three environmental drivers: technology, pedagogy, and the economy. Now, in 2014, ACRL has issued a new Framework for Information Literacy in Higher Education. This article proposes that ACRL's new IL Framework has evolved in response to the same three factors as IC's. IL and the IC have thus entered an ongoing reciprocal relationship that can be viewed as a model of coevolution.

▪ Aux États-Unis, les premières normes pour l'"information literacy", ou maîtrise de l'information, furent formalisées par l'Association of College and Research Libraries (ACRL) en 1999 et approuvées en janvier 2000. En mars 1999, l'article *Conceptualizing an Information Commons* fut publié et décrit par la suite comme "… l'article majeur qui a défini les principales exigences pour un espace informationnel commun". Ainsi, aux États-Unis, les définitions formelles de la maîtrise de l'information, et d'un espace informationnel commun sont apparues simultanément. Depuis 2000, plusieurs espaces informationnels communs ont évolué en "learning commons", ou espaces communs d'apprentissage, sous la pression de trois facteurs environnementaux : la technologie, la pédagogie et l'économie. Maintenant, en 2014, l'ACRL a publié un nouveau *Framework for Information Literacy in Higher Education*. Cet article suggère que ce nouveau *IL Framework* a évolué en réponse aux mêmes trois facteurs que ceux des espaces informationnels communs. Ceux-ci et la maîtrise de l'information sont donc entrés dans une relation réciproque qui peut être vue comme un modèle de co-évolution.

▪ In de Verenigde Staten werden de eerste normen voor informatiewijsheid formeel uitgedrukt door de Association of College and Research Libraries (ACRL) in 1999 en goedgekeurd in 2000. In maart 1999 werd het artikel *Conceptualizing an Information Commons* gepubliceerd. Het werd beschreven als"… het bepalende artikel dat een standaard levert voor de vereisten van *information communs*, de gemeenschappelijke informatieruimte". Zo maakten de definities van informatiewijsheid en *information commons* tegelijkertijd hun intrede in de Verenigde Staten. Sinds 2000 evolueren *information commons*, gemeenschappelijke informatieruimtes, steeds meer in de richting van *learning commons*, gemeenschappelijke leerruimtes. Dit gebeurde onder druk van drie milieufactoren: technologie, pedagogie en economie. Nu, in 2014, heeft de ACRL een nieuw *Framework for Information Literacy in Higher Education* uitgebracht. Dit artikel voert aan dat dit nieuwe *IL Framework* geëvolueerd is als antwoord op dezelfde drie factoren als *information commons*. Informatiewijsheid en *information commons* bevinden zich dus in een wisselwerking en kunnen dus gezien worden als een model van co-evolutie.

Background and Introduction

Both the Information Commons (IC), as a newly-defined type of learning space in academic libraries, and Information Literacy (IL), as a set of information technology (IT)-related competency standards for students to incorporate into academic learning, became formalized in 1999-2000, with each respectively supplanting informal or ad hoc precedents. Both were conceptualized from the outset not as fixed or static entities, but as malleable and responsive adaptations to ongoing change. Thus it was anticipated that each would undergo continual incremental modification and/or substantive cyclical revision. The IC was formulated under the management rubric of strategic alignment, which presupposed the need to continually realign the IC with its host institution's strategic goals in a technology-intensive environment. Similarly, IL standards were promulgated by ACRL within a rubric of cyclical review and the expectation of periodic reformulation.

It was not initially anticipated, however, that IL and the IC would undergo these changes in a joint or reciprocal manner, or that their modifications over time would even necessarily show a clear pattern of coordinated response. But three factors had begun to converge by 2004-05 to create a trend toward reciprocal relationships between IL and the IC. The first factor was technology: the ubiquitous IT infiltration into all aspects of the academic enterprise, from online learning via course management systems to online publishing via scholarly repositories and open access electronic media. This would demand a set of new skills and competencies that any IL framework would need to incorporate to remain current, and would simultaneously demand reconfiguration of IC learning spaces to facilitate student and faculty access to, and participation in, these online activities. The second

