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Information Commons Redux: Concept,
Evolution and Transcending the Tragedy
of the Commons

D. Russell Bailey*

Barbara Tierney†

*Providence College, drbailey@providence.edu

†University of North Carolina

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Information Commons Redux:
Concept, Evolution and Transcending the Tragedy of the Commons

Russell Bailey and Barbara Tierney
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Russell Bailey, Associate University Librarian for Information Commons, J. Murrey
Atkins Library, University of North Carolina Charlotte, rbailey@email.uncc.edu;
Barbara Tierney, Associate Professor, Library Public Services Group Chair, Information
Desk Coordinator, J. Murrey Atkins Library, University of North Carolina
Charlotte, bgtierne@email.uncc.edu.
9203 University City Boulevard, Charlotte, NC 28223-0001

ABSTRACT: This paper reviews “information commons” concepts 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 which results from this implementation. The paper discusses potential problems and suggests solutions.

The phrase and various conceptualizations of information commons (Commons) have gained currency in recent years. Much has been written and published on the topic of the Commons, both in print and on the Web, and many versions of the Commons have at least begun to be implemented. Most of this Commons activity includes an emphasis on higher technologies and a focus on information access for various groups (e.g., students and citizens of a particular area), and some of it is located in libraries. This article briefly reviews various conceptualizations and the state of Commons implementations, then focuses specifically on a particular library-based integrated-services model. Furthermore, the article provides some examples and rationales for integration in the functional and strategic administrative/organizational domains, describes the evolutionary development to date of one integrated model and suggests directions for further developments. The discussion of functional integration focuses on the pivotal role of the Information Desk concept and its relationship to a well-known service model. The ongoing role of evaluation and assessment in Commons development is described. The article finally broaches the “tragedy of the commons” notion and suggests how some aspects of tragedy might be transcended.

COMMONS CONCEPTUALIZATIONS

Information Commons conceptualizations are of three basic types:

1. The world of information, especially digital information on or via the Web, as the macro-Commons;¹
2. Areas, modules or components of an institution with a high concentration of computer/digital technologies, peripherals, software options, and network infrastructure, as a more localized or micro-Commons;² and
3. Integrated centers for research, teaching and learning, with a strong digital focus and often housed in or at least inclusive of a library, a more integrated Commons (“continuum of service”).³

The last type is of primary interest to the discussion here.

In 1999 Donald Beagle,⁴ together with commentators Martin Halbert⁵ and Philip Tramdack,⁶ presented substantive theoretical and applied roadmaps for an integrated Information Commons in an academic library environment. Their discussion of concepts and implementation focused on the need to provide:

- Research guidance and technical support for patrons, who need access to information in all formats, with an ever-increasing quantity of digital resources;
- Access to appropriate hardware and production/presentation software to process the acquired information as needed and support for these hardware/software resources;
- Appropriate physical spaces to allow, support and enhance patrons’ research and production;

- Clear intent on the part of the institution, the library administration, and involved staff to create, support and maintain these structures and services;⁷ and
- A cultural environment and mechanisms that encourage, shepherd and nurture evolutionary change, which is inevitable in academic libraries.

Numerous other writings, including a recent article by Allison Cowgill et al,⁸ contribute to the catalog of theoretical and practical knowledge on Commons development. Most of this catalog is on the Web, and examples of Commons implementation are not primarily or exclusively in the library.⁹ Still, the body of knowledge in support of the integrated services model within an academic library is convincing enough to elicit clear intent and commitment from many institutions, such as the University of North Carolina at Charlotte (UNCC).

STRATEGIC FIT AND FUNCTIONAL INTEGRATION

Beagle stressed strategic fit and functional integration.¹⁰ He cited, among other illustrative examples, his work in the Commons at UNCC. He has since moved to a library directorship, but much of the understructure which he described in his seminal article has continued to evolve at UNCC. He chaired a broadly focused UNCC Information Commons Task Force in 1998-1999, charged by the Provost with investigating the literature and national models to determine how a Commons might be implemented in terms of physical space and service framework and how a nascent Faculty Center for Teaching might be located in the Commons, whereby the Commons and the Faculty Center for Teaching might be substantively interrelated. As in many institutions, the Commons concept had been under discussion for several years, and the Information Commons Task Force focused and extended this discussion toward

recommendations, which could be implemented. The in-house report of this Information Commons Task Force¹¹ was informed by Beagle's conceptual article, which the Task Force read and which was published in 1999.

STRATEGIC FIT

Figure 1 illustrates strategic fit (in terms of organizational/administrative integration), as it has evolved in the UNCC Commons based on Beagle's work. The formal Commons structure has evolved somewhat since Beagle's 1999 article, as has the primary mechanism for theoretical and applied Commons activity, the Information Commons Planning Group. Such a Planning Group is an essential component of Commons initiatives and usually moves the initiative from concept to implementation. The formal Commons consists of five sections with heads/coordinators, who report directly to the head of the Commons (the solid-line bolded network of Figure 1): (1) Reference Services (desk services, research consultations, participation in print and Web collection development, class Web page development, library instruction and departmental outreach), (2) Research Data Services (consultation for large data-file searching, retrieval and manipulation), (3) Media Services (desk services for an extended public-access computer lab, support for multimedia, graphics and scanning resources and for general instructional technology), (4) Instructional Services (class-assignment-based library instruction including some Web-based material), and (5) Information Desk (first-response location for information and informed referrals to service desks, specialists and all areas of the Library).

