COMMUNICATING AND NETWORKING IN ASTRONOMY LIBRARIES

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Abstract. This chapter reviews communication strategies applied in contemporary astronomy libraries. It focusses on contacts of individual librarians with colleagues, library users and publishers, as opposed to more formal methods of communication. While the most appropriate strategy may vary according to the librarian's function and role within an organization, communicating and networking among astronomy librarians in general is excellent and has led to numerous cooperative projects during the past two decades. We describe successes, problems, and trends around the world as well as barriers to effective communication. Some comparisons are made between developing and developed countries.

1. Introduction

An important part of the librarians' mission is to keep their users informed about suitable information resources. By nature, this requires that the librarian herself be well-informed about what is available and what potential value lies in a resource. In our rapidly growing world of information resources, one person alone will not succeed in obtaining knowledge of all available products, all services that may be needed by our users, or on the entire range of options we can offer. Communication among fellow librarians therefore is critical in carrying out librarians' professional duties. Participating in mailing lists, attending conferences and other continuing education events, and discussing issues with library users as well as with publishers and vendors are all important activities for staying informed about latest developments.

Personal communication with colleagues, be it through electronic or traditional methods, is also vital. Astronomy libraries often are small entities; a solo librarian at an observatory library or at a geographically remote university institute is a common situation. In somewhat isolated settings that don't lend themselves to regular personal encounters with colleagues it is even more important to stay in close contact with fellow librarians through all available means. Fortunately, distance can be bridged far easier than previously in this era of electronic mail.

In the following, we look at various forms of communication and review their advantages, disadvantages and possible positive outcomes.

2. Survey Methodology

When contemplating this chapter on communicating, it was felt that a survey of astronomy librarians would be useful in assessing problems, successes and trends around the world. The focus was on communications of individual astronomy librarians with their colleagues, their library users and publishers, as opposed to formal communication through publications, professional development courses, resource sharing projects etc.

The survey was done completely by email and circulated in a focused manner. In January 2001 it was posted to three electronic discussion lists where we knew that astronomy librarians were concentrated: Astrolib, PAMnet and PAM-APF (addresses and contact persons see below).

We received a total of 69 responses from 24 countries; with the exception of the USA (33 replies) 1-4 responses came from each country. It is difficult to assess our response rate. One way is to look at the number of subscribers to "Astrolib", a highly specialized electronic distribution list. There are currently 216 subscribers to that list. Making the rash assumption that the list represents all astronomy librarians (it certainly represents most astronomy librarians) our 69 responses represent a rate of 32%.

There are several caveats to the results of the survey. The fact that it was done only by email filters out those who do not readily communicate that way and therefore biases the results towards email. This bias can be discounted to some extent in consideration of the large response we got and the degree to which email was favoured. The large number of countries (24) represented in the responses also ameliorates concerns about bias.

The narrow focus of our target group might bias the results, for example towards specialized astronomy libraries and away from science libraries at universities which nevertheless support astronomy. However, 19 of the 69 responses came from librarians at university libraries covering two or more disciplines. At 27.5%, this is a respectable percentage of the whole.

It is interesting to note that within 24 hours we had almost half of the final tally of respondents. But we received responses up to more than six weeks later.

For the purposes of some of our analyses, countries were grouped into developed and developing regions: USA, Canada, West Europe, Australia, New Zealand on the one hand (55 responses), and Mexico, South America, East Europe, Asia, Russia (14 responses) on the other. These categories are in some respects arbitrary and provide only a gross indication of the differences.

In any case, the survey was not based on proper sampling techniques. The results should be seen as indicating trends, not absolute states-of affairs.

3. Communicating among Astronomy Librarians

Astronomy librarians are a well-connected group, and colleagues from other disciplines often are surprised at how close our cooperation is. The main reason is that the number of astronomy librarians worldwide is rather small, and many colleagues know each other personally. This helps immensely to start and maintain good working relationships, and to coordinate actions. In this limited group, a few active players are sufficient to develop a strong network for the exchange of information, to set up joint efforts in order to provide better service to our users, and to launch innovative projects.

The most obvious method of interaction is direct communication between two or a few colleagues; 31% of the survey respondents stated that they communicate daily or several times per week with other astronomy librarians, 40% a few times per month, 23% a few times per year, 6% never. In addition, astronomy librarians are also in contact with non-astronomy librarians: 33.5% contact them daily or several times per week, 26% a few times per month, 33.5% a few times per year, 7% never.

