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IMPLEMENTATION AS ONGOING AND INCREMENTAL
Case Study of Web 2.0 Use For Staff Communication

Introduction

A significant portion of library literature in recent years has focused on explaining the technological aspects of Web 2.0 through informative presentations and overviews as a way to promote the benefits of the innovation to academic libraries. Consequently, there exists a tendency prevalent in the community to view the Web 2.0 movement as unilaterally technological, as libraries hasten to demonstrate use of the technologies in their core functions and services. In the area of library internal communications especially, planning and implementation frequently concentrate on rolling out a functioning system first and training of personnel second, without adequate examination and understanding of fundamental differences between the premise of the technology and its compatibility to library culture until the user reception phase when resources are spent. There are several qualities of the academic library as an organization that should be elaborated first.

1. Staff Composition

Although the librarians serve as primary managers or administrators, the bulk of personnel making up the lower rank and file of most academic libraries are employees with job descriptions demanding a work mentality and outlook different from those of their more professional counterparts. While it may be simplification to limit job descriptions to skill sets and educational requirements, the reality is that library size over the last years has been largely determined by employment of part-time, non-professional labor (AFL-CIO Department for Professional Employees, 2011). Past studies have revealed some demographics for library assistants as an employee group: they are employed mostly in academic libraries, forty-five and older in age, and have been in their

organizations for an average span of fifteen years (Buchanan, 2005, p. 423). Some have maintained that library assistants, despite comprising a majority of the employees in academic libraries, are an understudied group whose motivations and developments have long been neglected in the literature (Buchanan, 2005; Woodsworth, 1998; Rodgers, 1997).

2. Organizational Structure

Crafted with an organizational structure developed in the heyday of scientific management, most academic libraries still organize work, and by extension, workers, along an information-privy hierarchy that emphasizes the separations and limitations in organizational knowledge (Wessels, 2010, p. 65-69; Rooks, 1988, p. 74). “Scientific management” rose to prominence in the early twentieth century when industrial scientist Frederick Taylor demonstrated in key manufacturing sectors how productivity could be substantially enhanced by breaking down complex jobs into smaller, menial ones requiring less skilled labor and organizing the developing labor force by the supervision of time through monetary incentives (Taylor, 1915). In such a structure, relevant communication becomes information trickling down the organization as residential employees of each level learn to attach and identify with the form and extent to which they are privy. Two idiosyncrasies become visible: 1) staff motivation becomes a subject of controversy as the dividing line between what employees need to know and what they want to know gets dubiously ambiguous (Euster, 1981, p.3); 2) the functional units of the library exist in information silos as each individual or group revels in its own set of priorities with little thought or need to consult with those who have priorities different from their own (Johnson-Cramer, Parise, & Cross, 2007, p.101). Chalmers, Liedtka, and

Bednar (2006) completed a staff communication audit for their academic library, uncovering in the process entrenched issues among the library staff in the management of communication. The study brings to forefront an issue that requires some tender handling for the academic library – the absence of and simultaneous desire for open communication in the workplace.

3. Existing Communication

Most crucial to implementation is realistic understanding of existent communication channels and needs of the library organization. Past studies of staff communication in libraries share the observation that it occurred mostly in the form of workplace face-to-face conversations (Emery, 1975, p. 59; Association of the Research Libraries, 1979, p. 1-3; Chalmers, Liedtka, & Bednar, 2006, p.190). Xu (1996) has explained in his study on prevalent communication channels in academic libraries:

Face to face communication is the richest because it provides immediate feedback, so that understanding can be checked and interpretations can be corrected. It also allows the simultaneous observation of multiple cues, including body language, facial expression, and tone of voice, which convey information beyond the spoken message (p. 258).

As relatively stable and enclosed environments where people situate in close proximity to many of whom they regularly contact, academic libraries have communication channels to gratify their employees' common informational needs; additional technology without due context and explanation is more likely to compete with what is available and overwhelm library staff with unnecessary choices. The luxury of getting one's point across via email, texting, forum posting, telephoning, or other newer means, as opposed

to face-to-face chatting in the same workspace, means little to employees if they have not been empowered to recognize and appreciate how these channels can make communication more worthwhile.

