

ORGANIZATION OF INSTITUTIONAL KNOWLEDGE IN A VIRTUAL COMMUNITY OF STUDENTS AND FACULTY

Vicki L. GREGORY, gregory@luna.cas.usf.edu

University of South Florida (Tampa, USA). School of Library and Information Science

Abstract

In organizations or communities of practice where members are not in close geographical proximity, a virtual community can be the answer to an otherwise «lonely» professional existence and facilitate information exchange within an organization or among professional with similar interests. With sufficient attention to user needs and organization of the information, a virtual community can provide needed sources and information with a built-in human perspective and relevance assessment. Proper organization of the information available through the community is key to its continuing importance to participants.

Keywords

virtual communities, distance education, graduate education, information needs in universities, information categorization, University of South Florida

1 INTRODUCTION

Although groups of people with similar interests have been interacting online since the 1970s with the birth of the Arpanet/Internet, the moment when computers initially came to be used for communication as well as number crunching and data processing, the notion of a virtual community is nevertheless a relatively recent phenomenon. The history of virtual communities as we know them today generally begins with the Well in 1985 (RHEINGOLD 1993), but the existence of the World Wide Web, and particularly the development and refinement of the graphical interface browser, has presented an environment that makes it easier to organize a community around a specialized focus for information exchange, «cyber-café» discussions, and general socialization and interaction.

Research on the successful operation of existing communities and meeting of community goals is new, but rapidly growing. Questions arise as to the viability of virtual communities and if they indeed are feasible and successful (FISCHER 2002). To further confirm this, emerging research suggests that individuals are beginning to develop community connections in a variety of virtual settings (FISCHER 2002). Additional recent liter-

ature has looked at the benefits of learning in community (BARAB 2000; WELLMAN 1999; RENNINGER 2002). Emerging opportunities for research appear to be in the areas of developing and sustaining online communities (BARAB 2004) and the theoretical basis for employing guidelines for success for community developers, participants and stakeholders.

The definitions in the research literature for «community» imply social interactions rather than simply the reading of text, no matter how valuable that text may be. Preece addresses the question of the balance between social support and information in the setting of medical support groups. Her conclusions were that «communication was about much more than just exchanging factual information. It was about identifying and communicating with others experiencing similar problems.» (PREECE 1999). In successful support groups, Preece found that even when what was being shared was essentially or only information there was also an important social aspect to the exchange.

The communication of information needs of graduate and other upper-level academic programs having distance education components are growing exponentially, and these needs present significant challenges. In the United States, educators have found that many of today's graduate students in professional programs have come to prefer the receipt of instruction by way of classes delivered via the World Wide Web. This is becoming more and more the case even in respect of students who reside in the same city as, or nearby to, their university. This state of affairs not only affects the faculty in their traditional role as teachers, but also their significant responsibilities as faculty student advisors. The same holds true as well for administrators, whose job it is to provide support service for the students, adjunct faculty, and regular faculty members. In organizations or communities of practice where members are not privileged to work in close geographical or spatial proximity, a virtual community can be the answer to an isolated, insular and otherwise effectively «lonely» professional existence, and can also facilitate information exchange within an organization or among professionals enjoying similar interests. A virtual community can provide information with a built-in human perspective and relevance assessment.

Academics today are obliged to expand their perspectives and adjust their programs in order to be in a position to offer a flexible, informative, safe, and connected environment to fit the new paradigm of «virtual» community relationships that program participants need. This virtual community must be capable of quickly providing information concerning not only the academic curriculum and overviews of key issues within the discipline, but also in respect of such matters as scholarship and grant information and upcoming programs, plans and opportunities for students, and must as well accommodate (without allowing it to overwhelm the community) the myriad other information that can be of interest to students and faculty. As the virtual community grows, it becomes increasingly important that the information available be organized so as to facilitate the number and types of different uses that can be made of the site.