Electronic mail has brought upon us a communication revolution, and it has quickly grown to become the most frequent method of communication. The ease and speed of writing email messages points towards even increased use in future. Never before was it so convenient to contact colleagues instantly, allowing them to reply whenever they find the time and opportunity to do so. Even though the internet "netiquette" defines guidelines for email, everybody is rather free to compose messages according to personal preferences in language, grammar, style, and content. This seems to be an irresistible advantage of electronic communication as opposed to letters on paper, telephone conversations and even personal contacts. A clear majority of 62.5% of the survey respondents listed email as their most frequent method of corresponding with colleagues. The second most common method, namely meeting face to face in their libraries (including other staff in their own library), falls far below that at 19.5%. But email as the first choice of communicating with colleagues varies, quite predictably, between developed and developing countries: while 63% of the respondents from the former group noted email as the most frequently used medium, only 53% of the respondents from the latter group did so.

4. Networking

As access to the internet is becoming easier worldwide, email is used increasingly for all kinds of enquiries, comments, and exchange of information among librarians. A wide audience can easily be reached through mailing lists which are ideal forums to quickly and inexpensively disseminate information among peers, to put forward information requests to a large group, and to participate in discussions among colleagues from all parts of the world. In astronomy, most librarians are subscribed to at least one of the mailing lists Astrolib, PAMnet (Special Libraries Association (SLA) / Physics, Astronomy, Mathematics (PAM) division mailing list) or PAM-APF (SLA-PAM - Asia/Pacific Rim Forum (APF)). While some messages are cross-posted to more than one list, each list focuses on slightly different audiences. Astrolib, founded in 1988 following the first LISA (Library and Information Services in Astronomy) conference, targets well topics that are relevant to astronomy librarians worldwide; in addition to librarians, several astronomers have joined this list because of their interest in information and documentation issues in general as well as database and technology-oriented topics in particular. PAMnet covers also physics, mathematics and computer science library matters; here are subscribed many editors and other publishing staff who share their insight into publishing procedures with the library community. PAMnet traditionally has been an active mailing list where not only new products and services are announced, as often is the case on subject-specific lists, but extensive discussions take place (Duda, Meszaron & Markham 1997). The third, PAM-APF, focuses on issues of special interest to the Asian and Pacific Rim area, in particular to developing countries in this region.

Typically, a few subscribers of mailing lists are very active participants, while the majority only "listens". However, the importance of passive participation in listservs is immense, especially on mailing lists with an international audience where librarians from all parts of the world share their points of view and thus increase awareness of problems in countries other than our own.

Email communication works best with those colleagues who have previously met. As electronic mail lacks some important features of personal communication (body language, tone of the voice, etc.), knowing each other personally helps to avoid misunderstandings, in particular if senders and recipients don't share the same communication mentality, cultural background, command of language, etc. Additionally, it encourages electronic contacts that might not otherwise be made. As observatories are often geographically isolated, it is difficult for our professional group to meet in person, and these rare events are therefore highly valued. For astronomy librarians, LISA conferences are important opportunities to get to know colleagues. Two questions in our survey focused on the LISA conferences and their respective benefits. Of the respondents, 49% had attended at least one of the three conferences; more specifically, 17% attended LISA I in 1988, 30% LISA II in 1995, and 36% LISA III in 1998. Almost 67% ranked enhanced future communications after meeting colleagues as the number one positive outcome. This confirmed the conclusion of the "Open Forum on Optimizing Communication Amongst Astronomy Librarians" held at the end of LISA III; the audience felt that the mixture of conference participants, consisting of librarians, astronomers, computer scientists and publishers, was very helpful in understanding concerns and positions of the other professional groups (Regan 1998). Other benefits of LISA conferences as noted in comments on our survey responses are learning about new astronomy products and services sooner and more effectively than otherwise possible (22%) and learning about new and better library management techniques (11%). One colleague stated that LISA conferences made her realize that effective communication among librarians can make more resources more accessible for astronomers all over the world. Without exception, the respondents felt that the conferences were useful to them. Other comments confirmed the strong sense of cooperation and solidarity among astronomy librarians and even pride in belonging to this professional group. This may have the positive effect that the more active librarians become, the higher their self-esteem will get, which in turn makes them even more active – a divine (as opposed to vicious) circle.

Since LISA II, it has become a tradition that a small group of librarians, "Friends of LISA (FoL)", mount a fundraising effort for each conference and are successful in partially or wholly funding dozens of librarians from developing countries who could not otherwise attend. All preparatory and organization work of the FoL committee is done by email as the group members are located in different parts of the world.