These operational constraints intrinsic to academic libraries effectively require introduction of any new technology to be foremost about harmonizing the values that come into contact between intruding philosophy and host culture. If, according to some, Web 2.0 rightly identifies with the spirit of “communication, conversation, participation...community” (King & Brown, 2009, p. 33), then implementation of such technologies involves more than simply a delivery of goods to library employees: it is fundamentally about harnessing minds for a shift in ideology.

This article documents one approach to the implementation process – whereby a website integrated various Web 2.0 technologies freestyle with a just-in-time orientation – and the impact it has had on improving staff communication and cultivating community awareness for one academic library’s Access Services unit.

Review of Literature

Research on library literature has helped to uncover a too-familiar pattern in the implementation of Web 2.0 technologies: library staff are given tools without adequate training or promotion from their administrators, and often lack motivation to learn and connect their knowledge to direct improvements in work routines.

Descriptive surveys that divulge any overall rate of adoption of Web 2.0 technologies in academic libraries are few. Xu, Ouyang, and Chu (2009) collected data from the websites of 81 academic libraries in New York for evidence of Web 2.0 use in library operations and services. Their findings mirrored those of one other sampling

study, published in 2008 by Draper and Turnage, which asked 265 academic libraries the type of use they had applied to specifically blog technology. Both studies showed that popular use was more towards marketing to the patron public, and less often for the libraries' own internal communications.

Research on empirical studies reveals wide applications of Web 2.0 technologies, albeit with very little penetration into the organizational life in most academic libraries. There was one study by Costello and Del Bosque (2010) on staff perceptions of internal blogs and wikis after their implementations, in a survey distributed to all personnel of their academic library. The results indicated that most library staff continued to rely on email and traditional methods such as office meetings and telephone calls, even when blogs and network-shared drives were present. The researchers concluded that “simply implementing new technology does not mean automatic adoption by staff; moreover, it takes a consistent effort of internal marketing and subtle reminders to get new technology integrated into the workflow of the organization” (p. 155).

Rodriguez (2010) highlighted the problem to be intrinsic to the organizational culture of the institution. Between 2007 and 2009, she had implemented a blog for the staff serving the reference desk to communicate and share knowledge at the libraries of two different universities. She observed that while most were quick to give the new tool a try, few actually adapted to regular use. She attributed their lackadaisical attitude to the phenomenon of “organizational lag,” for which she described as the tendency for administrative innovations to lag behind technical innovations in many organizations because the former required much more time and subtlety to instill, whereas the latter was more straightforward and visible for inspection (p. 109-110). The result was the

same one-way communication characterizing both libraries before her introduction of the blog, long after implementation.

On a separate note, there were two studies, both large-scale implementation projects of the open source content management software, Drupal, which allowed developers to add on a multitude of modules, many with Web 2.0 technologies. Etches-Johnson and Baird (2010) examined the process undertaken by the McMaster University Library to redesign a staff intranet for its 100 employees, and Sharpe and Vacek (2010) detailed a similar course at the University of Houston Libraries where a special task force was assembled that drew talents from different library departments. While both studies were deemed success stories, the scope of planning and implementation centered on providing a project management perspective, making it difficult to assess the impact of change on individual departments and people, whether it was uniform across departments or dependent on the level of representation each concerned party had in the project.

At the San Diego State University Library, Jeffery and Dworak (2010) distributed three surveys, at separate times, to library staff to gauge relevant changes in collaboration and information sharing as the library migrated to a wiki intranet: the first two immediately before and after implementation, and the third, two years after. The researchers discovered that staff were using the wiki for information access only, with less than half editing the wiki, and that there was strong correlation between staff position and wiki use, with librarians reported more likely to update content than support staff. Equally important, they realized from the study that the amount of promotion and training given to support staff on the wiki had been both insufficient and inadequate.

Lastly, Kim (2010) studied the research team of a medical library in adopting a new intranet with Web 2.0 tools at the Florida International University's College of Medicine. Kim observed that when the design and content for the site were being developed, the intranet was heavily used as drafts and updates to library policies were frequently uploaded for others to access and approve. After implementation as its content became stagnant, however, the intranet fell by the wayside, with internal communication being carried out via traditional email, even when there was a discussion forum on the intranet. Kim further remarked that the two people who had been responsible for adding in content for the intranet were librarians with prior Web 2.0 experience, while the others simply lacked training or awareness to use it.

