

The Role of the Information Commons in Academic Libraries: An Annotated Bibliography

INFO 522: Information Access and Resources

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Introduction and Scope

The following bibliography explores the role of the Information Commons (IC) in academic libraries. Articles included cover broad themes in IC studies: the IC as both physical and virtual collaborative space; integrating reference services into ICs; the Information Commons versus the Learning Commons (LC); and trends in the learning behaviors of IC users. Publication dates of the articles covered range from 1985 to 2012. Articles addressing the information (or electronic) revolution, which largely preceded IC implementation, were chosen to offer a wider perspective on initial integration of information technology and electronic resources into academic libraries. Authors discussing unsuccessful IC implementation were also included to provide an alternative vantage point. Although many articles chosen mention specific successful IC models, an effort was made to preclude articles that focused only on case studies of particular university ICs. Instead, an emphasis was placed on providing a broad historical and thematic approach to IC studies, displaying trends over time and future directions for ICs in academic libraries. All articles were published in the United States, with the exception of one article published in Canada.

Description

Conceived in the early- to mid-1990s under various labels, including the “Information Arcade,” the “Media Union” and the “Virtual Village” (Steiner & Holley, 2009), the “Information Commons,” as both a term and a concept, provided academic libraries with a new model for offering services to users. Donald Beagle’s (1999) influential study articulated the main components of ICs: the “conceptual space” (p. 83), which features current technology to navigate evolving digital services, and the “physical space” or facility (p. 85), a separate area in the library for information referral, expertise, and user collaboration. Research since Beagle’s

has focused on the IC as a “continuum of service” for research, teaching, and learning (Bailey & Tierney, 2002, p. 277). Staff at the main IC information desk are trained in both technological and reference/research proficiency to ensure “one stop shopping” for users (Spencer, 2006, p. 244). The Learning Commons (LC), versus the Information Commons, places more emphasis on the outcome of collaborative work produced in a Commons environment, and current trends in IC/LC studies focus on adapting the Commons to best suit users’ learning behaviors and needs.

Summary of Findings

Since its implementation in the mid- to late-1990s, the Information Commons has received international scholarly attention as academic libraries have been forced to adapt to rapidly changing technology, and to remain relevant to users as places for information retrieval. Since the late-1970s, as libraries transitioned from providing solely paper-based collections to offering computing resources and electronic information, much research surfaced regarding the relevance and survival of academic libraries in the information age. New computing technology required physical changes to the library, as well as increased staff training in the areas of cataloging, circulation, and acquisitions (Molholt, 1985). Before the IC concept was developed, Molholt (1985) used the term “information support center” to describe the academic library’s new role in assisting users with finding electronic information (p. 285). Similarly, Himmelfarb (1999) discussed the democratization of the Internet and widespread access to knowledge in terms of a simultaneous “intellectual and technological revolution” (p. 617). Although Himmelfarb (1999) does not discuss the IC, this is precisely the combination of “revolutions” that the IC was developed to address.

From these early notions of electronic information’s role in the academic library, IC

literature, from the late-1990s to the mid-2000s, focused on how the IC best processed and disseminated information to its users in cooperation with other academic units. In his seminal article on ICs, Beagle (1999) noted the “Strategic Alliance” theory for IC management (p.82), which prescribed how ICs delivered services both internally (i.e. walk-in assistance, reference and media services) (p. 86), and in collaboration with external units to promote academic collaboration (i.e. distance learning and interdisciplinary studies) (pp. 87-88). In conjunction with these models, early research emphasized both the benefits and challenges to this “one stop shopping” model of the IC (Spencer, 2006, p. 244). Bailey & Tierney (2002) suggested that the IC offers a “continuum of service” (p. 277) to its users, including research guidance, instruction, technology, and flexible physical space. However, both Bailey & Tierney (2002) and MacWhinnie (2003) pointed to the challenge of training staff to meet users’ technological and research needs. Bailey & Tierney (2002) refer to insufficient staff training, as well as the drain on resources that certain IC implementations can enable, as the “tragedy of the commons” (p. 277). Nine years later, this “tragedy” was redefined by Heitsch & Holley (2011), to mean an IC whose conceptual ideals do not align with its everyday practices (for example, focusing on one user group to the exclusion of another) (pp. 68-69).

As early research suggests, the IC presents a tension between developing a facility that promotes both the “library as place” ideal (Himmelfarb, 1999, p. 613), and a virtual library, where digital services render the physical library superfluous. A focus on reference service in mid-2000s IC literature offered a bridge between the physical and virtual IC space. Beagle (2002) referred to this shift in terms of the “Internet2 Commons” (p. 288), by which he meant a virtual Commons that integrates bibliographic instruction, research, writing assistance, and media services through online guides and tutorials, while still emphasizing the physical

Commons as a place for obtaining assistance with such resources. By the mid- to late-2000s, the physical-virtual tension, as well as the role of more traditional reference services in the IC, made way for a distinction between the Information Commons and the Learning Commons. Unlike the IC, the LC brings users together for collaboration on specific learning goals, geared toward the mastery of particular tasks (Wolfe, Naylor, & Druke, 2010). In the LC, reference librarians become essential for providing bibliographic and research instruction (Beagle, 2002), but are also frequently required to provide services other than reference, such as technology support (Steiner & Holley, 2009). Steiner & Holley (2009), like other researchers, have discussed the challenge of staff training to meet varied user needs, and the threat to the “traditional library” that a Commons of any kind poses in an academic library (p. 323).

Fostering and catering to user-learning habits in the Commons, whether IC or LC, has been the most recent trend in Information Commons research. Steiner and Holley (2009) conclude their article by noting the importance of promoting student learning “in the most effective ways possible” (p. 329), one of which is involving multiple campus units in the IC’s development. Beatty and White hinted toward this learning-centric Commons in 2005, by studying Commons’ features that best promote e-literacy skills; they concluded that the most successful Commons are those focused on learner-centered outcomes (p. 8). Similarly, Lippincott (2012) studied “net gen” users’ learning behaviors, such as high reliance on technology and group collaboration, to suggest that Commons provide social and cultural spaces that best meet millennials’ needs. Similarly, Beagle (2012) moved from his “Strategic Alliance” theory in 1999, to a theory of organizational, or integrative, learning (p. 525), emphasizing the IC’s work with faculty and campus units to influence the research and scholarship that develops through IC use. Halbert (2010) also examined the IC as a bridge between the traditional library

and the place of technological innovation, affecting the “cultural capital” that library research produces (p. 71).