Figure 1
 Information Commons Strategic Fit of
 Administrative/Organizational Integration

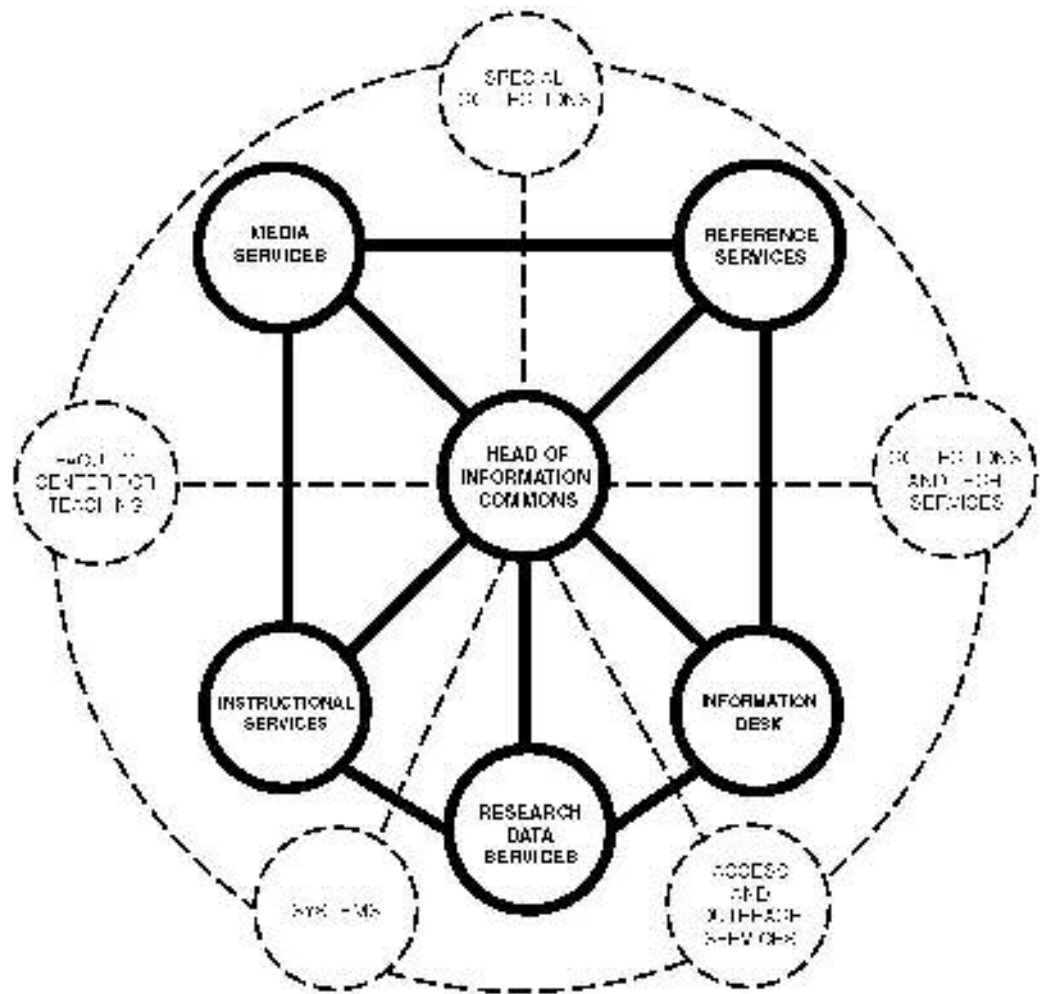


Illustration by Ron Lewis

— Addressed functional relationship
 - - - Potential or one-to-one relationship

This Commons Planning Group consisted originally of a few Library faculty and staff, primarily the three formal Commons section heads. As is often true with functional teams, the Planning Group has evolved in make-up, size, and function as a Commons integrating mechanism. Actual Commons strategic fit is revealed by the make-up of Planning Group membership. In Figure 1 this “enhanced Commons”, as represented by the Planning Group, consists of not only the formal Commons (heads of the Commons and its five formal constituent sections and additional representatives from each of these sections), but also representatives from every section of the Library and from the related Faculty Center for Teaching: all second-level (Associate and Assistant) administrators except human resources (Systems, Access & Outreach Services, Collections & Technical Services and Special Collections), heads of the other two public service desks (Circulation and Reserves), the director of the Faculty Center for Teaching, and various representatives from Commons service staff (the dotted network of Figure 1). The Planning Group is open as a “public meeting” to the entire Library staff.

The Planning Group meets regularly and is responsible for developing all Commons resource and service plans and policies. Agenda items and issues come from patron input, individual Library staff, Library unit meetings, weekly or bi-weekly administrative meetings with the head of the Library, or simply arise during the discussion. Issues are discussed and processed in the Planning Group and are often referred out for development or approval. The Planning Group serves to build strategic fit through (1) its constituent nature (all units of the Library and occasionally other University units), (2) its broad formal and informal communications (with all units of the Library and other University units), and (3) its activities and initiatives, which emanate

into all areas of the Library and beyond. The Planning Group receives and transmits communications and input in all formats (e.g., face-to-face meetings, Commons listservs, paper-print communiqués, and Commons Web site). Regular meeting minutes are distributed Library-wide. Memoranda and communiqués move almost constantly between the Planning Group and various related groups. From the Planning Group emanate information-gathering activities (simple questions to fairly elaborate surveys), which provide input to fuel and enrich discussions and planning. The Planning Group issues recommendations to Library committees for policy decisions and decides and implements action plans.

The administrative head of the Commons has a broad array of interactions. This administrative figure meets regularly with the head of the Library, with all Library administrators and with staff from throughout the Library, and participates in regular meetings with University-wide agendas (including monthly meetings with the Provost). Participation by the head of the Commons in this network of intra-Commons information and ideas (as in Figure 1) interfacing with the Library- and University-wide networks, constitutes the dynamic web of information and ideas that create the Commons' strategic fit in and beyond the Library.

One final initiative in creating strategic fit is strategic planning. As is common in institutions of higher education, UNCC plans strategically to merge concept with implementation with funding. Five-year academic (strategic) plans are updated and regenerated every two years, from the institutional to the unit level. This activity was also undertaken in the Commons. The strategic planning activity served not only formally to complete this strategic planning task for the Commons unit, but actually

allowed and precipitated intense, focused, broad-based design and creation of the Commons. The vision-mission-goals-and-objectives document was created as a work-in-progress. It is a dynamic and purposefully “fat product,” a working document created to be inclusive, to bring intense and broad-based energy to focus on questions of

- What is the Commons?
- What are vision and mission of the Commons?
- What are Commons-wide and unit goals and objectives for the next several years?

The vision documents set about answering these questions in a manner that encourages and allows the dynamic Commons to be created and to evolve in an ongoing way. The process extended over eight months, with the purpose of creating a set of valid, working documents of integrity, which enjoy broad support and serve as the basis for ongoing planning and implementation activities. The documents are in the appendix and are accessible together with goals, objectives, and other relevant materials, on the Commons Web site at <http://libweb.uncc.edu/library/infocom/> (April 15, 2002). The document was presented as a working document, to be reviewed and refined in the next planning process, and it now serves as the basis for Commons planning and activities. Similar documents related to planning, vision, mission, goals, objectives, floor plans and other aspects of numerous Commons in higher education are available at http://www.brookdale.cc.nj.us/library/infocommons/ic_home.html (April 15, 2002).