Setting

The Robert J. Kibbee Library is part of Kingsborough Community College, City University of New York (CUNY). The author was a librarian responsible for Access Services, which combined the library's Circulation and Reserves services. The unit was small, employing 7 part-time and 1 full-time library assistants to provide patrons round the clock coverage at the circulation desk. Staff schedules were coordinated continually, and events and developments demanding staff attention communicated when staff members arrived for work. In this operations model, important aspects of the library's internal communication were duly noted:

Notes and Memos

- Staff members would read and learn about their unit through written notes and memos placed in office mailboxes.

- These mailboxes were located away from the vicinity of the circulation desk, and staff must visit their mailboxes during off-peak times.

- **Policies and Procedures**

- The full-time assistant kept a folder of office memos on circulation policies and procedures, which she knew to sort through and retrieve in times of need. The other staff members' ability to access the same knowledge was questionable.

Training materials

- Staff development and training were reliant on variant instructions from more experienced staff members, since a formal employee handbook or manual was unavailable.

Scheduling

- Scheduling changes to work shifts were inscribed on monthly calendars on the department wall by staff for group visibility. There was difficulty in reading the penmanship on occasion.

Others

- Staff members sharing the same or related work shifts built rapport, while those of more disparate shifts remained aloof and unfamiliar.
- Part-time staff members, especially, had little awareness of campus activities and services because they seldom read college email, which created a communication gap with college offices.

Method/Implementation

The author began studying website building and hosting services to address the communication needs of her unit. Although there were numerous website builders on the internet offering free, limited services, Webs (<http://www.webs.com>) was selected for its simplicity of use and box full of tools including Web 2.0 applications such as the blog and forum. A small website was created (See figure 1). Thereafter, new pages, tools, and features were incrementally incorporated into the website based on the communication needs exhibited by the unit. Figure 2 displays the chronology of the implementation process up to the time of the article's writing, where main events and developments are categorized into three distinct stages of communication need. The procession of stages also marks the increasing degree of Web 2.0 connectivity as experienced by the library staff during implementation: from first learning to use the website and its tools for content access to gradually adopting them for more advanced communication uses.

Stage One: Informational Relay

The web pages created during this stage altogether functioned as an online employee manual. The objective was to introduce an atmosphere conducive to open communication, where everyone in the unit had equal access to a knowledge base of practice-related information. The website opened in April 2011 with three pages: 1) a homepage explaining the goal of the site, the information it contained, and how staff could use it in terse, informal writing; 2) a blog with the commentary feature disabled solely used for storage of past office memos on circulation policies and procedures; 3) a calendar displaying special library hours and staff leaves and changes to work shifts.

The blog was an excellent tool for storing cumulative, specialized knowledge and making the content of the knowledge highly searchable. Office memos became blog entries, which were tagged with the category terms of a taxonomy developed for library staff to easily identify. These category terms were listed alphabetically on the page, and staff had only to view and click on a category to connect to relevant memos (See figure 3). Staff members could also search memos using self-defined keywords in a search box on the blog.

Two other pages were added in time to the website during this stage, both for information access. One provided an overview of job responsibilities of every staff member in the unit. The staff would be able to learn about each other's contributions and how their responsibilities related to total services provided by the unit. The web page also allowed staff to be cognizant of new responsibilities due to shift changes. The second page contained links to common websites such as the online library catalog, the electronic reserves system, and library databases, which staff members regularly needed to retrieve and access at the circulation desk.

Stage Two: Staff Communication & Training

The objective of stage two was to further improve the atmosphere of open communication in the unit by promoting two-way communications that would enhance staff job performance. Besides as an information resource, the website could be accessed by all staff as a sounding board for everyday practice-related questions and concerns. It was soon apparent to the author that there was need to drive onto the site certain discussions occurring repeatedly in the unit, such as staff requested leaves, office equipment failures or supply shortages, and handling techniques for patrons requiring

special attention, to increase group awareness. In mid-June, the forum feature was turned on. Staff was advised to register and create member profiles with usernames and avatars on the forum. Several common topics for discussion were subsequently created as discussion threads by the author to channel staff posting and organize post entries (See figure 4). The most recent forum posts, identified by username and time of post, were viewable on the side of each web page.