Another important venue for astronomy librarians is the SLA Annual Conference which is held each year in early June. The conference program comprises numerous presentations and discussions on virtually all topics of interest to information specialists. In addition, a wide range of Continuing Education courses is offered; these are half or full day professional development courses that allow librarians to gain an insight into topics with which they are not yet familiar.

The problems associated with conference attendance are obvious – expenses are high (registration fee, travel costs, etc.), and attendance approval requires a lot of support from the authorities in our institutes who decide on funds allocation. Fortunately, LISA conferences seem to be increasingly recognized by astronomers and observatory directors which may improve chances for even increased future attendance.

In 1999, the PAM International Relations Committee under the leadership of Jeanette Regan, librarian at the Mount Stromlo Observatory, established the PAM International Membership Award (PAM-IMA) which, together with the PAM International Travel Award (PAM-ITA), is awarded each year to a librarian from the developing world; the award allows him/her to attend the SLA Annual Conference and become an SLA member for two years in order to interact more with colleagues in the association. In addition to recognizing the achievements of the recipient, the award has also other communication benefits as it bonds the librarians' community and publicizes the network and conferences.

Astronomy librarians traditionally have been good at resource sharing. In addition to interlibrary loan, many collaborative projects have been initiated over the years, including databases of preprints and observatory publications, union lists of journals, meeting lists, compilations of book reviews and the Astronomy Thesaurus (Shobbrook & Shobbrook 1993). Many of these projects would previously have been very time consuming and difficult to compile because librarians in several far flung locations are involved in the production; they are now much more easily and effectively completed, almost entirely by email, and made available to the astronomy community on the world wide web.

The need for more formal cooperation among astronomy librarians is reflected by increased membership in the professional organizations that enable us to join forces. A well-structured approach, in particular regarding publishers, often leads to far better results than attempts from individual librarians. Many astronomy librarians have already joined the Special Libraries Association, in particular its Physics-Astronomy-Math division; currently, SLA comprises members from approx. 60 countries. Special attention should also be given to regional groups, for instance the Asia/Pacific Rim Forum (PAM-APF) that concentrates their efforts on developing countries and the problems libraries and scientists are facing in these areas, the ALOHA librarians on Hawaii and the network of astronomy libraries in India (Vagiswari & Louis 1998).

5. Communicating with Library Users

Communicating with library users is an essential part of the librarian's work. The main purposes are communicating library services and products to our users, providing requested information and assessing users' needs. In times of increasing numbers of information resources and decreasing funds, it is more important than ever to know library users' needs; actually, this is the prerequisite to providing good service.

When scientists approach librarians with requests, usually a short interview follows in order to understand exactly what our users are looking for. While this sort of communication often is carried out face-to-face in the library, personal interaction is increasingly being replaced by communication through electronic means. Email is an excellent medium for this purpose as it is quick, cheap, and available in most parts of the world; several messages can be sent back and forth within a short time if necessary, regardless of the geographical distance between the scientist and the librarian. Accordingly, 48% of the survey respondents stated that email is most frequently used to communicate with library users, although closely followed by face-to-face communication (42%). With regard to email interaction with users, a remarkable difference can be seen between groups of countries – while 57% of librarians from developed countries communicate most frequently by email with their users, this is only the case for 40% of librarians from developing countries.

Quite interestingly however, only 29% of the respondents of our survey regard email conversation with library users also as the most effective method of communicating, while the surprisingly large number of 60% consider personal face-to-face interactions most effective.

Many libraries provide web pages that contain those information resources (or links to them) which are sought frequently by astronomers. From personal communications, it has become obvious that scientists indeed appreciate these ready-for-use resources. Strangely, when asked about the most frequent method of communicating, librarians often are not aware how important this service is for their users. Apparently, "communicating" still is associated with exchanging questions and answers. In our survey, only under 5% of the respondents considered their web pages to be the most frequent or most effective way to communicate with the astronomers. On the other hand, a large portion of librarians stated that they visited another library's or the PAM web page daily or several times per week (28%) or a few times per month (44%); nobody chose the option "never". Even if we use web pages to fulfill our own information needs, we obviously do not conclude that scientists do the same.