The process for developing strategic fit has several forces forming and driving it. Over the last decade, the heads of the Library had begun developing the ideas inherent in an integrated Commons. This prolonged gestation and development process is typical of

Commons initiatives. A few years ago the head of the Library hired administrators to begin actually developing a Commons. The University Provost (representing top-echelon administration) charged a task force with a Commons-focused investigation and recommendations. This administrative structure, which supported development of a Commons, has remained relatively focused and well funded.

The present head of the Commons created a structure to support and refine the Commons focus and developed mechanisms to move the enterprise forward. A set of regular formal and informal meetings within the Commons and beyond, out into the entire Library, helped nurture a functional Commons network. As indicated in Figure 1, the Planning Group pulled together constituents from throughout the Library and in so doing helped create a sort of grass roots, organically developed focus of strategic fit.

FUNCTIONAL INTEGRATION

Figure 2 illustrates functional integration as it is being implemented in the UNCC Commons. Functional integration requires staff flexibility and adaptability sufficient to support the new patterns of service.

Within academic library staff models, there is tremendous variation along the continuum of staff resources from the generalist collaborator (similar to Beagle's "hybrid support staff"¹²) or flexible, well cross-trained professional at one end, to the pigeonholed staff or professional specialist (back-office consultants or strict subject specialists or bibliographers) at the other. The integrated-services model requires cooperation among staff representing all the points along the continuum, while emphasizing integrative activities: vertical integration and cooperation within units (including the Library as a whole), and horizontal integration and cooperation among units.

Adaptation of a model for research consultation known as the Brandeis model,¹³ if extrapolated from only reference services across the Commons and the Library to all service desks, serves to facilitate integration of these various staff resources. The Brandeis University model reassigned paraprofessional staff (graduate assistants from special fields, but it could include other staff) to a desk to provide informed referrals, and to field and process basic and sometimes mid-level reference questions, freeing up the professional reference specialists for more in-depth work and extensive consultations with patrons. “In this model, graduate students staff the general reference desk. They are trained by a professional librarian to answer low-level questions and have an ‘Information Desk Assistants Manual’ of approximately 100 pages to assist them. They refer all other questions, even in areas in which they may have some subject expertise, to the professional librarians in the consultation...The model allows 20 minutes per patron, if needed, for consultation.”¹⁴ Another model described by Graves¹⁵ used paraprofessional staff with similarly successful results. The UNCC adaptation of the Brandeis model uses paraprofessional staff and student assistants (graduate and undergraduate), who are overseen by a professional librarian. The Information Desk staff provides informed referrals and negotiates appropriate levels of service with the specific desks (circulation, media services, reference and reserves).

Implementation of this adapted model informs the Beagle’s Information Desk, the “first point of contact and general help center”¹⁶ and primary locus for informed referrals emanating out into the physical and virtual library resources. This adapted model has been implemented in the Commons as it evolves at UNCC.

At the functional center of the Commons, is the Information Desk (what Beagle termed the “general information and referral desk”). The Information Desk serves as the first point of service that library patrons encounter upon entering the building, providing basic information on all services and resources within the Library, as well as general information about the University. When the patron’s query moves to a certain level of complexity, Information Desk staff members are trained to provide informed referrals to other desks or specialized staff and locations. With the Information Desk as the functional central focus of the Commons, the other areas and desks provide the following services and resources:

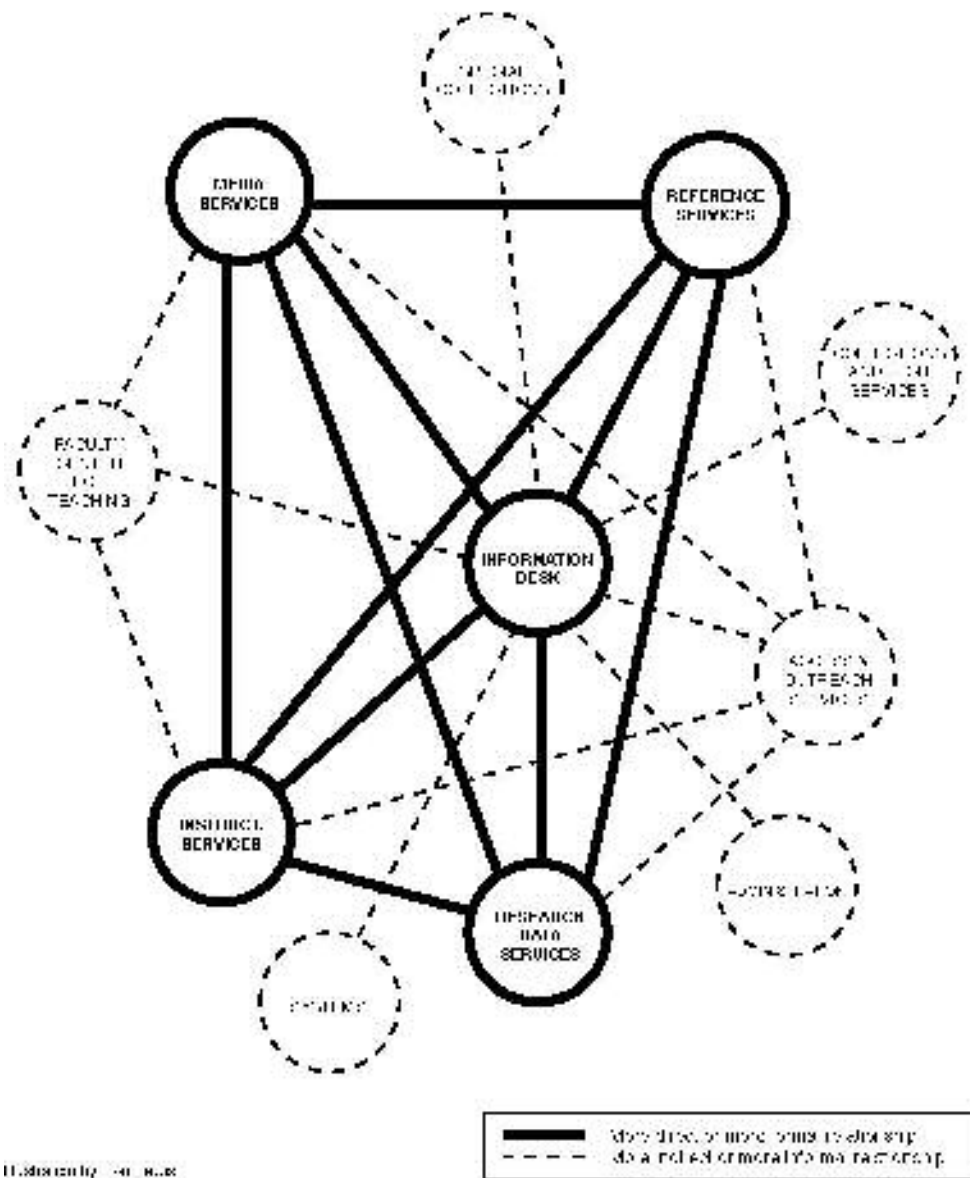
- Research Data Services provide resources and direct support to the campus community for its machine-readable data needs. The technology resources (computer hardware and software) are accessible in public areas and staff-mediated areas. Research Data Services staff assist researchers by identifying available data, obtaining data through memberships or purchase, reformatting the data into a useable format for the researcher, and assisting the researcher in manipulating the data and presenting it in a variety of formats. Research Data Services staff also produce end products for instructional support (data sets, maps). Staff are also integral participants in various Commons-wide initiatives.
- Instructional Services provide educational support in library services and resources to the campus community. Library instruction, being primarily assignment specific and research process oriented, is provided by 12 professional librarians for all levels of the university curriculum. Facilities for instruction include two instruction rooms located within Atkins Library, with one room having 20 PCs