The photo album feature was also turned on in this stage, which allowed staff to have greater interactive learning of work tasks and procedures. Each album could contain any number of image files presented in slideshow fashion based on theme or topic. The author used the tool to create a series of visual, step-by-step tutorials of basic circulation procedures on the integrated library system, searchable by user-defined keywords and special taxonomy, similar to the blog page (See figure 5). Complex transactions that staff members often had difficulty remembering and following through, which could not be clarified in memos on the blog, were then captured in the albums with full-sized images detailing exact steps and explanations. Because they could be accessed anywhere anytime individual staff members needed help, the tutorials added new dimension to staff development and training. Whether it was from posting on the forum or learning a tutorial, stage two in the implementation process sought for staff members to become familiar with the website through newer, more variant uses.

Stage Three: Community Awareness

The third stage in the implementation process marked sustaining efforts in the cultivation of a sense of community for the library staff, through content that would influence their view of themselves as a unit and the unit's relation to the library and

college. There were a number of visual enhancements to different pages on the website to communicate daily events and developments across campus and encourage frequent visiting and use by the staff. On the homepage, a “Notice of the Day” content box was inserted into the top section for publicizing important time-sensitive events and tasks for individual or group awareness. The area was prime real estate on the site. Since all users would arrive first at the location, it functioned as an attention-getting device for the rest of the website, directing users to other locations or pages with clickable links. Moreover, a widget giving timely local weather news was also selected to appeal to staff interest from the range of applications distributed by the website host. It was placed next to the daily notice box to maximize vantage point.

On the calendar page, regular library operating days and hours for the entire academic semester were inputted for increased visibility, besides special holidays and staff requested leaves. On the forum page, the author created additional discussion threads to log past daily notices from the homepage, informational updates on activities and services across campus received through college email, and circulation-related news from the rest of CUNY. On the job overview page, a chart showing the semester schedule of work shifts and designated staff members was included for staff to clearly see each other’s work hours along with job responsibilities. These minor touches in tandem increased the currency and value of information on the website, giving more incentive for the staff to connect to it regularly and grow awareness for the community in and around the library in the process.

Results

Detailed observations have been made on the immediate and gradual effects of the website technology on workplace dynamics and staff behavior. Findings from the study provide indication that successful adoption of Web 2.0 technologies is a progressive phenomenon of the organization, intricately connected with the implementation process. Rather than an absolute occurrence fixed by one point in time, e.g. before and after the technologies, implementation should be viewed more as an organic, learning process for both applicant and user.

1. On staff motivation

While all staff members expressed favorable response to the announcement of the website, their differing motivations toward learning the technology were revealed by the degree with which they were individually exploring it, especially in stage one when only informational relay was possible. Only the full-time library assistant took initiative to evaluate the website by comparing the blog of memos to her own folder and testing the searchability of the online memos. She was more interested than others in the applicability of the website. The other staff members, however, were observed navigating the website superficially, not dwelling on any part of the content for long.

For staff members with abundant on-the-job experience or knowledge, use of the website for purely its informational content remained secondary to the existing communication channels in the workplace. Despite the breadth of practice-related content made available for retrieval, they would rather look toward other staff members for answers in times of need.

2. On staff training

In the situation of training a new hire, however, the website became an essential employee manual. One recently hired staff member was able to get up-to-speed quickly because she had been accessing the website at home to review job responsibilities, important procedures in greater detail, and the schedule of work shifts. The information posted on the website, used alongside her on-the-job training, smoothed the transition for the new employee in the unit.

The same staff member, familiar with the website as part of her training, showed more willingness to turn to it for on-going learning. As she developed understanding of the existing communication channels used by others in the workplace, she showed greater dexterity in her choice of information access. For example, she was inclined to both ask the staff member around whom she knew to have answers and search the appropriate page on the website, depending on circumstance.

3. On staff communication

When two-way communication became available, staff members who were regular email users were more enthusiastic and adapted quickly. One staff member, having another position on campus and familiar with college email, was the first to create a member profile and post a comment, stating that the forum feature was long overdue. The full-time library assistant was the second staff member to join the forum on her own. One other staff member, recently hired at the time and who had been emailing during the interview process, also joined as member with little help. The rest of the staff, with some training to set up an email account and a member profile, joined as a group.