factor was pedagogy, often called constructivism, which shifts the focus from teaching to learning, and typically transforms the old paradigm of the solitary student listening to classroom lectures to a new paradigm of students working together in problem-solving teams or doing group process activities. This would similarly demand reconfiguration of IC learning spaces to accommodate student groups and teams in close proximity to IT. The third factor was the economy, as increasing demands for accountability and "return on investment" (ROI) placed a new emphasis on ongoing assessment. As both IL and the IC were subjected to more rigorous assessment regimes, the resulting data created feedback loops that caused both IL and IC to be increasingly responsive to parallel environmental pressures and expectations of learning outcomes. By 2006, this author and others had begun openly discussing these new parallels and convergences in the context of an emerging reciprocal relationship between IL and the IC. The following literature review will briefly trace how this discussion took shape.

Literature Review

While the 1999 article, "Conceptualizing an Information Commons," had incorporated the notion of ongoing change in the IC model for the purpose of maintaining strategic alignment with the library's host institution, I made no detailed attempt to describe or define that change until 2004, with the posting of the white paper "From Information Commons to Learning Commons" [1, 2]. This white paper introduced a developmental model based on a four-part "typology of change" (adjustment, isolated change, far-reaching change, and transformation), with a proposed demarcation between isolated change and far-reaching change marking the definitional transition from IC to LC. In brief, an IC was defined as being library-centric, featuring "a cluster of network access points and associated IT tools situated in the context of physical, digital, human, and social resources organized in support of learning". The white paper then suggested that an IC goes through a phase transition to become a Learning Commons when it ceases to be primarily library-centric, as "...when the resources of the information commons are organized in collaboration with learning initiatives sponsored by

other academic units, or aligned with learning outcomes defined through a cooperative process".

These definitions of IC and LC presented within this schema were reviewed and largely adopted by several subsequent theorists, and sometimes expanded upon, most notably by Bennett[3]. In 2006, in *The Information Commons Handbook*, I restated that four-part typology, further elaborated the definitions of IC and LC, and authored an extended chapter relating these developmental aspects to several models of IL, including the ACRL IL competency standards dating from 1999-2000[4].

Bailey and Tierney reiterated the same IC developmental model in their 2008 monograph, and added this salient comment about the IC's reciprocal relationship to information literacy: "It may be helpful to conceive of information literacy as the curriculum information professionals teach within the IC framework. Information literacy and the information commons are complementary organizing principles... reminiscent of Benjamin Bloom's 1956 taxonomy of educational objectives" [5].

Also in 2008, Somerville and Harlan specifically expressed the IC-to-LC developmental concept in an evolutionary context in their chapter for the book, *Learning Commons: Evolution and Collaborative Essentials* (edited by Schader)[6]. This chapter by Somerville and Harlan stresses the breadth and range of factors contributing to their view of the IC's evolutionary context, rather than closely examining the proximity of a relationship between IL and the IC. A keyword search of the entire Schader book unearths 22 instances of the phrase "information literacy", emphasizing its relative significance. But each instance situates IL within a wider range of factors that can be measured in IC or LC assessment regimes. (This at least compares very favorably to a monograph issued the following year, *A Field Guide to the Information Commons*. An equivalent keyword search within the *Field Guide* reveals, surprisingly, only one single instance of the term "information literacy" and then only in a limited tangential context[7]. The *Field Guide's* disregard of IL seems especially puzzling, given that the book contains an otherwise very cogent overview of the IC's developmental history in a chapter by Milewicz).

One could theorize that the differing levels of importance given to information literacy by the four monographs on information commons mentioned above might account to some degree for their very different impacts on the literature as evidenced by citation counts. For *The Information Commons Handbook* (2006), which devotes an entire chapter to IL, *Google Scholar* lists 125 citations in total, with 62 appearing in 2010 or later. For the monograph by Bailey and Tierney (2008) which posits a direct instructional role for IL within the IC framework, *Google Scholar* lists 65 citations in total, with 21 appearing in 2010 or later. For the book edited by Schader (2008), featuring the chapter on IC evolution by Somerville and Harlan and frequent references to IL, *Google Scholar* lists 57 citations in total, with 22 appearing in 2010 or later. For the *Field Guide* edited by Halbert and Forest (2009), which includes only tangential reference to information literacy, *Google Scholar* lists only 35 citations in total, with 25 appearing in 2010 or later.