The usefulness of web pages becomes more obvious with sophisticated web-based reference services designed for "live" communications back and forth, for instance the Collaborative Digital Reference Service (http://www.loc.gov/rr/digiref/) and the Virtual Reference Desk (http://www.vrd.org/). Increasingly, these services are provided by groups of libraries, covering various geographical areas (at least within one country) as well as different time zones. Thus, service can be provided to users on a 24 hours per day / 7 days per week ("24/7") basis. However, librarians are no longer the only group that answers questions over the internet. Numerous "Ask-A" services, some of them commercial rather than non-profit, have become available. It is important to make sure that information obtained from these services is "usable, relevant, authoritative and verifiable" (Kresh 2000). Astronomy is covered by all large university reference services; there are also some specialized "Ask an Astronomer" sites.

In addition to individual personal communication with users, there are also other means to assess user needs and provide service (see Cummins 1998). Within an organization, a library liaison can be asked to convey scientists' needs to the library. This approach has its limitations of course, as an individual may not be able to represent all groups of users. It can also be difficult to find volunteers to take on this additional workload, especially in smaller institutions. Depending on the size of the organization, a focus group, consisting of representatives from the various user groups may be a fairer and more balanced solution. Questionnaires and surveys can be distributed to get feedback from library users, but it is a tedious and time-consuming process which needs to be well-planned and can only be used occasionally. Answers to questionnaires also can sometimes be ambiguous and misleading so that their interpretation and evaluation must be done extremely carefully.

Whatever method is applied to assess user needs, it will lead to initiating or adjusting services which shall meet these needs. After some time, it is essential to evaluate the success (or failure) of the changes.

A more structured way to communicate with astronomers is the Working Group on Libraries of the International Astronomical Union (IAU), Commission 5 (Documentation and Astronomical Data). Through reports and presentations during the IAU General Assembly, librarians can inform scientists about ongoing projects and activities in astronomy libraries, as well as get feedback on existing services.

6. Communication with Publishers

Astronomy librarians have enjoyed more frequent, more formalized and more intense communications with publishers in the last few years. Some relationships or exchanges have been acrimonious, but more have been productive. An early example of the latter was the official appointment of a librarian to the Publications Board of the American Astronomical Society (AAS). One result of this formal and enthusiastic exchange of ideas with the AAS was the development of a license for electronic journals that is easily understood and carries through to their electronic versions the rights that users had for the print publications; it is therefore widely admired, even beyond astronomy. Since then, many other publishers have appointed librarians as liaisons, both formally and informally.

Astrolib and PAMnet have publishers on them who both contribute and listen; astronomy librarians often speak of senior editors in publishing houses familiarly by name.

All is not rosy though. Many publishers are less than ideally responsive.

The survey inquired into how often, by what means, and for what purposes astronomy librarians communicate with publishers. Twenty percent contact a publisher a few times per month, 68% make contact a few times per year, 12% never. These numbers are almost the same for developed and developing countries, the biggest difference being that there were 11% of the former who responded never, compared to 14% of the latter. It must be noted that many people have subscription agents so that direct communication with publishers is not necessary for most purposes.

As with other sections of the survey, email was by far the preferred method of communication at 62%. Telephone (13%) and visiting exhibits at conferences (12%) followed far behind.

Not surprisingly, 50% of the communications had to do with errors in products, problems with subscriptions etc.; 23% of the contacts related to new products or new features of products and 21% of the discussions related to prices.

Methods of communicating with publishers do vary as between developed countries and poorer countries. For developing countries communication by email was much more predominant (77% compared to 56%) but that was only because their options were more limited; they did not visit exhibits at conferences, did not check in at publishers websites, did not telephone publishers. Nor did they have the advantage of having publishers visit their campuses or institutions for demonstration purposes.

7. Barriers to Effective Communication

Some traditional barriers, most importantly geography, i.e., the distance between librarians or between them and their users, have become significantly less important. In spite of these advances many barriers to easy, effective communications remain. Two sections of our survey focused on barriers to communication with other librarians and with users.

Email and all electronic communications require infrastructure that is often very expensive, inadequate or missing altogether. Computer literacy is often underdeveloped and hard to improve because of inconvenient access to computers and to the internet. This is a problem not just in underdeveloped countries; there are still university libraries in North America where not every librarian has a computer on her desk. Given the variety of levels of infrastructure and funding available to librarians, it is remarkable that email is so overwhelmingly favoured in all countries as a method of communication with other librarians.

Other effects of the new technologies can be seen in the regretful comments on our survey responses, such as "Astronomers just don't use the library much". In the question about barriers to communications with their users, the most frequently cited barrier (almost 28% of the responses) is that astronomers know a lot about electronic journals, searching etc., or think they do, and don't consult the librarian or come into the library as often as they used to. Those in developing countries elected this barrier 35% of the time while those in developed countries chose it 27% of the time. This is not a significant difference given the presumably wide variation in access to electronic journals etc. Outreach and focus are more important than ever in these times of end-user searching and desktop access to the literature.