Similar to information access, the communication tools made available in stage two only earned their expected value over time as more staff members developed the habit of use through repeat sampling. The discussion thread opened on the forum for staff members to identify upcoming absences for the purpose of team coordination had been used by a couple of staff members initially. By following the actions of the two, other staff members gradually learned to use the tool for their needs. Online notification of staff leave became a regular work procedure in time, and the discussion thread would often be the most actively used and viewed among the discussion threads on the forum.

Several incidents of staff initiating discussion on the forum confirmed that staff members were knowledgeable about use of the tool, even though few would choose to exercise it over existing communication channels for general purposes. First, having been asked the same questions repeatedly, the full-time library assistant decided to post information on the color-labeling system for reserve items on the forum. Second, a staff member while being away during the summer posted a greeting and shared his family news on the forum. Others responded to him in turn on the discussion thread. Third, another staff member, having changed the access codes of the computers in the area, decided to post about the update on the forum so others were aware. Although these staff-initiated activities were infrequent on the forum, they demonstrated that staff members selectively used the website for communication depending on circumstance.

4. On staff performance

By stage three, all staff members showed interest in keeping up with the updates on the website. They were primarily content readers, using the communication features on the website for specific purposes. Nevertheless, the regularity of its use by staff has

made the website an effective communication tool. Task requirements for the group or individuals, announced by the author using the “Notice of the Day” box on the homepage, were completed in timely fashion without question. This feature seemed to train staff members to access other locations on the website, tuning them to the latest posted information.

In time, the staff recognized value in the content of the site as they learned how pager locations on the site provided easy access to task-related needs. The computers in the area had outdated shortcuts on their desktops for direct access to a number of library applications. The staff had to take extra steps each time to run an item check for a patron, visiting several web locations before coming upon a needed database. By stage three in the implementation, most staff members were observed using the website to access common databases. They were familiar with the functionality of the website, navigating from page to page with ease.

5. On community awareness

Added onto the forum during stage three, discussion threads on topics with aim to cultivate community awareness proved immediately successful in drawing staff attention. One thread was for communicating events and services from college offices such as Human Resources and Fringe Benefits. Part-time employees due to their irregular shift schedules would often overlook email and hence miss important event notices or receive them late. Another main thread was used for communicating relevant information on the interlibrary loan delivery system used by CUNY. The third-party vendor contracted to provide the service would regularly email news of delivery issues and concerns to CUNY libraries. Before use of the discussion thread, the information had been verbally

communicated to staff members, who must then properly record and file for later use. Discussion threads connecting staff to these larger, off-site communities that influenced their jobs and job performance showed consistently high view counts on the forum, suggesting regular visits by all staff members.

Discussion & Analysis

Commercial website builders such as the one used in the study made it easy to incorporate many Web 2.0 tools into web design. Dave Hodgins (2010) explored in a study some of the current web services and open-source software suitable for building library intranets, as well as the technical considerations for those interested in implementation. The abundance of tools and features available for the website permitted a flexibility in development that was most inviting to one committed to steady experimentation on the best accommodations to changing needs and circumstances. For the same reason, because the project was driven without a formalized plan, timeline, or consultant, the degree of autonomy was optimum for customizing the site for team orientation and ad hoc solutions specific to developments in the library unit. This flexibility especially proved ideal for study design, since it was within one's span of control and maintenance such that the author was able to observe minute changes in individual versus group behavior over time as she was fine-tuning the site.

Whether it was the blog as an online memo collection, or the forum for the latest concerns to and from staff, the capabilities of Web 2.0 were applied to organize and reorganize information quickly for staff communication; more than information access, the website also functioned as a catalog of time events and notifications, allowing staff to view the developments in their unit as chronological chains of entry posts by topic. Since

content could be added, removed, revised, and reorganized, respective of entry time, the focus of implementation became less about adapting to the technology, and more about learning the quality of content usefulness – that is, acquiring understanding of the issues most pertinent to improving staff communication.