Interestingly, the author who has thus far come closest to proposing a true coevolutionary relationship between IL and the IC is not from the U.S. This author / theorist is Gläser, of the Hamburg University of Applied Sciences (HAW Hamburg), in her recently-published chapter: "Information literacy in learning spaces: A Holistic and integrative approach" [8]. Gläser states: "...spaces like Learning Commons...function as a kind of "natural environment" for information literacy....[enabling] a flexible adjustment to the learner's needs (integrative approach) which varies from discipline to discipline..." [9] Gläser further situates this integrative approach within the ongoing discussion "...within the professional community about "digital literacy" and "e-literacy" ...or "ICT-literacy"..., combined terms like "media and information literacy"..., and umbrella terms like "21st century skills"..., and ...concepts like "transliteracy"..." [10] In this analysis, as I will describe shortly, Gläser has moved very close indeed to the new ACRL Framework's concept of "metaliteracy".

Gläser's argument proposes a holistic reciprocal relationship between IL and the IC. I would here expand on Gläser's thesis to propose that this holistic view can be applied to ACRL's directed evolution from old IL competency standards of 1999 to the new IL framework of 2014, and equally applied to the IC, it its own evolution from
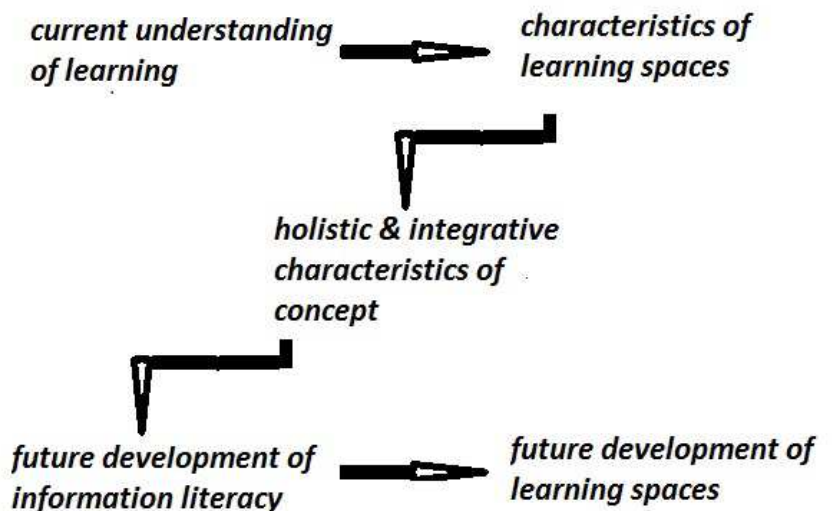

Fig. 1: A graphic interpretation of Gläser's "holistic and integrative" view of IL and IC.

library-centric Information Commons to collaborative Learning Commons. As Gläser states: "The implementation of information literacy concepts will be enhanced by partnerships with other service departments and collaboration with faculty in learning spaces. This should be – of course – a strategic decision to strengthen the institutional commitment by pooling the possible resources for a holistic and viable future of information literacy concepts". This holistic, integrative relationship between IL and the IC proposed by Gläser can be visualized in this enhanced context as the diagram in Figure 1.

Before leaving this literature review, I should acknowledge one dissenting article that appears to reject both the very idea of a developmental progression from IC to LC, and thus fails to anticipate any model for IL / IC coevolution. This article, titled *The Learning Commons as a locus for information literacy,* describes itself as being "... in the form of a panel discussion that explores possible relationships between the learning commons and student learning, pedagogy, and information literacy"[11].

This article is of some interest simply because it captures a discussion among different IL and IC stakeholders (faculty, librarian, etc.). While it acknowledges a dynamic context for initial IC / LC formation, it explicitly (and rather arbitrarily) rejects any attempt to generalize these dynamic changes beyond a given campus and extended over time. Instead, the authors insist that IC's and LC's can only be viewed and defined within particularized specifics of their individual campus environments. As a result, the article presents an arbitrarily localized and static view of the IC or LC as spaces within which an equally localized and static rubric of IL could unfold.