As can be seen from the topics above, the emphasis in IC literature and, therefore, the role of the IC in academic libraries, has shifted greatly over the past ten to fifteen years. As academic libraries and technology have evolved, the IC has adapted to these changes and the research has developed with such trends: from the physical and virtual environments that the IC has traditionally fostered, to how the IC best serves its multimodal users, to the kind of academic research that is shaped and promoted through IC usage. All of the articles covered in this discussion offer a view on the IC’s role in the academic library of the future. The most recent articles advise that in order to remain relevant in the library as an effective unit of academic scholarship and innovative research, the IC must adhere to its core ideals of serving a wide variety of users through multimodal approaches (Heitsch & Holley, 2011), keep open lines of communication with various campus units (Beagle, 2012), and maintain access to traditional library resources while fostering academic innovation (Halbert, 2010; Lippincott, 2012). If all of these goals are met, researchers agree that ICs will continue to play a prominent role in the scholarly development of academic libraries.

Bibliography

Bailey, D. R., & Tierney, B. (2002). Information commons redux: Concept, evolution, and transcending the tragedy of the commons. *Journal of Academic Librarianship*, 28(5), 277-286.

Abstract: “Reviews the ‘information commons’ concept and describes administrative and functional integration in an academic library information commons. The roles of inclusive planning structures and careful integration through an enhanced information desk are delineated, emphasizing team building that results from this implementation. The article discusses potential problems and suggests solutions” (p. 277).

Annotation: Taking their cues from Donald Beagle’s (1999) seminal research on ICs, Bailey & Tierney study how libraries focus various aspects of service and planning into an integrated IC, which provides a “continuum of service” (p. 277) to its users. The authors’ work emphasizes that a model of functional integration is necessary to implement a successful IC; this includes making the Information Desk a central and dynamic service area for research, instruction, technology help, and general inquiries. Unlike Beagle (1999), the authors expand on the study of ICs by examining the “tragedy of the commons” (p. 283), or a depletion of resources by IC users, without further replenishment. To combat this syndrome, they recommend collaboration, consistent training, and education of professional and paraprofessional staff on effectively and authoritatively meeting users’ needs.

Authority: The Bailey & Tierney (2002) article has been cited often by library and information science scholars studying Information/Learning Commons, electronic libraries, and instructional collaboration in academic libraries, as confirmed in a “Cited Reference Search” in Web of Science. D. Russell Bailey, Library Director at Providence College, has written extensively on Information Commons and is well regarded for his work. Barbara Tierney, Head of Research and Information Services at UNC Charlotte, has also authored many works on ICs (<http://library.uncc.edu/directory/employee/51>). She worked with D. Russell Bailey and Donald Beagle at UNC Charlotte where models of strategic fit and integration were studied in the late-1990s.

Scholarly/Refereed Status: After locating the article in LISA using the below search strategy, the search was refined to include only articles under both the “Scholarly journals” and “Peer reviewed” tabs. In addition, Ulrich’s lists *The Journal of Academic Librarianship* as a scholarly journal that is refereed. The journal’s website confirms that it is an international, refereed journal whose audience includes college and university libraries.

Search Strategy: LISA was chosen when searching in ProQuest because of its abundance of resources in the library and information science field. A keyword search was then performed (using the terms outlined below), and this article appeared within the results, even when results were narrowed to include peer-reviewed articles from scholarly journals. The title of the article was then entered into Hagerty Library’s “Articles & More” search bar. The article was available in “Science Direct,” via *Elsevier*, and a PDF was downloaded.

Database: LISA [ProQuest]

Method of Searching: Keyword (with field codes)

Search String:

- (SU(("information commons") OR ("learning commons")) AND AB(academic librar*))
- (SU(("information commons") OR ("learning commons")) AND AB(academic librar* OR university librar*))
- (SU(("information commons") OR ("learning commons")) AND AB(academic librar* OR university librar*)) AND PEER(yes)

Beagle, D. (1999). Conceptualizing an information commons. *Journal of Academic Librarianship*, 25(2), 82-89.

Abstract: “Concepts from Strategic Alignment, a technology-management theory, are used to discuss the Information Commons as a new service-delivery model in academic libraries. The Information Commons, as a conceptual, physical, and instructional space, involves an organizational realignment from print to the digital environment” (p. 82).

Annotation: Beagle studies the concept of the Information Commons (“IC”) from both a digital and spatial perspective. Beagle’s article is very much in response to the “electronic revolution” that Himmelfarb (1999) describes, which libraries underwent in the 1900s. Beagle takes the online environment that Himmelfarb (1999) discussed and combines it with the need for a facility to house ICs within libraries. He uses the Strategic Alignment theory effectively to demonstrate how libraries must blend their internal facilities (administration, human resources, operations) with external units (technology, IT knowledge, system architecture), focusing on the IC as both a collaborative space for users and one that keeps users in touch with reference and bibliographic resources. Beagle’s work is original and forward thinking in the IC field, as he offers implications for university-wide use of the IC, in such areas as distance learning, interdisciplinary studies, and faculty development.

Authority: Donald Beagle, now Director of Library Services at Belmont Abbey College in North Carolina, is a well-known figure in library and information science, especially for his research on ICs. His work in the late-1990s on strategic fit and functional integration at UNC Charlotte is often cited and highly influential in the study of ICs (<http://scholar.google.com/citations?user=bJHC9qAAAAAJ&hl=en>). His article is very frequently cited by those researching ICs, as confirmed through a “Cited Reference Search” in Web of Science, and provides a seminal analysis of physical and virtual ICs in academic libraries.