There were gaps in staff communication particular to the academic library that existent channels could not bridge and thus ameliorate. First, there was inadequate attention to staff training and development. New job responsibility required staff members to update their knowledge regarding new procedures, routines, and priorities. In the Kibbee Library, those with longer tenures were further tested, having to not miss the finer details in their ongoing accumulation of data. Nevertheless, job proficiency was entirely up to staff motivation and individual self-learning, since these changes to job demand had never been systemically recorded or organized. There was a need for a ready reference, collection, or library resource on staff development for library staff.

Second, part-time library staff often lacked an information source regularly connecting them to knowledge of extraneous communities and networks, on and off campus, which had direct impact on their job performance. They were unfamiliar with college events and services, or committees and associations. Limited by knowledge, there was little opportunity for staff to expand on their job capacity. A less apparent but nevertheless unavoidable consequence of the communication gap was the pervasive sense of displacement from the larger community of their institution.

Third, although they might recognize clearly their contributions in the unit, many staff members had little information on those of coworkers with different work schedules or involved in other library units. If information had been missing for them, it had been

missing in spite of the constant stream of events and developments throughout the library. The habitual identification and preoccupation with information solely for its immediate effects on one's own workspace could be detrimental to organizational progress, as staff members acquired skewed visions of the library and its essential services, simultaneously inhibiting them from cohesive thinking and acting as a team for their library. More than a one-time fix, this kind of communication need required continuous sustenance in the form of site content development.

Indeed, the acquisition of relevant content for the website became a learning process that defied careful schedule planning – an education brought to light by the study – since information vital to developing knowledge and opening communication in the unit was based on ongoing sensitivity to changing workflow procedures and staff dynamics. The website underwent multiple changes in design and content all through implementation because developments in the unit resisted static capture and storage. Implementation of the website was about staying in tune with the workplace to actively provide value to its users – the library staff. Much of professional literature on developing staff or internal communications in academic libraries readily reinforced the need for examination of those elements in the library environment effecting its organizational culture and philosophy (Emery, 1975; Malinconico, 1984; Budd & Budd, 2005).

Another advantage realized in taking implementation as a process of gradual, incremental change was a more fluid rate of adoption without incurring the time and cost associated with staff training. Had it been planned and implemented in a single block of time, the complexity of the new site, with its Web 2.0 tools, would have made it difficult

for staff to adapt because their employment status in the library did not allow them release time for professional learning. Without adequate time and support for training, staff acquisition of the site would have been entirely dependent on the unpredictable factor of individual staff motivation. Because implementation was about incremental change on the website, it also meant incremental learning of the site's technologies, in manageable chunks, allowing the library staff to be naturally trained without much effort or disturbance to their workflow. Moreover, there was pattern to the changes on the website, as marked by the stages of communication need, which encouraged library staff to learn the use of tools and appreciate, slowly in the process, their purpose in relation to their jobs and community.

Clayton (1997), having studied the implementation of new technology in a number of academic libraries, similarly described the implementation process holding the most promise to be one that was more longitudinal and developmental by nature, based on sustainable inputs of effort and strategy (p. 157-8). He used a model to delineate those elements and interactive qualities constituting overall implementation success (See figure 6). The model also demonstrated the different relationships between components with its multitude of arrows. There were two-way arrows expressing a push-pull relationship between some components, and others that pointed from one component to another in a continuous loop. The presence of the arrows indicated multiple opportunities for change all through the implementation process due to the fluctuating influence of these key components. From Clayton's model, one came to the realization that judgment of implementation success was at best a descriptive of the tenuous measurement of the process frozen up to the moment when all engagement between components ended. By

the same token, as long as there was engagement between components, the degree of implementation would be effectively indeterminable, leaving the possibility of better results still wide open.

Conclusion

The study provides validation on the most basic level of the applicability of an up-to-date website, combined with certain Web 2.0 technologies, for improvements in staff communication as determined in one academic library. It is hoped that findings from the study to a greater degree underscore for library professionals interested in pursuing a similar course the need to reexamine the implementation process as necessarily a continuous, adaptive, and non-demanding engagement with colleagues and staff based on active awareness of developments and needs in the library workplace. The ease and convenience with which various technologies can now be customized all the more emphasize that the real focus of study should rest on the library's people and organization, as technology itself shifts into the backdrop. The strength of these technologies lies precisely in making possible the ability of individuals through their participation to become a community of practice, which is synonymous with the philosophy underlying the ubiquitous "Web 2.0."

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