2 DEVELOPMENT OF THE VIRTUAL COMMUNITY

At the University of South Florida (USF), the initial design team for the School of Library and Information Science (SLIS) virtual community site consisted of an ad hoc committee of our Student Affairs Committee set up under the SLIS governance structure. Consisting of administrators, faculty, staff, an instructional designer and a student representative, the ad hoc committee determined paradigms for the initial site structure and community administration, and the methods by which communications would be processed by and within the community. As the community began initially to function, a needs assessment survey was constructed and administered to students in web-based classes of two instructors, and focus groups comprised of volunteers from the faculty, students, and other affiliates (alumni, school supporters, employers in the field, and SLIS Advisory Committee members) were organized in order to provide feedback during the critical formative stage concerning the purpose, elements, organizational structure, and ways in which the community could best function. The results of the needs assessment surveys and the results of the focus group interviews led to the initial categories of information provided through the Community website.

An early successful use of the Community was the establishment of «virtual advising groups» comprised of a faculty advisor, the student advisees assigned to that faculty advisor, and supporting staff (to provide maintenance and technical support). We began with one cohort of students who have their studies funded through a federal grant and expressed a special interest in working with under-served populations. It was felt that this made them especially well-suited to online advising and allowed the faculty to learn and adapt to the new media through working with a group of students having similar interests. The faculty advisor uses a private virtual space established within the Community, complete with communication tools, to advise and mentor students individually, or if the faculty adviser chooses, his or her advisees as a group. Available on-line tools also include a virtual meeting place with chat and whiteboard, electronic discussion boards for asynchronous dialogue, an e-mail list, and document-sharing capabilities.

Recently, a virtual book club has been started under the Group section of the community. Twelve students from a wide variety of cities/towns in the State of Florida and three faculty members are currently participating in the book club. Currently three books discussion are underway, each with their own discussion forum.

Within less than a year of establishment, the virtual community became a significant component of faculty and student relationships, and as a result critical components of the SLIS program are now included. With time, the original taxonomy of four major categories of community tools and information expanded to fourteen, and even the School's comprehensive examination is now administered through the community, along with the application or sign-up process. Pre-examination advising and general instructions for the examination are also provided through the site.

3 ORGANIZATION OF THE COMMUNITY SITE

The following section of this paper describes the categories that we have created to organize the information and resources available on the SLIS Community site. Community administrators are still working on developing a policy for archiving information as it ages, and, in addition, a study is underway to help in devising a better order for the categories. With the creation of many new major categories, the list now requires scrolling down the homepage, so the categories of information that are most frequently consulted need to be moved to a more prominent position on the page, and a couple of the main categories possibly need to be combined with folders underneath the main category to make for a more coherent structure. The computer software on which our community is running provides the site administrators with statistical information concerning the usage of each portion of the site, so that design and organization can follow what participants actually do on the community site as well as considering what they say that they want in focus groups and surveys. Of course, some portions of the site may simply need more promotion which is also being considered by the Ad Hoc Design Committee, so the statistics are not the only criteria being used in the continuing design process, but are rather an additional piece of information to be considered along with the survey data and focus group interviews.

Each of the top-level, main categories that organize the information on the Community is discussed below. All of the top-level categories have folders beneath them to further organize the information. Table 1 illustrates the arrangement of the main, top level categories with examples of the folder structure which underlies the main categories.

3.1 Announcements

Organizing the information available in a way that can be truly useful to community participants is viewed as critical. The design team initially believed that the announcements area of the site would be the major area for distribution of important, timely information to faculty and students. Because of design issues that we cannot control this has not proven to be the case. The window for announcements is rather small because of the navigational tools that take up a large portion of the screen (see table 1). Students and faculty tend to overlook new announcements and not scroll down the page to see all the announcements. Announcements are still used to inform but more importantly to provide a stable and accessible archive of program information, events, and procedural communications. Students receive announcement prompts when logging-on each time into their web courses. The e-mail function of the community is now used when the most-timely manner of communication is necessary or when information needs to be proactively «pushed» to community participants. Community e-mail is also often used in conjunction with announcements, providing multiple communication channels to community members.