Scholarly/Refereed Status: After locating the article in the MacWhinnie piece, the article was searched in ERIC, where it was listed under both the “Scholarly journals” and “Peer-reviewed” tabs. In addition, Ulrich’s lists *The Journal of Academic Librarianship* as a scholarly journal that is refereed. The journal’s website confirms that it is an international, refereed journal whose audience includes college and university libraries.

Search Strategy: This article was found in the references to the MacWhinnie (2003) article below. The title of the article was then entered into Hagerty Library's "Articles & More" search bar. The article was available in "Science Direct," via *Elsevier*, and a PDF was downloaded.

Database: N/A

Method of Searching: Footnote chasing

Search String: Referenced in MacWhinnie (2003) (see citation below)

Beagle, D. (2002). Extending the information commons: From instructional testbed to Internet2. *Journal of Academic Librarianship*, 28(5), 287-296.

Abstract: "The author's conceptualization of an Information Commons (IC) is revisited and shows that the IC's role as testbed for instructional support and knowledge discovery can be explored and progress on pertinent research reviewed. Prospects for media-rich learning environments relate the IC to the implementation of Internet2" (p. 287).

Annotation: Beagle responds to and builds upon Bailey & Tierney's 2002 article, which calls for an integrated IC facility, by emphasizing the need for developing the virtual IC, or "Internet2 Commons" (p. 288), namely through online bibliographic instructional (BI) tools and Web-based courseware. Like Bailey & Tierney (2002), Beagle suggests that reference librarians work with Media Services, or highly skilled technological consultants, to deliver effective online BI. Beagle places a different emphasis on the IC than Bailey & Tierney (2002), however, by using the IC as a portal for writing, reference, and literacy resources. While Beagle makes prescriptive calls to subject specialists in the digital age to develop internal links to online library resources and embedded BI tools, he also challenges librarians to promote the sustainability of print resources and to bridge the gap between the digital and the print for library users.

Authority: Donald Beagle is a well-known figure in library and information science, especially for his research on Information Commons at UNC Charlotte in the late-1990s (see entry for 1999 Beagle article cited above). His articles are cited frequently, as confirmed through a "Cited Reference Search" in Web of Science, and the 2002 article expands on the role of ICs to experiment with web-based technologies in areas such as bibliographic instruction.

Scholarly/Refereed Status: After locating the article in Web of Science using the search strategy described below, the article title was searched in LISA, where it was listed under both the "Scholarly journals" and "Peer-reviewed" tabs. In addition, Ulrich's lists *The Journal of Academic Librarianship* as a scholarly journal that is refereed. The journal's website confirms that it is an international, refereed journal whose audience includes college and university libraries.

Search Strategy: After reading the 1999 Beagle article (above), the author's name was searched in Web of Science to browse other articles he has written. Web of Science was chosen because an author's influence can be seen through a "Cited Reference Search." Web of Science had a "Get It" link that led to Hagerty Library, where the article was available in "Education Research

Complete,” via EBSCOhost, and the full text of the article was accessed.

Database: Web of Science [ISI Citation Index]

Method of Searching: Author search

Search String:

- AU=(Beagle D*)
- Refined by: Web of Science Categories=(INFORMATION SCIENCE LIBRARY SCIENCE)

Beagle, D. (2012). The emergent information commons: Philosophy, models, and 21st century learning paradigms. *Journal of Library Administration*, 52(6-7), 518-537.

Abstract: “The learning support role of the Information Commons exhibits emergent properties characteristic of organizational learning theory. The literature review highlights four articles from the United States, one from Germany, and one from Japan to illustrate the issues involved. The philosophy of the commons extension across physical, virtual, and cultural domains and the development of the Learning Commons as a collaboration among multiple learning support units, including libraries, are traced from theoretical origins through real-world examples. ‘Integrative learning’ is offered as one example of a 21st century learning paradigm being supported by such collaborations, as evidenced by the development of commons-based e-portfolio systems” (p. 518).

Annotation: Beagle builds upon current trends in IC studies, as reflected in Heitsch & Holley (2011) and Lippincott (2012), to examine learning methodologies and the IC’s role in facilitating campus-wide collaboration. He is most interested in how the IC promotes an “organizational learning theory” (p. 519), one that moves from an information to a learning hub, encouraging team collaboration among faculty, academic departments, and IC users, as all develop new knowledge and research. In this way, Beagle takes a similar approach as Halbert (2010) in looking at the IC through a social/cultural lens. However, unlike Halbert, Beagle relies on case studies and previous literature to support his argument. His article is valuable because it adds a new element to the literature; namely, that the learning paradigm of the IC has shifted from the physical and virtual, to the social/cultural, and will continue to insist upon widespread collaboration between the library and other academic units.

Authority: Donald Beagle is a well-known figure in library and information science, especially for his research on Information Commons at UNC Charlotte in the late-1990s, which continues to the present (see entries for the 1999 and 2002 Beagle articles cited above). His articles are cited frequently, as confirmed through a “Cited Reference Search” in Web of Science, and the 2012 article expands on current trends in IC literature that study collaborative learning models and the IC’s place in fostering such collective research.

Scholarly/Refereed Status: After the article was located in Library Literature & Information Science Full Text using the below search strategy, the search was refined to include only articles

under the “Scholarly (Peer Reviewed) Journals” tab. In addition, Ulrich’s lists *Journal of Library Administration* as a scholarly journal that is refereed. The journal’s website confirms that it is intended for administrators in library management, as articles trace the latest trends in management and apply them to library science.

Search Strategy: Library Literature & Information Science Full Text was chosen in the Hagerty databases because it was recommended by the Information Science & Technology subject specialist for its wealth of scholarly literature in the field. A keyword search was performed (using the terms outlined below), and this article appeared in the results, which were refined to only include scholarly (peer reviewed) journals. The record in Library Literature & Information Science Full Text had a “Linked Full Text” link, which downloaded the article when clicked.

Database: Library Literature & Information Science Full Text [EBSCOhost]

Method of Searching: Keyword (with field codes)

Search String:

- AB(“information commons”) OR AB(“learning commons”) AND SU(academic librar*)
 - AB(“information commons”) OR AB(“learning commons”) AND SU(academic librar*)
- [limited to “Scholarly (Peer Reviewed) Journals”]

Beatty, S. & White, P. (2005). Information commons: Models for e-literacy and the integration of learning. *Journal of eLiteracy*, 2(1), 2-14.