The article uses the terms "information commons" and "learning commons" interchangeably. Noting that this contradicts the widely-adopted four-level typology of change from information commons to learning commons, the authors insist that each learning commons will be the product of a planning process unique to that campus perspective, student learning styles and preferences, and the singular role of the local library. The authors claim that those factors will result in a learning commons planned in a manner specialized for its own institutional priorities and profile.

This viewpoint, unfortunately, fails to objectively address 1) the inevitable fact that individual LCs will need to continually realign themselves with ongoing innovations in technology, pedagogy and economy that can clearly be shown to transcend any individual campus; and that 2) even many campus-specific developmental pathways will evidence commonalities and shared assumptions that could be articulated as generalizations, collectively forming a morphology of learning space developmental change. Such a morphology of change in learning spaces will, when compared to the ongoing changes in IL, become indistinguishable from the concept of coevolution.

It is clear from even this brief literature review that this single article is based on an assertion that remains highly atypical. Authors Weiner, Doan, and Kirkwood are the only authors found in my literature review to have rejected any developmental schema for either IL or the IC that can be generalized beyond a given individual campus. Moreover, they have failed to refute the counter-examples offered by the other researchers noted above: the approach to cyclical revision of IL by ACRL, and the empirical evidence of a general transition from library-centric IC's to more collaborative LC's presented by Somerville and Harlan, Bailey and Tierney, and Bennett. This article thus marginalizes itself, and remains interesting only for its idiosyncratic and anecdotal description of an individual campus location, rendering itself irrelevant to any meaningful discussion of a co-evolutionary model for IL and the IC.

Table 1: Parallels between change drivers identified in the respective literatures of IL and the IC.

Quotes from *The Information Commons Handbook* (2006) and *The Emergent Information Commons* (2010)	Quotes from *ACRL Introduction to Framework for Information Literacy for Higher Education* (2014)
"*...for the microcosm of library-hosted or campus-hosted technology learning centers,...one should strive to...support the learning styles and modalities of students; the pedagogical goals of faculty; the disciplinary content of the curriculum; [and]* **the social identity of the hosting institution**". *IC Handbook*, p. 7	"*As institutions begin conversations around this Framework for Information Literacy for Higher Education, they need to take into account* **the demographics of their institution and its academic culture**". --- ACRL *IL Framework,* lines 20-22
"*The full scope of* **the integrative learning movement** *...is a good example of a 21st century learning paradigm that has already begun intersecting the process of IC and LC development*". Beagle, D. "The Emergent Information Commons". *Journal of Library Administration*. Vol. 50, No. 1, p. 21.	"*Some colleges and universities are placing a greater focus on* **integrative learning**..." - ACRL *Frameworks*, line 42:
"*The type of learning and social interactions that can thrive within Learning Commons can also be of significant interest to the supporters of* **thematic learning communities. The phrase** "**learning communities**"*...has very specific application to a particular approach to* **interdisciplinary ties** *across course and departmental boundaries...*" *The IC Handbook*, p. 48-49.	"*... this is developed as a* **learning communities program** *where a cohort of students takes a set of courses together in the early years of their college program. Such programs often emphasize* **cross-disciplinary critical thinking** *and communication skills...*" - ACRL quote, lines 43-45.
"**The classroom flip** *presents instructional librarians with both risks and opportunities.... ....the IC/LC model provides a creative arena for these collaborative productions, and the toolset for embedding multimedia information literacy components in the online portion of the blended course*". -*The IC Handbook*, p. 46.	"*...The concept of* **the "flipped classroom,**" *in which students in effect get the traditional lecture component of a course outside of class (via videos and readings) and then use class time for collaborative, active learning assignments, facilitated by faculty, has documented success in improving student outcomes in many courses and institutions*". - ACRL quote, lines 60-63.