- available to students for hands-on instruction and the other room having a demonstration terminal. A 20-unit mobile wireless laptop classroom provides additional options. Staff are also integral participants in various Commons-wide initiatives.
- Media Services provide resources and direct support for patrons' production / presentation activities in various media (print, sound and still and moving images). The technology resources (e.g., extensive computer hardware and a full range of applications software and peripherals) are accessible in public areas and specialty and staff-mediated labs. Instruction in the use of the resources is provided primarily on an as-needed basis; plans for more instructional sessions are in development. Media Services also support instructional equipment in many UNCC classrooms, provide some support for faculty online teaching (e.g., WebCT), and provide facilities and technical support for distance learning, videoconferences, and television production (the University channel). Staff are also integral participants in various Commons-wide initiatives.
 - Reference Services provide traditional and high-technology-enhanced services. The Reference Unit serves as guide and intermediary to the growing print collection and increasing number of complex online resources from commercial publishers, non-profit bodies, all levels of government, and intergovernmental agencies. Librarians and staff who comprise the Reference Unit serve scheduled hours at the Reference Desk, which is the front line in teaching students and other patrons one-on-one how to best utilize the books, journals, newspapers, government documents, full-text resources, online bibliographic databases, and

other sources necessary to undertake research for writing term papers, completing homework assignments, and conducting university quality research. Members of the Reference Unit also teach large numbers of classes, create useful and innovative Web sites, recommend materials for the collections, including reference, and generate user's guides for students. They are also integral participants in the Liaison Program and various Commons-wide initiatives.

Functional integration is accomplished primarily through the Information Desk, which sits at the center of a broad array of Commons constituent participants (Figure 2).

Figure 2
Information Commons Functional Integration



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The Information Desk serves as the first point of contact for patrons, responds to needs or uses information from patron contact to make an appropriate informed referral. The Information Desk is also the dynamic repository of Library information (from contact and service directories to schedules, specialty resources and bookings for collaborative work areas), and its primary mission is to provide general library and campus information as

well as informed referrals to other public service desks and all areas within the Library. In addition, the Information Desk at UNCC books library collaborative study areas, assists with library security functions, monitors various machine problems and provides the headquarters for nighttime “manager-on-duty” activities, among other things.

As Beagle pointed out in his article, “the physical space of an Information Commons may vary from campus to campus, but certain key features tend to emerge. One feature is the new importance of a general information and referral desk which functions as first point of contact and general help center.”¹⁷ Beagle quoted a University of Toronto planning document which stated: “We propose that the Information Commons have a front help desk serving as a single point of contact for information technology support, supported by specialized support desks...The front help desk should be accessible by telephone, e-mail, and the World Wide Web”.¹⁸ As has been the case with many Commons initiatives, the move from Information Desk concept to reality has been slow and incremental.

The conceptual proposal for the Information Desk went through numerous iterations before it received administrative approval. Since the Information Desk was considered by a majority of staff as a necessary component of the Commons, many typical and potential difficulties were avoided or relatively easily resolved. More typical issues, which appeared and were at least temporarily resolved are:

- Specific expectations of the desk staff vis-à-vis the other service points in the Commons;¹⁹
- Ideal staffing options, job descriptions, and hiring procedures;

- Interim staffing options (voluntary reassignment of existing staff), including student assistants;
- Creation and nurturance of a broad, informal team committed to success of the Information Desk;
- Creation and updating of appropriate informational documentation for Information Desk staff;
- Training of interim and full-time staff (primary and ongoing); and
- Formative and summative evaluation procedures for ongoing refinement.

The two most important long-term issues are training and evaluation.

Primary and ongoing training is essential to functional success of the Information Desk and of primary importance in creating collaborative attitude among staff. Cowgill, Beam and Wess placed great emphasis on training in their article as well (see footnote 8). In order to train effectively, it is important that a responsible person or group (coordinator or coordinating team) create and describe the requisite competencies and skills for Information Desk staff. These will probably include purely informational competencies specific to the Information Desk, as well as base-level knowledge of services provided by all service desks. Training is probably best provided by specialists from each service area or desk and is usually most effective in small groups (5-10). Task descriptions based on pertinent training materials and followed by hands-on practice ensure the most effective training. The training can be updated regularly via logs, listservs, and other media, as well as in periodic formal sessions. This base-level knowledge of all services brings greater substance to the informed referral, which is probably the activity of the Information Desk, which enjoys the greatest and most widespread impact.