Abstract:

“Information Commons are often described as integrated learning facilities, where the user can receive assistance in acquiring information literacy skills and/or technical literacy skills or ‘e-lit skills.’ User acquisition of e-lit skills that support further learning is a desirable goal. Information Commons in academic libraries are designed to facilitate this learning goal, often through an integrated and collaborative service model. What are the models of integrated service delivery for Information Commons in academic libraries? Are there models which have been more effective in fostering the learning of e-lit skills and if so, how?

This paper will describe the results of an environmental scan of some of the most successful Information Commons in North America and elsewhere, focusing on the elements of their service and program model that in the authors’ opinion foster e-lit integration” (p. 2).

Annotation: The Beatty and White article is expansive and forward thinking in its approach to examining e-literacy learning in Information Commons. The authors focus on how ICs support both formal (classroom/e-literacy instruction) and informal (group study and interactions with staff) learning, through an “environmental scan” across international ICs that house the Commons both in the library and as part of the library (i.e. in conjunction with another department, usually Information Technology) (p. 5). They found that certain IC features promote e-literacy learning better than others; those that are user-centered and focused on user learning habits are more successful. Beatty and White’s article is important in setting the groundwork for later studies, such as Lippincott’s (2012) and Beagle’s (2012), which focus on

users' learning processes and how ICs, in conjunction with other academic units, best facilitate collaborative learning and research. This article marks a significant shift in the literature from ICs as places for information collection and dissemination, to places focused on users' learning outcomes.

Authority: Susan Beatty is the Head of the Information Commons at the University of Calgary, Canada, a model Information Commons that is often cited as an example by major scholars in the field, such as Donald Beagle (2012). Peggy White is a Librarian Emeritus at the University of Calgary and has worked with Susan Beatty in writing and presenting about their exemplar Information Commons (<http://www.ucalgary.ca/IR/infocommons/>).

Scholarly/Refereed Status: After locating the article in the Beagle (2012) piece, the article was searched on the *Journal of eLiteracy* website, which reports that its articles focus on evaluating e-literacy in a critical, comparative, or theoretical nature, and that all submissions are refereed. In addition, Ulrich's lists the *Journal of eLiteracy* as an academic/scholarly journal.

Search Strategy: This article was found in the references to the Beagle (2012) article above. A PDF of the article was downloaded from the *Journal of eLiteracy* website, to which Beagle's bibliographic citation provided a direct link.

Database: N/A

Method of Searching: Footnote chasing

Search String: Referenced in Beagle (2012) (see citation above)

Halbert, M. (2010). The information commons: A platform for innovation. *Journal of Library Administration*, 50(1): 67-74.

Abstract: "Information Commons have successfully served as platforms for innovations in facilities and service programs within libraries over the past 2 decades. In this article, the author makes a series of points concerning the significance and meaning of the Information Commons as a trend, including the strength of the concept as a bridge between the past and future of libraries, limitations in perceptions concerning Information Commons, and the ways that the trend may play out in the future" (p. 67).

Annotation: Unlike authors such as Spencer (2006) and Steiner & Holley (2009), who examine the history and case studies of successful Information Commons to project about the future of ICs, Halbert's article gains its significance in looking at the IC from a cultural/social perspective of the library; namely, how the IC both adheres to traditions in academic libraries and forges new innovations. The author draws on his own experiences to relate that although the physical space of the IC is tech-heavy and visually and conceptually different from the traditional academic library, it is still "the library," arguing that libraries must adapt to changing trends (p. 70). As a space for technological change and collaboration, the IC becomes a hub of "cultural capital" (p. 71), as Halbert calls it, and innovation for the university. Halbert's conclusions are similar to Lippincott's (2012), as he notes the librarian's challenge in balancing the traditional with the

innovative library, while also suggesting the power of ICs to shape the research that academic libraries produce.

Authority: Martin Halbert is the Dean of Libraries at the University of North Texas and is a widely published and respected name in the field. He has written extensively on digital preservation and Information Commons, as confirmed through his list of publications via his page on the University of North Texas Library home page (http://dean.library.unt.edu/Main_Page). His 2010 article is influential in surveying the Information Commons and assessing its status as a trend in academic libraries.

Scholarly/Refereed Status: After the article was located in Library Literature & Information Science Full Text using the below search strategy, the search was refined to include only articles under the “Scholarly (Peer Reviewed) Journals” tab. In addition, Ulrich’s lists *Journal of Library Administration* as a scholarly journal that is refereed. The journal’s website confirms that it is intended for administrators in library management, as articles trace the latest trends in management and apply them to library science.

Search Strategy: Library Literature & Information Science Full Text was chosen among the Hagerly databases because it was recommended by the Information Science & Technology subject specialist for its wealth of scholarly literature in the field. A keyword search was performed (using the terms outlined below), and this article appeared in the results, which were refined to only include scholarly (peer reviewed) journals. The record in Library Literature & Information Science Full Text had a “PDF Full Text” link, which downloaded the PDF article when clicked.

Database: Library Literature & Information Science Full Text [EBSCOhost]

Method of Searching: Keyword (with field codes)

Search String:

- AB(“information commons”) OR AB(“learning commons”) AND SU(academic librar*)
- AB(“information commons”) OR AB(“learning commons”) AND SU(academic librar*)
[limited to “Scholarly (Peer Reviewed) Journals”]

Heitsch, E. K. & Holley, R. P. (2011). The information and learning commons: Some reflections. *The New Review of Academic Librarianship*, 17(1), 64-77.

Abstract: “The Information and Learning Commons mode of library organization has become more prevalent over the past few decades and allows academic libraries to provide wider-ranging and more cohesive services to their constituents. Several issues, including relying upon a single, mythical ‘Patron’ in planning for services; poor organization; a lack of cohesion and centralized leadership; and the ‘digital divide’ may hinder the effectiveness of the Commons and negatively impact both patrons and staff. If these problems can be surmounted, this model shows great promise for both current and future application in academic libraries” (p. 64).