The ACRL Framework for Information Literacy in Higher Education

On March 19, 2014, Malenfant, on behalf of ACRL's IL Task Force, issued an article and corresponding news release to various online discussion lists that announced the posting of the first part of the initial draft of the association's newly-revised Framework for Information Literacy for Higher Education, accompanied by a call for comment from the academic library community[12]. The draft Framework is preceded by a lengthy narrative commentary that attempts to justify and explain this sweeping revision of the IL Competency Standards from 1999-2000. The narrative of this introductory commentary summarizes the range of pressures and drivers of change in higher education today that have prompted ACRL's Task Force to transform its old set of standards into this new framework.

Writings by myself and others over the intervening years had similarly summarized the range of pressures and drivers of change that prompted the ongoing development of the IC / LC in academic libraries[13]. An objective reader will immediately note examples of extensive overlap in these respective rationales, and parallel lines of argument between writings on IC's and the ACRL Framework draft. Table 1 presents just a few of these overlaps and parallels as related to pedagogy in the form of comparative quotes drawn (primarily) from The Information Commons Handbook on the one hand (2006) and the ACRL Task Force Framework Draft (2014):

These are just a few of the parallels between respective IC and IL narrative justifications that could be cited and quoted, and seem to constitute clear indicators of coevolution. For sake of brevity, I will now move beyond this simple list of parallels to explore more fully how and why the new ARCL IL Framework implicitly and explicitly incorporates the premise of IL as a dialectical paradigm that must develop in proximity to new learning spaces characteristic of IC's and LC's, rather than the old (1999) set of idealized standards abstracted from all considerations of the student's learning environment.

From the solitary student as an abstraction to students learning within shared spaces
As the preface to the new *Framework* draft itself states (lines 104 - 112) "*The [old] Standards…valorize the "information literate student" as a construct of imagined accomplishment, at the endpoint of a set of learning experiences, without the involvement of … other collaborators. While individual student learning and initiative are always important, learning and scholarship also involve others, whether through face-to-face discussions, [or] virtual communities. The [new] Framework focuses more attention on the vital role of collaboration and its potential for increasing student understanding of the processes of knowledge creation and scholarship*". This explains the parallel pedagogical drivers shown in table 1, all of which characterize collaborative approaches to knowledge creation: demographics of the academic culture, integrative learning, thematic learning communities, the flipped classroom, and so forth.
In summary, the new *ACRL Framework* presents five "threshold concepts":
- Scholarship is a Conversation [P. I, lines 412-413];
- Research as Inquiry [P. I, lines 480-481];
- Format as Process [P. I, lines 555-556];
- Authority is Constructed and Contextual [P. II, lines 1-2]; and
- Searching is Strategic [P. II, lines 96-97].

Taken as a whole, these threshold concepts expand our field of view from the student as an imagined autonomous island who has internalized an isolated set of skills, to an active participant in a contextualized and externalized learning
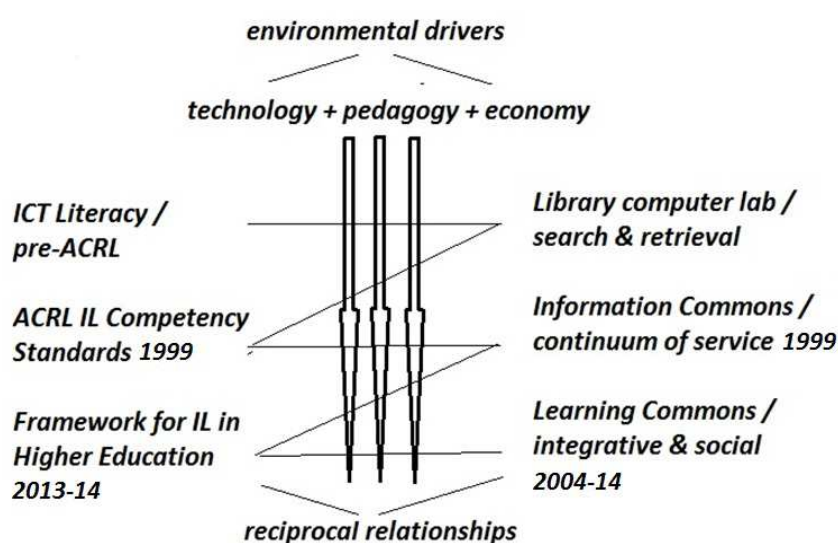