3.2 Information

In this portion of the community, information concerning scholarships, calls for papers, upcoming conferences, possible fieldwork (internship) work sites, graduate student meetings, and other similar items are posted. These materials are organized into folders to help guide and direct users to the needed information. For example, there is a scholarship fold-

TABLE 1. INFORMATION CATEGORIES ON THE COMMUNITY WEBSITE

Main or Top Level Categories	First Level of Folders	Second Level of Folders	Third Level of Folders
Announcements	Archives only	None	None
Information	1. Supervised Fieldwork 2. USF Graduate & Professional Student Organization 3. Scholarships 4. Programs	1A. Cuban Heritage Collection — U. Miami 1B. Mote Marine Lab. 1C. Tampa Center for the Performing Arts 2. Folders for Meetings 3A. Florida Library Ass. 3B. Medical Library Ass. 4A. Special Libraries Ass. Student Program	3Ai. Bernadette Stork Scholarship 3Aii FLA Minority Scholarship
Staff Information	One file with information on each faculty member included	None	None
Documents	1. Faculty Council Minutes 2. Program of study forms	2A. Media track 2B. All other students	None
USF Library Information	Documents but no folders	None	None
Course Information	1. Course descriptions 2. Course offerings	2A. Folder for each semester	None
Syllabus	Link to public webpage with all syllabi	None	None
Communication	1. Group Pages 2. Send E-mail	1A. Folder with group names	1Ai. Folders for each group
Groups	1. Comprehensive Exam 2. Advising Groups 3. Graduate Assistants 4. Virtual Reading Club	1. Folders for frequently asked questions, procedures, etc. 2. Folder for each faculty member 3. None 4. Folders for each book	Archives possible — none at the present time

er with subfolders underneath it for particular scholarship opportunities. For scholarships that come up once a year, but are repeated every year, we can «hide» the folder after the application deadline has passed, so that it is ready for editing with the next year's data. Often information contained in this main category expands upon information with additional details that was first presented as an announcement. The reason why this is a separate main category rather than a folder under announcements is a function of the software as it does not allow for folders under individual announcements (which would probably be the most logical arrangement).

3.3 Staff Information

Short biographies of all the faculty members are included here. Some have links to full curriculum vitae that are available elsewhere on the Web, depending upon whether or not the faculty member has made that information available. Since many of our students never come to the Tampa campus, this was thought to be a good way for them to get to know a little bit about their instructors.

3.4 Documents

Documents that all students need to access such as the «planned program of studies» are available here. In addition, the minutes from the Faculty Council meetings are also posted here so that students and adjunct faculty have easy access to them.

Document sharing is available through the Community for distributing particular forms or existing documents in order to communicate ideas or information between the program and community members. A special document-sharing tool, the Digital Drop Box, allows groups (among designated group members, such as an advising group) or individuals (between the individual and the SLIS program) to send and receive specific documents through the community site.

3.5 USF Library Information

Several of the USF Librarians who also serve as SLIS adjunct instructors post information about changes in the library's databases, reserves, and even links to the readings for a specific class. Any changes in the USF Library that would interest students or faculty can be included here. On the discussion board (see below) there is also a discussion forum concerning library resources and services to which both librarians and students contribute. Often, an informational posting will lead to discussion threads on that discussion forum. This category is particularly pertinent to the SLIS program as the students are studying to become professional librarians.

3.6 Course Information

Catalog course descriptions and semester schedules of class offerings are available. All students surveyed indicated interest in more course information and syllabi during the advising and registration processes. At this point due to user suggestions we have separated the course syllabi into another area. However, this arrangement is proving confusing to some, so in the future we may reorganize the syllabi into a folder under course information.

3.7 Syllabus

This section of the community features the most recent syllabi that faculty members have provided for each of their courses. Where multiple faculty members teach the same class, syllabi are posted for each section unless there is a common course syllabus for a particular class.