Annotation: The authors trace the development of both the Information and Learning Commons, as the recent emphasis on learning suggests a paradigm shift toward user-centered service, which Bailey & Tierney introduce in 2002 and which Beagle and Lippincott reassert in 2012. Heitsch and Holley take a similar approach to Bailey & Tierney (2002) in assessing the “tragedy of the commons” (p. 283), which Heitsch and Holley claim occurs when an implemented IC model does not match the ideals behind the IC concept, for example, catering more to the millennial generation than to an IC’s variety of users (pp. 70-71). Similar to Beagle’s (2012) conclusions, the authors are optimistic that if effectively run, ICs will continue to be successful in promoting learning across academic library communities, but that much more than a new physical space and the latest technology is required for establishing an effective IC.

Authority: Robert P. Holley is a professor of Library and Information Science at Wayne State University and has contributed much scholarship to the academic library field, as confirmed through a Web of Science “Author Search.” Elizabeth K. Heitsch performed research with Professor Holley as a graduate student at Wayne State University and is currently a Reference and Instruction Librarian at Alma College in Michigan (<http://digitalcommons.wayne.edu/slifr/>).

Scholarly/Refereed Status: After the article was located in LISA using the below search strategy, the search was refined to include only articles under the “Peer reviewed” and “Scholarly journals” tabs. In addition, Ulrich’s lists *The New Review of Academic Librarianship* as a scholarly journal that is refereed. The journal’s website confirms that it is intended for professionals providing services in academic libraries, focusing on the future of academic library services.

Search Strategy: LISA was chosen when searching in ProQuest because of its abundance of resources in the library and information science field. A keyword search was then performed (using the terms outlined below), and this article appeared within the results, even when results were narrowed to include peer-reviewed articles from scholarly journals. The title of the article was then entered into Hagerty Library’s “Articles & More” search bar. The article was available in *Taylor & Francis Online*, and a PDF was downloaded.

Database: LISA [ProQuest]

Method of Searching: Keyword (with field codes)

Search String:

– (AB(“information commons”) OR AB(“learning commons”)) AND academic librar* AND YR(2011-2012)

– (AB(“information commons”) OR AB(“learning commons”)) AND academic librar* AND YR(2011-2012)

[limited to “peer reviewed” and “scholarly journals”]

Himmelfarb, G. (1999). Revolution in the library. *Library Trends*, 47(4), 612-619.

Abstract: “We are witnessing an electronic revolution in the library which may prove to be a revolution in the humanities and even in the nature of learning and education. Like many revolutions, it is salutary up to a point, but it tends to go beyond that point. In cyberspace, every source seems as authoritative as every other. The revolution tends to depreciate the book in hand and to incapacitate us for thinking about ideas rather than amassing facts. The humanities are an essentially human enterprise of which the record reposes in books in libraries; this is where we look for truth, knowledge, and wisdom. We must hope that the central role of libraries in preserving these ideas will survive the electronic revolution” (p. 612).

Annotation: Himmelfarb traces the term “revolution” in a historical sense to claim that, like all revolutions, the electronic one has implications beyond its immediate context, changing the way libraries function, in addition to learning and education in general. Unlike Molholt (1985), who focuses on the library’s need for resources to create electronic libraries, Himmelfarb studies the electronic revolution’s effect on the “library as place” notion (p. 613), as traditional study spaces are turned into technological workstations. Although Himmelfarb does not discuss Information Commons specifically, her ideas that intellectual and technological revolutions go hand-in-hand has been very influential to the rationale for ICs, from which Beagle (1999) draws his argument: that technology is changing the way students think and learn, and that the library needs to accommodate this. Her argument is also significant to the idea of the IC as an addition to the main library; she emphasizes that the “new library” (p. 618), or the electronic one, should merely supplement and not supplant the “old” library, meaning traditional reading materials and spaces.

Authority: Gertrude Himmelfarb is a very well regarded historian whose work resides in tracing intellectual history from the British Victorian era to contemporary American society (<http://www.neh.gov/about/awards/national-humanities-medals/gertrude-himmelfarb>). Although her work is not in the library science field, it is often cited by academic librarians, as confirmed through a “Cited Reference Search” in Web of Science. Her article provides a valuable historical perspective on the infiltration of online materials into libraries as spaces for physical materials.

Scholarly/Refereed Status: After locating the article in the Beagle (1999) piece, the article was searched in ProQuest Research Library, where it was listed under both the “Scholarly journals” and “Peer-reviewed” tabs. In addition, Ulrich’s lists *Library Trends* as a scholarly journal that is refereed. The journal’s website confirms that it is an essential publication for library professionals that explores the most current trends in the field.

Search Strategy: This article was found in the references to the Beagle (1999) article. The title of the article was then entered into Hagerty Library’s “Articles & More” search bar. A PDF of the article was available in ProQuest Research Library, and the PDF was downloaded.

Database: N/A

Method of Searching: Footnote chasing

Search String: Referenced in Beagle (1999) (see citation above)

Lippincott, J. K. (2012). Information commons: Meeting millennials' needs. *Journal of Library Administration*, 52(6-7), 538-548.

Abstract: “Information Commons are popular with millennial (also called net generation) students, who often work in groups, use technology avidly, and combine their academic and social lives. Enhancing the configuration of services for the Information Commons can assist in leveraging the value of the available content, hardware, software, and physical setting to support learning and academic programs. Understanding millennial students’ lifestyle is key to developing a robust service program to engage and support them” (p. 538).

Annotation: Lippincott combines studies on “net generation,” or “millennial” students (ages 18-22) (pp. 538-539), with those of Information Commons (ICs) in academic libraries to argue that the study habits of net gen students greatly mesh with the purposes and functions of ICs. The author uses Donald Beagle’s (1999; 2002) work on ICs to define the IC as a combination of virtual and physical space, including staff expertise and student collaboration. Lippincott’s work is significant because she merges studies on net gen habits of socialization, group collaboration, and heavy technology use with specific examples of ICs as such spaces for all of these activities, where expert librarians and technologists can assist. Like MacWhinnie (2003), Lippincott focuses on both the technological and physical aspects of ICs, but nine years later, Lippincott concludes that while keeping up with technology continues to challenge librarians, librarians also hold the key to translating the digital skills that millennials possess into academic success.