There are other barriers which are not directly related to technology.

Scientists are used to communicating their research in English but librarians do not have that custom. Language therefore can be a significant barrier, not so much to communicating at all, but to the kind of fluent, comfortable, frequent communications that enable fruitful personal networking.

The size, type and culture of one's organization, its atmosphere, its wealth or lack thereof, the physical arrangement of the offices, can all facilitate or prevent effective communications, especially, but not exclusively, with library users. A librarian in a small observatory might have more contact with individual researchers than one in a larger library in a physically vast institute. A librarian who works in a university library which serves multiple disciplines and thousands of faculty and students is going to be more removed from the needs of individual astronomers than one who works in a specialized astronomy library in a similar university, especially if the former librarian works in a department such as collection development and has no direct contact with library users. The generalist librarian may have less contact with specialist librarians too. These things cannot be changed by individuals, but compensation, through special efforts to talk to researchers directly, can and must be made.

The stereotype of librarians is something to be eschewed but certainly there are some tendencies in the personalities of librarians who enjoy working in small, isolated observatory libraries. These self-reliant, introspective types may have a difficult time reaching out to astronomers and other librarians. Shyness, reticence and timidity are characteristics which may apply to many women and to some ethnic cultures. In our survey several people mentioned as a barrier their "reserve" or other similar aspects of their personality. The low status of women and/or librarians in some cultures may inhibit the free interchange of ideas. Although only 7.6% of the responses to the question of barriers indicated that "low status" was a problem, 23%, or the second most frequent response (along with their own workload), was the time and workload constraints of their users. It may be true that astronomers are too busy, but it may also be true that librarians simply assume that astronomers don't consider communicating with librarians important or of high priority.

Some countries discourage or censor foreign communications; there is not much fellow librarians can do to counteract this policy, except communicate with colleagues from these countries in the way that is most appropriate to them.

The advent of new electronic media comes at a time when staffing and financial constraints are even tighter than before. The workload of the average librarian has increased as she/he takes on the navigation of these new electronic waters in addition to the traditional media. Time to communicate with others is therefore squeezed. "My workload" was the second most frequent response to the question of barriers (along with the workload of their users).

The same financial and time constraints can prevent attendance at meetings, especially remote ones. Further, the inability to purchase some expensive new tools decreases the interest that some librarians have in communicating with others who do have them; interests-in-common are diminished.

There is also the issue of awareness of barriers. Some librarians responded that there were "no barriers" yet they had not attended any LISA conferences. Why not – surely those librarians had something to learn or gain by attending! Perhaps time and money constraints are so much a part of a librarian's environment that they are taken for granted. Not knowing what you are missing is surely an insidious barrier.

If only we could talk to all the librarians who did *not* respond to the survey we would have a much better grasp on the real barriers.

8. Useful Resources

Professional Organizations

- Special Libraries Association (SLA), http://www.sla.org

- PAM (SLA Physics-Astronomy-Math division),
  http://pantheon.yale.edu/~dstern/pamtop.html
- PAM International Relations Committee (incl. access to the PAM International Travel Award),
  http://msowww.anu.edu.au/library/pam/intro.htm
- International Astronomical Union (IAU), Commission 5: Documentation and Astronomical Data, Working Group on Libraries,
  http://ulda.inasan.rssi.ru/IAU/wgl.html

Mailing Lists

- Astrolib. Moderated mailing list for astronomy librarians. Contact person: Ellen Bouton, NRAO Library, *library@nrao.edu*
- PAMnet. Unmoderated mailing list of SLA-PAM. Contact person: David Stern, Yale University, *david.e.stern@yale.edu*
- PAM-APF. Unmoderated mailing list of the SLA-PAM Asia Pacific Forum. Contact person: Jeanette Regan, Australian National University, Astronomy Branch Library, *jeanette.regan@anu.edu.au*

Contact Persons and Conferences

- PAM publisher liaisons,
  http://www.sla.org/division/dpam/manual/staff.liaisons.html
- Directory of astronomy librarians,
  http://www.eso.org/libraries/astro-addresses.html
- LISA conferences, http://www.eso.org/libraries/lisa.html
- SLA annual conferences,
  http://www.sla.org/content/Events/conference/index.cfm

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