3.8 Communication

This section of the community is only available to the eight faculty and staff members with administrative responsibility for some section of the site. Since there are over 700 members of the community, we control the access to the «send e-mail to all users» to keep everyone from being bombarded with messages about the same event or conflicting information or frivolous communication. Our goal is that no more than one message will be sent to everyone on any one day, and usually the traffic is not that much, averaging about 3- 4 such messages a week. However, this portion of the site is critical to the School in getting out timely information to students and faculty members.

3.9 Discussion Board

The SLIS Community has eight different forums available through the discussion board. Each forum is in the form of a threaded discussion with every member of the community having access to posting. Every forum is un-moderated. To discuss only a few, we have a forum for questions which are usually between a student and an instructor or administrator. We have a free flowing «cyber café» where all kinds of issues are discussed. As mentioned above, we have a USF Library forum where students can discuss library resources and services or ask questions which are usually addressed by one or more of the USF librarians. A textbook exchange is run through one forum which, as one might imagine, becomes most active at the end and beginning of each semester. There is also a forum for listing of job opportunities, especially job websites. The cyber café is an attempt to replace an electronic discussion list which the School has offered for a number of years, so that students can log in to see these messages rather than having a high volume of messages flooding their e-mail accounts.

3.10 Groups

In addition to the Advising Groups described above, a Fieldwork Group exists for students who have had a fieldwork experience during the immediately preceding semester and those doing fieldwork in the current semester. The theory is to allow students who have already experienced fieldwork interact with those currently doing fieldwork in order to decrease such feelings of isolation from the University as they might then be experiencing.

As of spring 2004, SLIS began running its comprehensive exam through the Community exclusively. All activities including study advice, questions about procedures, distribution of the exam questions and return of exam papers is done through a group within the Community. A member of the administrative staff loads the names of each student expected to sit for the comprehensive exam into the Community Comps Group at the beginning of the semester, so that those students will have access to the Faculty Comprehensive Exam committee members and to each other. The Community Group allows students to interact with other students taking the examination the same semester and gives them a sense of support and guidance from both peers and faculty.

3.11 Resources

This category may disappear in our next iteration of the Community as the kind of information (usually URLs to various information-rich sites) that it contains is usually duplicated elsewhere in the Community and users seem to be accessing the information from the discussion board or information sections of the site.

3.12 Tools

This category of the Community includes a calendar, and the digital drop box for sharing documents. A glossary of library and information science terms and acronyms is planned for this section.

Each enhancement to the Community site has led to a more sophisticated look at the organization and structure of the site and investigation into how best to interweave the information available to students through the virtual community with the information that is otherwise provided on SLIS' public website. The Ad Hoc Design Committee continues to monitor the use of the Community and the needs of faculty and students in an effort to continuously introduce improvements to the site.

COMMUNITY STATISTICS

An analysis was performed of the community statistics from the beginning of the fall semester 2004 until April 19, 2005. Some main categories

on the site are combined because of the limitations of the Blackboard software statistical reports. Blackboard collects statistics based on «hits» on the items that a site administrator desires usage to be tracked, but as mentioned above there are some built-in ways that items are combined that does not always allow everything item to be tracked separately. The site administrators and the Ad Hoc Design Committee examines the statistical information on a regular basis as a form of feedback on the usefulness of the site as a whole and for specific information about the usage of particular parts of the Community. Table 2 depicts the activity on the community for that period.

As can be seen easily from the table, the order of the main categories does not equate to an ordering based on usage; clearly user feedback alone is not enough sufficient for ordering purposes. However, in some cases usage is not enough as the announcements do need to be located in the premier position due to the importance of imparting that information to users in the community (since it is also possible to access the announcements directly from the USF Portal, the site statistics may not account for all usage of the announcements area). The Design Task Force is currently looking at a reorganization of the categories to make the site easier for users to navigate and find the information that they need.