Authority: Joan K. Lippincott is an influential member of the library and information science field, as Associate Executive Director of CNI (Center for Networked Information) and having worked in various academic libraries (<http://www.cni.org/about-cni/staff/joan-k-lippincott/>). Lippincott is widely published and cited in the realm of academic libraries, as confirmed by an “Author Search” in Web of Science, and her article on Information Commons builds on previous articles about collaborative learning spaces.

Scholarly/Refereed Status: After the article was located in Library Literature & Information Science Full Text using the below search strategy, the search was refined to include only articles under the “Scholarly (Peer Reviewed) Journals” tab. In addition, Ulrich’s lists *Journal of Library Administration* as a scholarly journal that is refereed. The journal’s website confirms that it is intended for administrators in library management, as articles trace the latest trends in management and apply them to library science.

Search Strategy: Library Literature & Information Science Full Text was chosen in the Hagerty databases because it was recommended by the Information Science & Technology subject specialist for its wealth of scholarly literature in the field. A keyword search was performed (using the terms outlined below), and this article appeared in the results, which were refined to only include scholarly (peer reviewed) journals. The record in Library Literature & Information Science Full Text had a “Linked Full Text” link, which downloaded the article when clicked.

Database: Library Literature & Information Science Full Text [EBSCOhost]

Method of Searching: Keyword (with field codes)

Search String:

- AB(“information commons”) OR AB(“learning commons”) AND SU(academic librar*)
- AB(“information commons”) OR AB(“learning commons”) AND SU(academic librar*)
[limited to “Scholarly (Peer Reviewed) Journals”]

MacWhinnie, L. A. (2003). The information commons: The academic library of the future.
Portal: Libraries and the Academy, 3(2), 241-257.

Abstract: “Increasing use of technology as a means of accessing information and the recent shift towards cooperative learning and group study have brought changes in the way students use academic libraries and library resources. Academic libraries have experimented with new ways to combine information resources, technology, and research assistance. Some have reconfigured their physical space and redesigned services to meet the new challenges by adopting the idea of the information commons or a central location that provides computers, information resources in various formats, and staff assistance. Although they may share similar goals and some common features, academic institutions have taken a variety of approaches in designing, funding, and staffing their information commons. This article is an overview of several information commons in the United States and Canada and explores some of their missions, features, and strengths and weaknesses” (p. 241).

Annotation: MacWhinnie examines previous literature on two main aspects of Information Commons (“IC”) in academic libraries: users’ needs for extensive and easy access to technology and the “library as place” notion (p. 242), as users increasingly require physical space for both collaborative and individual work. She bases much of her work on Beagle’s (1999) notion of the IC, but expands on the literature by offering advantages and disadvantages of ICs and challenges they potentially present to libraries. She provides an especially useful table of successful IC models at various universities, and evaluates crucial factors that libraries thinking of implementing ICs must consider. Unlike Bailey & Tierney (2002), who discuss the “tragedy of the commons” (p. 277), in terms of depleting library resources to run an effective IC, MacWhinnie remains largely positive but focuses on staff morale as an IC negative, where technical questions can feel “demoralizing” to skilled reference librarians (p. 253).

Authority: Laurie A. MacWhinnie is an influential thinker in the library and information sciences field; her article is frequently cited by other researchers in the field, as confirmed through a “Cited Reference Search” in Web of Science. This article expands on other scholars’ research on ICs by providing an evaluation of and practical concerns for establishing ICs in university libraries.

Scholarly/Refereed Status: After the article was located in ERIC using the below search strategy, the search was refined to include only articles under the “Scholarly journals” tab. In addition, Ulrich’s lists *Portal: Libraries and the Academy* as a scholarly journal that is refereed, and the journal’s website also confirms that *Portal* provides peer-reviewed articles on the role of academic libraries and issues in technology.

Search Strategy: ERIC was chosen when searching in ProQuest because of its extensive resources in library and information science. Since this was not the first search for this topic, keywords had already been established, and the ERIC thesaurus was then consulted for a deeper understanding of the topic. Searches were performed using thesaurus terms and field codes (employing the terms outlined below). The results were then narrowed to only include scholarly articles, and this article was among the top results. The record in ProQuest had a link to the full text or a PDF copy, and the PDF was downloaded.

Database: ERIC [ProQuest]

Method of Searching: Controlled vocabulary (with field codes)

Search String:

- SU(“academic libraries”) AND SU(“library facilities”)
- (SU(“academic libraries”) AND SU(“library planning”))
- TI(“academic libraries”) AND SU(“library facilities” OR “information commons”)
[limited to “Scholarly journals”]

Molholt, P. (1985). On converging paths: The computing center and the library. *Journal of Academic Librarianship*, 11(5), 284-288.

Abstract: “As information managers, librarians and administrators must play a leading role in the integrated information support system of the future. The information support centre will incorporate the best elements of existing libraries and computing centres, but cooperative development work is needed in some areas e.g. indexing and conversion of print to machine-readable form.” Abstract retrieved from Library and Information Science Abstracts (LISA) database. (Accession No. 8603046)

Annotation: Molholt traces the “information revolution” since the 1970s through the time of this paper (1985), focusing on users’ needs for greater access to information. While her analyses focus mainly on indexing electronic materials, conversion from print to machine-readable files, and user access to electronic materials, her idea that libraries must acquire the hardware and software necessary to keep up with users, all in an open and accessible facility, foreshadows the main elements of an information commons, even though the term has not yet been coined. Her article is similar to Himmelfarb’s (1999) nearly fifteen years later, in arguing that the information age calls for new ways of best serving the library’s user population. Molholt also addresses the many challenges that the information age presents to academic libraries, which are similar to the challenges that IC researchers point to nearly twenty years later, such as staff training (Steiner & Holley, 2009) and the “traditional” library’s role in the information age (Halbert, 2010).