The informal, incidental creation of an Information Desk team is one of the most effective and influential results of this and similar Commons initiatives. The formerly discrete units (Reference, Research Data, Instructional and Media Services) relinquish their segregation for the common good. As Beagle predicted, “While core services retain their respective identities, the Information Commons creates an environment where old boundaries are blurred and many constituent activities flow across the old unit divisions.”²⁰ Nowhere is the validity of Beagle’s statement more in evidence than in the staffing and provision of services at the Information Desk.

At times the patron receives an acceptable response immediately at the Information Desk. At times the patron is referred out (being either sent or led to the point of referral), where the patron either receives an acceptable response or is referred on for further and usually more substantive consultation. This process may continue until the patron receives an adequate response to his/her need. The staff often maintains contact throughout the process until the patron’s need has been met. So, the Commons staff meets the patron’s need somewhere along the continuum from “first-response” to “extensive consultation.” Depending on the model, the Information Desk staff can either refer patrons out earlier, at a lower level of complexity, or later, depending on the level of training, responsibility and authority vested in the Information Desk staff. Some specialty desks prefer extensive control of patron questions at all or most levels, and some desks decide on less control and higher levels of complexity before the patron is referred out. The point of referral depends on agreement and comfort level decided by the local Commons staffing team. In some service areas (presentation, circulation and

some research questions) at UNCC, the level of complexity at which the patron is referred out is slowly rising as training and collaboration dictate.

One additional aspect of UNCC's Commons, which is partially resolved and integrated at the Information Desk, relates to Beagle's question: "Does the virtual environment work better with uniformity or differentiation?"²¹ At UNCC, as in many institutions, multiple computer platforms, profiles, etc., coexist and persist, usually for reasons other than intentional design. For instance, the UNCC campus network runs on Novell, but the Library moved from Novell to Microsoft NT ca. four years ago (to break through incompatibility and related issues). The dual network structure persists, the Library still runs almost all of its machines on Microsoft NT, and many Library staff are enamored of this platform out of habituation. The reference / research machines run on NT and use a particular reference profile. One area in the Commons runs Novell (this is the production / presentation area, which is almost identical in resources, look, etc., to other student labs on campus). While these differences present few difficulties for the initiated, they are problematic for many patrons and some staff. Patrons are often simply unable to locate the resource they need when they need it (for instance, to find the appropriate database or move an informational file into appropriate production / presentation software) or to move information to production software.

When designing and implementing the Information Desk, the Coordinating Team, the head of the Commons, and the head of Systems saw an opportunity to overcome some of these difficulties and to move toward integration. Drawing on Halbert's response to Beagle's question, the group contemplated what Halbert calls *ubiquity*: "Cars, telephones, and vending machines are ubiquitous features of everyday life precisely because they

strike this intuitive balance. The challenge in designing Infocommons workstations is the same – to really make the concept work. There must be a critical mass of fundamental commonalities; at Emory these are identified as logon procedure, common GUI and menu approaches, and core sets of software resources.”²² While UNCC has not yet been successful at achieving the solution which Emory achieved, the Commons has moved incrementally toward it by having both networks (Novell and NT) and all available software applications active on computers at the Information Desk: Information Desk staff can locate, demonstrate, trouble-shoot, etc., virtually everything which a patron would encounter on public machines. The Commons may move eventually to a single network platform with differentiation and movement occurring digitally as the patron determines her/his need; at present, the patron must physically move to the desired network platform / software resources.

One final aspect of the Commons, which emanates from the Information Desk, is the use of collaborative work / study areas. As Beagle suggested, “another key feature of the Information Commons is the coordinated and extended set of study and workspaces offering an array of options ranging from traditional individual study to collaborative conference areas.”²³ Beagle quoted Charlene Hurt’s observations, that “teaching and learning are becoming more collaborative ... library users need group study rooms and tables, individual and group carrels, and a mix of seating comfortable for various styles of working together. They also need access to media and technology in shared environments...”.²⁴ Beagle further cited Hurt’s implications of this design concept on delivery of reference and instructional services: “[w]e have to accommodate a variety of learning styles, including classroom instruction, small group coaching, individual

appointments, and drop- in assistance. The library must include a networked flexible instruction room, workstation carrels for small groups, a reference and/or information desk for drop-ins, and nearby offices for sustained consultation’.²⁵

With the opening of the new Commons, there is now a variety of collaborative work/study areas available to Library patrons. These include a total of 18 group study rooms (three of which offer computer / DVD equipment and two of which offer specialized AV equipment for ADA patrons), four conference rooms, and five classrooms. Most of these collaborative work / study areas are within easy access to the Information, Reference, and Media Services Desks and are available to patrons all hours that the Library is open to the public.

To summarize functional integration in the Commons, the concept of the Information Desk, based on a refinement of descriptions from Beagle et al and an adaptation of the Brandeis model, created a road map for functional integration in the Commons. Typical constraints of budget unpredictability, extending and restructuring staff assignments, and reorienting staff and patrons to new service patterns, could have created intractable impediments to implementation. In fact, the feasibility of the original (and refined) concept coupled with intra-Library intent and momentum resulted in a very workable and functionally integrated pattern of services in the Commons as depicted in Figure 2. There is regular interaction among all points of service activity. Whenever there is a question or concern needing quick response or informed referral, it is usually funneled through the Information Desk – the terms “informational triage” or “informational switchboard” have been used in several conversations. The next section looks at determining how well it functions.

EVALUATION AND ASSESSMENT

Clear and effective evaluation and assessment are requisite components of any academic service area and have direct implications for funding. Thus, they have been emphasized as an integral component of the Commons. Three professional staff recently participated in the Association of Research Libraries online lyceum “Measuring Library Service Quality.” Lessons and expertise from this work and other evaluation / assessment expertise from within the Library have been brought to two evaluation / assessment initiatives: a Library Instruction Assessment Committee and a Public Service Desk Assessment Committee. Each committee is designing an evaluation / assessment program using appropriate quantitative and qualitative data. The structures correspond to both formative and summative evaluation of Library services. The Commons staff is standardizing statistical data collection and storing these data in spreadsheet (Excel) and database (Access) format for processing and analysis by the resident Commons SPSS statistical software expert. Several survey instruments are in development: (1) a survey of staff members, who have served at the Information Desk, (2) at least one survey of Library patrons vis-à-vis public service desk effectiveness, and (3) instruments for students and for faculty (Library and classroom) participating in Library instruction. Carefully structured “focus groups” will also be used wherever possible. Anecdotal data and regular self-reports will provide additional information to enrich evaluation / assessment activities.