TABLE 2. COMMUNITY STATISTICS. AUGUST 22, 2004 - APRIL 19, 2005

Top-Level Main Categories	Number of Hits	Percentage of Total Hits	CPBOUF*	Position Based on Usage
Announcements	13,013	14%	1	4
Discussion Board	35,282	37%	9	1
Groups	23,512	25%	10	2
Resources	3	0	11	Probably Not needed
Staff Information	1112	1%	3	7
Tools	5246	5%	12	5
Combined Content: Information	14,647	15%	Varies	3 (if combined all content categories under a content button and made separate folders under that category)
Documents			2	
Course- Information			4	
Syllabus			5	
Graduation Comps			7	
			13	
			14	
Communication	1628	2%	12	6
Total	94,443	99% (does not equal 100% due to rounding)		

* Current Position Based On User Feedback

CONCLUSION

Clearly, the University of South Florida School of Library and Information Science remains in the process of developing and refining our ever-evolving virtual community, but each month that passes brings more features, more participation, and more interaction among participants that lead to the enrichment of the community spirit. Approaching only its second birthday in August 2005, the Community's longevity and long-term effectiveness will depend greatly on two factors – keeping the underlying administrative infrastructure intact and the technology functioning, with appropriate back-up communications methods in place outside of the Community for periods when for whatever reason the hardware that runs the Community is not available, and ensuring that the information presented is not simply comprehensive, but organized in a comprehensible and therefore usable way. Students and faculty must be continuously encouraged to interact and exchange information among participants. The Community should not become just the method of «pushing» information to them. The efforts being made to clarify the goals of the community and to promote participant buy-in to the entire concept (both faculty and students), and the ongoing task of establishing, updating and revising appropriate guidelines for the community's purpose are vital in order to ensure its continued success.

REFERENCES

- (BARAB 2000) BARAB, S. A.; DUFFY, T. «From practice fields to communities of practice.» In: JONASSEN, D.; LAND, S. M. (eds.). *Theoretical foundations of learning environments* (Mahwah, NJ: Lawrence Erlbaum, 2000), p. 25-56.
- (BARAB 2004) BARAB, S. A.; KLING, R.; GRAY, J. H.. *Designing virtual communities in the service of learning*. Cambridge: Cambridge University Press, 2004.
- (FISCHER 2002) FISCHER, A. T.; SONN, C. C.; BISHOP, B. J. (eds.). *Psychological sense of community*. New York, NY: Kluwer Academic: Plenum Publishers, 2002.
- (GREGORY 2004) GREGORY, Vicki L.; AUSTIN, Diane. «Connecting students at a distance: designing and implementing a virtual community.» In: *Web based communities 2004: Proceedings of the IADIS International Conference* (Lisbon, 2004). p. 500-503.
- (LOADER 1997) LOADER, B. *The governance of cyberspace: politics, technology, and global restructuring*. London: Routledge, 1997.
- (PREECE 1999) PREECE, J. «Empathic communities: balancing emotional and faculty communication». *Interacting with Computers*, v. 12 (1999), p. 63-77.
- (PREECE 2000) PREECE, J. *Online communities: designing usability, supporting sociability*. West Sussex: John Wiley & Sons, 2000.
- (RENNINGER 2002) RENNINGER, K. A.; SHUMAR, W. (eds.). *Building virtual communities: learning and change in cyberspace*. Cambridge: Cambridge University Press, 2002.
- (RHEINGOLD 1993) RHEINGOLD, Howard. *The virtual community: homesteading on the electronic frontier*. Reading, Mass.: Addison Wesley, 1993. Available online: <<http://www.rheingold.com/vc/book>>. [Cited 19 January 2005].
- (WELLMAN 1999) WELLMAN, B.; GULIA, M. «Net surfers don't ride alone: virtual communities as communities». In: SMITH, M.; KOLLACK, P. (eds.). *Communities in cyberspace*. (London; New York: Routledge, 1999).