Authority: Dr. Molholt is well known and extensively cited in the library and information sciences field, as confirmed by an “Author Search” in Web of Science. Her work is seminal in projecting the need for accessible information systems and centers in libraries.

Scholarly/Refereed Status: After the article was located via Web of Science, as described below, the article was also searched in LISA, refining the search to include only articles under both the “Scholarly journals” and “Peer-reviewed” tabs. In addition, Ulrich’s lists *The Journal of Academic Librarianship* as a scholarly journal that is refereed. The journal’s website confirms that it is an international, refereed journal whose audience includes college and university libraries.

Search Strategy: This article was found as a reference in the Spencer (2006) article below. The Spencer (2006) references were checked and the article title was entered into Web of Science. Web of Science had a “Get It” link that led to Hagerty Library, where the article was available in “Education Research Complete,” via EBSCOhost, and the full text of the article was accessed.

Database: N/A

Method of searching: Footnote chasing

Search string: Referenced in Spencer (2006) (see citation below)

Spencer, M. E. (2006). Evolving a new model: The information commons. *Reference Services Review*, 34(2), 242-247.

Abstract: “Purpose: The article aims to provide a historical context for the information commons model in college and university libraries, reviewing trends in reference services, user expectations, technology and facilities planning. It suggests future directions for expansion of the information commons model and provides URLs for academic libraries with information commons of note. Design/methodology/approach: The article serves as a frame for three other articles in this issue on information commons. Findings: In the 1990s, the move to ‘rethink reference’ services intersected with the ‘library as place’ movement. This collision, combined with changes in technology and users’ expectations, resulted in the information commons model. Research limitations/implications: The literature review is not exhaustive. Practical implications: The article provides a succinct review of recent historical trends in academic libraries as well as an overview of recent technological changes that have affected our users. Originality/value: The article is not a case study and does not focus on any one academic library. The value of the piece is its historical perspective and identification of future challenges and trends” (p. 242).

Annotation: Spencer briefly outlines the historical development of the information commons, or learning commons, as it was designed to suit academic library users’ changing technological and learning needs from the 1990s to the present. Unlike Steiner & Holley (2009), Spencer does not provide an extensive topic history and review of the literature; however, she focuses on research concerning users’ desire for a library space that combines access to technology and the digital world, and a physical space for both individual and collaborative learning. The article is particularly useful because it emphasizes the role of the information commons as it has adapted to users’ evolving academic behaviors and has become a place of “one stop shopping” for today’s multitasking users (p. 244). This model has become important in more recent research catered toward users’ learning needs, as “one stop shopping” has also come to include not only

reference services (Wolfe et al., 2010), but also faculty presence and classroom time in the IC (Beagle, 2012).

Authority: Mary Ellen Spencer has often been cited for her work in library and information science literature, as confirmed through a “Cited References” search of this article in Web of Science. Her work in this article summarizes influential articles already written about the development of information commons.

Scholarly/Refereed Status: After the article was located in LISA using the below search strategy, the search was refined to include only articles under both the “Scholarly journals” and “Peer-reviewed” tabs. In addition, Ulrich’s lists *Reference Services Review* as a scholarly journal that is refereed, and the journal’s website confirms that it is an international, refereed journal geared toward advancing of reference and user services.

Search strategy: LISA was chosen when searching in ProQuest because of its abundance of resources in the library and information science field. A keyword search was performed (using the terms outlined below), and this article appeared among the most relevant, even when the search was refined to include both scholarly journals and peer-reviewed articles. The record in ProQuest had a link to the full text or a PDF copy, and the PDF version was downloaded.

Database: LISA [ProQuest]

Method of searching: Keyword

Search string:

- “information commons” AND establish* AND university librar*
- “information commons” AND university librar* AND trend*
- “information commons” AND “university librar*” AND (trend* OR establish*)

Steiner, H. M., & Holley, R. P. (2009). The past, present, and possibilities of commons in the academic library. *Reference Librarian*, 50(4), 309-332.

Abstract: “Within the past 10 years, commons have become increasingly prominent in academic libraries. Commons evolved out of the ‘library as a place’ movement and stem from the digital revolution, increased emphasis on collaborative learning, and changing student habits and needs. The three levels of commons are information commons, learning commons, and the emerging virtual commons. Libraries implementing commons must consider the impact on reference services and staffing and be prepared for higher than anticipated use. Libraries should use both quantitative and qualitative assessment methods. Commons can revitalize the library by giving it a key role in reaching university strategic goals” (p. 309).

Annotation: Steiner and Holley trace the different meanings of the term “Commons” in academic libraries, from Beagle’s (1999) notion as a physical and collaborative space, to his 2006 “three levels” of Commons: physical, virtual, and cultural (pp. 310-311). The authors also draw on works that distinguish Information and Learning Commons (Bailey & Tierney, 2002),

but argue for the necessity of any kind of “Commons” space in an academic library. A much more in-depth history of the Commons is provided than Spencer’s (2006) article. The authors offer examples of the earliest Commons, in the early-1990s, to the most successful models and the differences in implementation approaches. The article is valuable because it blends a wide range of research and case studies to discuss the main issues in Commons literature (facilities/space, reference services, digital resources, campus relations, difficulties in implementation), all to demonstrate the resounding success of Commons and their role in helping libraries remain adaptive, relevant, and significant for users.

Authority: Robert P. Holley is a professor of Library and Information Science at Wayne State University and has contributed much scholarship to the academic library field, as confirmed through a Web of Science “Author Search.” Heidi M. Steiner worked with Professor Holley as a graduate student at Wayne State University and is currently the Head of Digital and Distance Education Services at Norwich University in Vermont (<http://scholar.google.com/citations?user=VMqj1i0AAAAJ&hl=en>).

Scholarly/Refereed Status: After the article was located in Library Literature & Information Science Full Text using the below search strategy, the search was refined to include only articles under the “Scholarly (Peer Reviewed) Journals” tab. In addition, Ulrich’s lists *The Reference Librarian* as a scholarly journal that is refereed, and the journal’s website confirms that it is intended for all reference practitioners for keeping up with changing trends in the field and offering new ideas.