Fig. 2: Visual representation of a coevolutionary model for IL and the IC.

environment with which the student constantly interacts. The new framework instead views IL as dependent upon collaborations and conversations that are expected to unfold on physical, virtual and cultural levels. This is why the Framework's threshold concept of "Research as inquiry", emphasizes "shared spaces" in its description of a metaliteracy learning objective as the ability to "[c]ommunicate effectively with collaborators in shared spaces and learn from multiple points of view". Thus, the new framework's threshold concepts entail a range of competencies, all of which are specific constituents of information literacy. This characterization of "metaliteracy" is essentially indistinguishable from Gläser's use of "transliteracy".

This, of course, quite explicitly parallels that move from the library-centric IC to the collaborative shared spaces typically called LC. The resulting model can be visually presented in this coevolutionary context as shown in Figure 2.

Conclusion

Viewing IL-IC Reciprocal Development in the Context of Organizational Coevolution Theory Organizational theorists began discussing the potential of coevolutionary theory in response to technological change in the mid 1990's, during the same period that the early precursors of IL and IC were also beginning to take shape in academic libraries. We thus do not need to invent a conceptual or rhetorical justification for viewing IL and IC coevolution in a logical and coherent manner.

Such a coevolutionary model for IL and IC reciprocal relationships is not arbitrary or contrived, but readily finds a logical niche in the larger rubric of organizational theory. Many of the necessary concepts and rhetorical constructs have already been advanced by theorists such as Baum and Singh, who in 1994, described their theoretical approach as follows: "...one of the more important consequences of taking a coevo-lutionary approach is that one can begin to understand the relationships between a set of organizational and environmental variables as a system....We view community organization evolution and technological evolution as two dynamic, interlinked processes....Technologies evolve through cycles. Parallel process of community organization evolution simultaneously drives and is driven...by cyclic technological progress. Changes in actors, linkages and power shape technological competition and selection during the era of ferment, from the emergence of a technological discontinuity until convergence on a dominant [organizational] design"[14].

In this view, ACRL's cyclical revision of IL responds to the understanding that "technologies evolve through cycles". Its first set of IL competency standards emerged in 1999-2000 as an early response to a technological discontinuity (the fault line between the digital age and the preceding age of print). Simultaneously, the Information Commons organizational model can be viewed as an emergent adaptation of a legacy organization (the library) to cope with the same discontinuity. Only later in this cycle of technological change did the parallel drivers of pedagogy and the economy propel ACRL to reformulate its old IL standards in the new framework of contextualized metaliteracy. In parallel, the developmental change process from library-centric IC to the collaborative LC has been a reciprocal responds to this era of competition, selection, and ferment, with the Learning Commons model representing the convergence on a dominant organizational design.

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Notes

[1]   Beagle, Donald. Conceptualizing an information commons. *Journal of Academic Librarianship*, March 1999, vol. 25, n° 2, p. 82-89.

[2]   Beagle, Donald. *From Information commons to learning commons* [on line]. University of Southern California, 2004 (consulted on 18 April 2014)
<http://www.usc.edu/libraries/locations/leavey/new_at_leavey/conference/supplemental_info/>

[3]   Bennett, Scott. The Information or the learning commons: Which will we have? *Journal of Academic Librarianship*, May 2008, vol. 34, n° 3, p. 183-187.

[4]   Beagle, Donald. *The Information commons handbook*. Neal-Shuman Publishers, 2006. ISBN 978-1555705626.

5   Bailey, D. Russell; Tierney, Barbara Gunter. *Transforming library service through information commons: Case studies for the digital age*. American Library Association, 2008. ISBN 978-0838909584.

6   Somerville, Mary M.; Harlan, S. From information commons to learning commons and learning spaces: an evolutionary context. In Schader, Barbara (ed.) *Learning Commons: Evolution and Collaborative Essentials*. Chandos Publishing, 2008, p. 1-36.

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    <http://www.acrl.ala.org/acrlinsider/archives/8329>

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