The Commons staff is using these instruments on a pilot basis now and in the following semester. Reports from the various committees and other evaluation / assessment groups will wend their way through administrative and faculty Library

councils for input, refinement, and approval. These focused evaluation / assessment efforts, which have emanated most strongly from the Commons, will then move throughout the other areas of the Library. In a sense these Commons evaluation / assessment initiatives serve to integrate services across the Library both functionally and administratively.

THE TRAGEDY OF THE COMMONS

In reviewing concepts of the “commons,” some interested and concerned professionals in various fields have raised intriguing cautionary flags. They have prophetically described and explicated a “tragedy of the commons”,²⁶ a characteristic human tendency (“the remorseless working of things”²⁷), which is inherent in “commons” systems: the tendency to freely consume “commons” resources without responsible maintenance and replenishment of these same resources. Although this particular tragedy has been documented primarily in the natural environment (farmers sharing grazing territory and fishermen sharing common waters), these same tendencies are at work in the information commons environment as well. Lessig discusses this tragedy of the information commons and describes it as a tragedy pertaining to depletable resources, resources which he describes as “rivalrous”.²⁸

Left unmonitored some patrons would abuse resources to the point that they were depleted or somehow despoiled and made insufficient for patron needs. One can take certain steps to monitor and apply resources in an appropriate and efficient enough manner to transcend the tragedy. One implements “pay-for-print” to stem the flood of patron printing. One can lock down access to computer profiles and segments of the drives and network and can implement self-re-ghosting (re-creating the computer’s

image) or use self-cleansing software (e.g., Fortress' Clean Slate) to prevent downloading of software (resource pollution), purge unwanted files, etc., as a means of ensuring the most efficient and equitable use of resources. Only certain patrons (institution's students, faculty and staff) are authenticated to use proprietary databases. These are common steps to transcend this particular tragedy in the Commons' information environment.

Probably the most effective, long-term resolution to the threat of resource depletion is the sort of careful, consistent training and education of staff and patrons, which is at the heart of the Information Desk concept. Just as staff are trained and educated to carefully consider patron needs, respond and refer appropriately, staff are urged to train and educate patrons to select and use resources in the most efficient and effective manner. Resources are then more often used to support patrons' academic needs, diminishing use for less relevant chat, personal email, consumer shopping and other less appropriate activities. This approach saves time and access for more pertinent work. Staff members encourage patrons to use the most appropriate form for saving and moving work (floppy disk, zip disk, readable CD, or e-mail attachment instead of printing). This approach saves paper, toner and other printing resources.

At least two other tragedies-of-extreme imperil information environments such as Libraries, especially pertaining to the Commons concept, and they are more intractable to change. One is the resistance culture of limited responsibility; the other is the chauvinist culture of expertise.

It is problematic for the Commons when individuals or groups stake territorial claim to a particular area or a particular service or level of service; an example of this tragedy of chauvinism is when the high-end graphic specialist or the chemistry librarian

wants all queries related to graphics or chemistry sent to her/him to avoid wrong answers. As with the tragedy of depleted resources, probably the most effective, long-term resolution to the tragedy of chauvinism is the collaborative efforts based on careful, consistent training and education of staff and patrons which is at the heart of the Information Desk concept. When professional and paraprofessional staff can negotiate agreement on the authority of the various staff (including Information Desk staff) to be allowed to handle basic information questions and less complex computer application, research, or circulation questions, then the claim of specialized staff to the territory of more complex questions remains intact and is less likely to have detrimental effect on the use of available resources to provide patron-requested services. This collaborative approach to responding to patron needs decreases the likelihood of the tragedy of chauvinism.

The idea that only an expert should be allowed to respond to any query in her/his area has been questioned and at times countered in practice and studies of computer labs, libraries and schools (peer tutoring and counseling) for some years. The “correct” answer is elusive and at times overemphasized. Concepts such as cross-training to provide first-response and to clarify the valuable role of informed referrals to areas or staff with expertise (be it for chemistry databases, PhotoShop capabilities or accurate rendering of diacritics from another language) can be very helpful in transcending this tragedy of chauvinism, when these concepts are integrated into the Commons culture.

It is similarly problematic when individuals or groups proscribe their participation in the provision of service. An example of this tragedy of resistance is when presentation software support staff respond to a patron seeking guidance finding periodical

information saying “that’s a Library question,” instead of taking time to “interview” the patron to determine need for an appropriate referral. It undermines the Commons concept when areas, spaces, or services are segregated in terms of responsibility or authority.

Informal and incidental lures into other areas of responsibility often pull resistant staff outside their areas of official responsibility into new and sometimes refreshing areas of activity. The movement of staff into new spaces and areas of responsibility in order to staff the Information Desk served to transcend the tragedy of resistance in the Commons at UNCC. Staff responded directly to patrons as they came in the door, even if their normal official responsibilities kept them totally out of contact with the public. Staff answered questions (sometimes by referring directly to the informational binder on the shelf beside them), when they had only learned about a service in a cross-training session the day before. Staff referred a patron to an area or staff person with pertinent expertise (sometimes by simply checking for subject-area experts on the Web site), even when they had never heard of this area or person before (or only in a recent cross-training session). At least some of these staff forgot their resistance and moved outside their areas of assigned responsibility simply because the goal (in this case the staffing of the Information Desk) was so clear and meaningful that they were allowed to make the choice. Once there, many of these staff decided they would like to continue their participation (according to completed staff surveys).

Tragedies such as these will continue to haunt the Commons. It is incumbent upon Commons administrators and participants to remain aware of these tendencies and

learn to create, adopt, and adapt mechanisms for transcending them or at least minimizing their effect.

CONCLUSION

Of the several iterations of Information Commons that exist or are being developed, the integrated Commons in an academic library environment is one that attempts to provide a seamless continuum of patron service from planning and research through presentation into final product. Guidance on concept and implementation of this integrated Information Commons model, taken from Beagle et al has been adapted and implemented in the UNC Charlotte Library. This article has described how the Information Commons Planning Group, led by the head of the Commons, has served to enhance the strategic fit. The article has detailed how the Brandeis model has been adapted to effect functional integration with the Information Desk as the central integrating mechanism. The relative value-added of this integration must be monitored and assessed on a regular basis.