Search Strategy: Library Literature & Information Science Full Text was chosen in the Hagerty databases because it was recommended by the Information Science & Technology subject specialist for its wealth of scholarly literature in the field. A keyword search was performed (using the terms outlined below), and this article appeared in the results, which were refined to only include scholarly (peer reviewed) journals. The record in Library Literature & Information Science Full Text had a direct link to the article PDF, which was downloaded.

Database: Library Literature & Information Science Full Text [EBSCOhost]

Method of Searching: Keyword

Search String:

- “information commons” AND (academic librar*) AND reference
- “information commons” AND (academic librar* OR university librar*) AND reference
- “information commons” AND (academic librar* OR university librar*) AND reference*
[limited to “Scholarly (Peer Reviewed) Journals”]

Wolfe, J. A., Naylor, T., & Drueke, J. (2010). The role of the academic reference librarian in the learning commons. *Reference & User Services Quarterly*, 50(2), 108-113.

Abstract: “Frontline reference librarians purvey their skills in a variety of reference service models. These range from the traditional to the tiered to the information commons (IC) to the

learning commons (LC). Libraries might use one pure form of any model, a hybrid model, or a model in the process of transformation. A few libraries with space and funding have fully adopted the latest model, the LC. An examination of transformations to the LC indicates that frontline reference librarians can to some extent effect changes in their professional environments” (p. 108).

Annotation: Wolfe, Naylor, and Drueke posit that the Learning Commons (LC), different from Beagle’s (1999) notion of the Information Commons, has become a space for specific shared learning tasks for users, rather than a general collaborative space designed for disparate groups. They argue that reference librarians play a new role in this specialized environment as a “blended librarian,” one who combines traditional library instructional skills with the expertise of an information technology specialist (p. 110), all to help users with task-oriented group study. The article is significant because it transforms Beagle’s (1999; 2002) notions of the IC, as a place where users can both collaborate with others and receive bibliographic instruction, to a center focused on reference and research, emphasizing collaboration and communication among users. The authors also emphasize that librarians must be flexible and open to change in order to make this model successful in an academic library.

Authority: Judith Wolfe, Ted Naylor, and Jeanetta Drueke are all professors and librarians at the University of Nebraska-Lincoln. All authors have published articles in the Library and Information Science field, from areas such as collections, to reference services, to Interlibrary Loan, as confirmed through a Web of Science “Author Search.” They offer an authoritative and valuable perspective on the role of LCs in the academic library.

Scholarly/Refereed Status: After locating the article in Library Literature & Information Science Full Text using the below search strategy, the search was refined to include only articles under the “Scholarly (Peer Reviewed) Journals” tab. In addition, Ulrich’s lists *Reference and User Services Quarterly* as a scholarly journal that is refereed. The journal’s website confirms that it is the official journal of ALA’s RUSA, and that it provides information for reference librarians and information professionals.

Search Strategy: Library Literature & Information Science Full Text was chosen among the Hagerly databases because it was recommended by the Information Science & Technology subject specialist for its wealth of scholarly literature in the field. A keyword search was performed (using the terms outlined below), and this article appeared in the results, which were refined to only include scholarly (peer reviewed) journals. The record in Library Literature & Information Science Full Text had a direct link to the article PDF, which was downloaded.

Database: Library Literature & Information Science Full Text [EBSCOhost]

Method of Searching: Keyword

Search String:

- “information commons” AND (academic librar*) AND reference
- “information commons” AND (academic librar* OR university librar*) AND reference

– “information commons” AND (academic librar* OR university librar*) AND reference*
[limited to “Scholarly (Peer Reviewed) Journals”]

Personal Statement

While completing this bibliography, I have not only learned much about IC literature, both past and present, but I have also been able to see this research enacted in the field each day through my Information Commons internship, which has provided an amazing learning opportunity. The IC where I work, the David B. Weigle Information Commons (WIC) at the University of Pennsylvania, opened in 2006 at a time when ICs were experimenting with different resources to offer users: the latest technology, reference and instructional assistance, and interaction with academic departments to design course learning outcomes. In fact, Donald Beagle (2012) opens his most recent article on ICs using WIC's 2008 Annual Report to relate an example of how one professor's freshman writing class greatly benefitted from both the technological and physical resources that WIC has to offer (pp. 518-519).

In its early days, the IC was very much focused on two services: technology and facility. While these remain two essential features of ICs today, I have learned from the articles I studied that the IC is supposed to meet multiple needs for a variety of users, not only undergraduates, but also graduate students, continuing education students, and even community members who use the library. The information desk at an IC is particularly catered toward "one stop shopping" (Spencer, 2006, p. 244), and is meant to be a place where students not only can obtain help with technology, but also can be tutored in reading, writing, and speaking skills from services that come to the Commons from other areas of the university. When I work at WIC's information desk, I often wear many hats, another tenet of the IC research I studied. From troubleshooting technology, to providing software advice, to coaching article and book searches, to teaching workshops of my own, I am responsible for a wide variety of tasks, all while maintaining a strong public service presence. Although many of the articles I read reinforced this staffing pattern, some cited staff flexibility as a hardship, in that IC work can seem "demoralizing" for

professional librarians (MacWhinnie, 2003, p. 253), as troubleshooting or technological questions can often be basic and mundane. It was interesting to see this take on working at an IC desk, especially in a field so public service oriented as library and information science.

The most interesting for me, in terms of how the literature I reviewed relates to my field experience, has been the recent trend toward studying learning outcomes and library-produced scholarship from IC usage. At WIC, we have many programs that invite students to take advantage of our resources, obtain assistance from our professional staff, and produce digital projects that we then showcase on our website and across the university. Course usage has increased since WIC's early days, and more and more humanities professors are taking advantage of WIC's resources and technology, which is very exciting. These examples from WIC fit nicely with current IC/LC literature that studies trends in student learning, and how ICs can support a new generation of scholarly research. Overall, I have learned through this project and have seen firsthand how ICs are strengthening the academic library's contribution to research in all fields. I believe that the IC's role in academic libraries will only continue to grow as academic scholarship becomes increasingly digital and collaborative.