The most important and powerful result of this integrative theory-into-praxis is the professional and paraprofessional team, which can be built in an informal, incidental manner. The conceptual and functional integration is an effective and efficient model for provision of informational services. However, the synergistic momentum of an integrated team is human resource capital, which can bring greater efficiency and effectiveness to other initiatives within the Library and beyond.

The Information Commons, as with all “commons” entities and systems, suffers certain tendencies, which are counterproductive and enervating, so-called “tragedies,” and it is sensible to bear them in mind. Awareness and careful monitoring of these

tendencies will allow greater control over them. Like any other system, the “commons” must be nurtured and protected against abuse and misuse, which otherwise move toward depletion of resources or systemic dysfunction.

This article has recommended certain types of safeguards to protect and nurture the integrated Information Commons in an academic environment. Ongoing work and reports from the field are clarifying the role, which such an Information Commons model can play in the provision of informational services.

Two such substantive efforts are David Murray’s “Information Commons - a Directory of Innovative Services and Resources in Academic Libraries” (at http://www.brookdale.cc.nj.us/library/infocommons/ic_home.html, April 16, 2002) and Lawrence Lessig’s recent (2001) monograph, *The Future of Ideas. The Fate of the Commons in a Connected World*. Murray’s directory provides access to rich materials from academic libraries with functional Commons. This directory also documents the extensive interest in and variety of Commons initiatives. Lessig’s volume is more broadly conceptual in its focus on the larger macro-commons. He emphasizes the creative and innovative energies which symbiotically thrive and nurture each other in the Commons environment.²⁹ The model described in this monograph provides both an environment and patterns of interaction, which integrate the resources (human, facilities, technology, informational content and software) in a synergistic manner to enhance provision of patron services in innovative and creative ways.

APPENDIX

Information Commons Vision

The central purpose of the Library’s Information Commons is to provide informational services which facilitate and enhance the teaching-learning-research enterprise at UNC Charlotte both as it exists and as it develops a more substantive research character. The Information Commons, in close collaboration with Access and Outreach Services, Library Systems, and other Library units, aspires to provide dynamic, integrative access to 1) appropriate spaces, 2) informational and technological resources, and 3)

informational and production support services for UNC Charlotte's current and changing student and non-student patrons—undergraduate and graduate students, faculty, staff and community users, whether these patrons are on campus or remote.

The Information Commons, consisting of Instructional, Media, Reference and Research Data Services, seeks to meet the informational needs of its primary patrons, who are, at once, undergraduates (80+%, 15,000), graduates, and the faculty who teach them. With an ever-increasing number of graduate students as the University evolves from Doctoral Intensive to Doctoral Extensive in the next decade and grows to a student body of approximately 25,000, the Library and Information Commons must serve traditional undergraduate students, while developing new ways to provide for the needs of growing and evolving graduate and professional research programs. The Information Commons' substantive relationship with the Faculty Center for Teaching, which is located in the Information Commons, will help the IC and other library units develop resources and support structures as well as expand, update, and evolve these to meet the changing needs of our patrons, especially as they effect the teaching-learning-research enterprise.

Information Commons Mission

The mission of the Library's Information Commons is to integrate in design and function the Library's (1) spaces, (2) informational resources, (3) technological resources, (4) production resources, and (5) support services in such a fashion that patrons experience a seamless environment for contemplating, planning, researching and bringing to finished product their academic, intellectual and, at times, personal work. The Information Commons intends to accomplish its mission in close collaboration with Access and Outreach Services, Library Systems, other Library units and the Faculty Center for Teaching.

For patrons in general, the Information Commons serves to develop and refine integration of various Library spaces, resources and services, thereby providing patrons with one-stop access to them. As patrons' needs for these vary extensively in type and complexity, the Information Commons aspires to provide patrons with varied and dynamic support in all stages of their academic and, at times, personal endeavors: (1) planning, (2) research, (3) formative evaluation, (4) production / presentation, and (5) assessment. The Information Commons seeks to meet the full range of informational needs for patrons, from novice freshmen to advanced research scholars, and to accomplish this while allowing and encouraging the patron to move among the various aspects of the Information Commons in a seamlessly integrated environment.

For faculty patrons in particular, the Information Commons seeks through collaboration with the Faculty Center for Teaching to provide special research and instructional support and informational services which help them

- ❑ Create, refine and enhance curricular activities;
- ❑ Work on solutions to instructional problems;
- ❑ Integrate library and teaching-classroom instruction (syllabus collaboration); and
- ❑ Further their research programs.

The Information Commons aspires to integrate the use of space in open service desk areas, offices for one-on-one work, group study rooms, conference rooms, variable-use classrooms (lecture, demonstration, hands-on and collaborative work), back-shop production labs, multi-media labs and studios, interactive video classrooms, and purposefully aesthetic and open public spaces.

The informational resources shall include all available formats, paper-print through high-technology, access to extensive and appropriate in-house collections and dynamic, 24/7 access to electronic periodical and monographic collections, large-data files and graphical galleries, distant collections via interlibrary borrowing and other resources, as needed. All of these resources are intended to support the academic and intellectual needs of patrons, from novice freshmen through advanced scholars, whether the patron is on campus or remote.

The technological resources are intended to provide patrons with tools facilitating appropriate access to informational and production resources. These tools include computer systems and extensive software packages and systems, made available in attractive and comfortable work-spaces of various types and sizes – public and open, individual and small-group rooms, teaching labs and demonstration rooms, all supported by dependable, in-house Library technical staff.

The production resources are intended to provide patrons with tools and support to bring ideas and information into product form, regardless of medium or format: text and multi-media, paper and electronic, still or motion, black-white or color, etc. These resources include television and video operations facilities

and support (e.g., for distance learning and the University's informational cable channel), as well as technical and design expertise in support of the teaching-learning-research enterprise.

The informational support services seek to integrate experts from various areas (e.g., Reference, Media Services, Research Data Services, Access and Outreach Services, Library Systems, and Facilities) in the joint enterprise of meeting patron needs through direct response, team efforts, informed referrals and provision of resources for self-help.

The central mission of the Information Commons is to provide these integrated spaces, resources and services, to further integrate these appropriately, to evolve and refine these resources and services to better meet patrons' needs, and to continue to do so as the type, mix and number of patrons change over time.

Notes and References.

1. Howard Besser's "Information Commons Links" at <http://www.gseis.ucla.edu/~howard/Copyright/commons.html> (March 27, 2002); David Bollier's "Reclaiming the American Commons" at http://www.bollier.org/rc_keynote.htm (March 27, 2002); William J. Andrews "Nurturing the Global Information Commons: Public Access, Public Infrastructure" at <http://www.wcel.org/wcelpub/present/ipc95t.html> (March 27, 2002)
2. Discrete computer labs and other high-tech labs or centers, e.g., Ferris State University's Commons at <http://www.ferris.edu/library/Services/information.html> (March 27, 2002)
3. Web sites of University of Arizona <http://www.library.arizona.edu/library/teams/pic/pic.htm> (March 28, 2002), University of Iowa <http://www.lib.uiowa.edu/commons/> (March 28, 2002), University of Toronto <http://www.utoronto.ca/~ic/> (March 28, 2002), University of Southern California <http://www.usc.edu/isd/locations/undergrad/leavey/IC.html> (March 28, 2002), Emory University <http://infocommons.emory.edu/> (March 28, 2002), University of Calgary <http://www.ucalgary.ca/IR/infocommons/> (March 28, 2002), University of New Mexico <http://www.unm.edu/~libadmin/Projectoverview.htm> (March 28, 2002), University of Missouri Kansas City <http://www.umkc.edu/lib/MNL/About/info-commons.htm> (March 28, 2002), Australian National University http://information.anu.edu.au/info_commons.html (March 28, 2002), University of Puget Sound <http://library.ups.edu/icommons/i-commons.htm> (March 28, 2002), Kansas State University <http://www.lib.ksu.edu/infocommons/> (March 28, 2002), University of Washington Bothell / Cascadia Community College http://www.bothell.washington.edu/library/tour/slide_2.html (March 28, 2002), University of Nevada LV www.library.unlv.edu/infocommons/ (March 28, 2002), Evergreen State College <http://www.evergreen.edu/library/tbg/berlin.htm> (March 28, 2002), St. Petersburg College <http://seminole.spjc.cc.fl.us/cyberlib/infocom.html> (March 28, 2002), Oregon State University <http://osulibrary.orst.edu/computing/> (March 28, 2002), Penn State University <http://www.bk.psu.edu/academic/library/thun/> (March 28, 2002), University

- of Michigan <http://www.lib.umich.edu/ummu/> (March 28, 2002), University of Miami <http://www.library.miami.edu/services/computing.html> (March 28, 2002), Montana State University <http://www.msubillings.edu/library/infocommons.htm> (March 28, 2002); and Brookdale Community College <http://www.brookdale.cc.nj.us/library/infocommons/icsites/sitesalpha.htm> (April 5, 2002).
4. Donald Beagle, "Conceptualizing an Information Commons," *Journal of Academic Librarianship* 25 (March 1999): 82-89.
 5. Martin Halbert, "Lessons from the Information Commons Frontier," *Journal of Academic Librarianship* 25 (March 1999): 90-91.
 6. Philip J. Tramdack, "Reaction to Beagle," *Journal of Academic Librarianship* 25 (March 1999): 92-93.
 7. Formal and informal/incidental team-building have proved of highest importance for these last two bulleted items.
 8. Allison Cowgill, Joan Beam, and Lindsey Wess, "Implementing an Information Commons in a University Library," *Journal of Academic Librarianship* 27 (November 2001): 432-439.
 9. Cowgill, "Implementing an Information Commons in a University Library," notes 12 and 13.
 10. Beagle, "Conceptualizing an Information Commons," p.82.
 11. Donald Beagle, Jon Gretes, Sallie Ives, Ann Newman, Michael Pearson, and Sam Watson. "Information Commons Task Force Report" (Charlotte: University of North Carolina Charlotte, 1999).
 12. Beagle, "Conceptualizing an Information Commons," p.87.
 13. Virginia Massey-Burzio, "Rethinking the Reference Desk," in *Rethinking Reference in Academic Libraries*, edited by Anne Grodzins Lipow (Berkeley, CA: Library Solutions Press, 1993), pp.43-48; John C. Stalker and Marjorie E. Murfin, "Quality Reference Service: A Preliminary Case Study," *Journal of Academic Librarianship* 22 (November 1996): 423-429; Karen J. Graves, "Implementation and Evaluation of Information Desk Services Provided by Library Technical Assistants," *Bulletin of the Medical Library Association* 86 (October 1998): 475-485.
 14. Stalker & Murfin, "Quality Reference Service: A Preliminary Case Study," p.424.
 15. Graves, "Implementation and Evaluation of Information Desk Services Provided by Library Technical Assistants," 475-485.
 16. Beagle, "Conceptualizing an Information Commons," p.85.
 17. Ibid, p.85.
 18. Ibid, p.85.
 19. The clear relation of the Information Desk structure to the Brandeis model is the use of desk staff trained to handle information questions and basic level queries and to refer more complex queries or aspects of queries to staff and/or areas of greater and more pertinent expertise.
 20. Beagle, "Conceptualizing an Information Commons," p.84.
 21. Ibid, p.87

22. Halbert, "Lessons from the Information Commons Frontier," p.91.
23. Beagle, "Conceptualizing an Information Commons," 85.
24. Ibid, p.85.
25. Ibid, p.85.
26. Garrett Hardin, "The Tragedy of the Commons," *Science* 161 (December 1968), 1243-1248; Amy Brunvand, "The Information Commons: Librarians vs. Libertarians." *American Libraries* (April 2001), 42-43; Lawrence Lessig. *The Future of Ideas. The Fate of the Commons in a Connected World* (New York: Random House, 2001); and the Web collection at <http://www.members.aol.com/trajcom/private/trajcom.htm> (April 15, 2002).
27. Hardin, "The Tragedy of the Commons," p.1244.
28. Lessig, *The Future of Ideas. The Fate of the Commons in a Connected World*, p.21.
29. Ibid, p.23.