Partnership 2.0: Designing Reference Services for Patrons in Developing Countries

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Philip Altbach and Jane Knight state in *The Internationalization of Higher Education: Motivation and Realities* that "international activities of universities dramatically expanded in volume, scope, and complexity over the past two decades. The past five years have witnessed the emergence of new types of providers, forms of delivery, and collaborative partnerships."[1] Indeed, the trend to invest resources in international collaborative initiatives is evident on many campuses. To use Cornell as an example, the University maintains over 150 official international agreements with partners in 47 countries; has a medical college in Qatar, the first to offer its M.D. outside of the United States; and is a teaching, curriculum and library partner to the West Africa Centre for Crop Improvement, or WACCI.[2] United States universities and colleges have increasingly expanded from traditional student exchange or satellite-based programs, which are designed to provide both location and duration specific cultural enrichment opportunities, to research-driven partnerships where data-sharing and access to resources play a major role.[3] Dean of University Libraries at the University of Washington Lizabeth Wilson writes that "we require a global research library that is not defined by institutional parameters or geographic

location if we are to advance the work of twenty-first-century universities and colleges."[4] As Wilson suggests and as librarians know too well, subscription-based electronic resources have a complex affiliation and privilege hierarchy that are governed by a system of permissions which typically do not recognize fluid global partnerships. As academic institutions continue to foster international partnerships, libraries worldwide are likely to evaluate current practices regarding access to their services and resources to reflect a global research library. While the nature of official international agreements and academic programs and schools are typically determined by college administrators, directors, deans, and senior faculty, the next generation of access to information issues is likely to be centered on global information needs, and is poised to be answered by academic librarians worldwide who develop collaborative programs and partnerships. This is particularly true for public research universities that have begun to see their "public-service missions in global terms."[5]

One of the key factors necessary to invest in research libraries of the future is, of course, collaboration. Wilson echoes other authors who predict that "cooperation and coordination will be the bedrock

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for library activities of the millennium."[6] Seasoned stalwarts of resource sharing consortia agreements, academic librarians are already fluent in understanding the importance of maximizing access to resources. Librarians have also collectively amassed an impressive record as service specialists, devising programs to meet the ever-changing needs of patrons. The advent of user collaborative technology and Web 2.0 infused innovation into reference services in many libraries, and the same innovative thinking that catapulted services like chat reference to the forefront of many academic libraries can result in innovative partnerships and service models with both international and national libraries. Patrons worldwide now rely on resource networks linked not by proximity but by interest, and if international academic activities continue to expand, "libraries around the world will be even more interdependent and intertwined than ever before—not just with each other but with stakeholders, information providers, knowledge creators, and users. This will require a new cross-sector and global orientation."[7]

The remainder of this paper will discuss the resource and service components of a library partnership program in the context of an international distance-learning program. The West Africa Centre for Crop Improvement (WACCI), located on the University of Ghana-Legon campus, is designed for African scientists to develop crop breeding programs in order to alleviate Africa's chronic food shortages. Cornell University offers teaching, curriculum, and library support to the students enrolled in this program. WACCI represents an innovative education model that supports ongoing research in the breeder's environment. This is an important aspect in agricultural research because knowledge of the local conditions and extension activities is paramount to success.[8] The students, however, need access to current, scholarly information in agriculture that is largely unavailable at the University of Ghana. In an effort to support these researchers, Albert R. Mann Library at Cornell University, a land-grant library with an excellent agriculture and life science collection, established an international reference services program to ensure the students get access to the scholarly resources that they need. This program also includes an annual scientific writing and research workshop as well as year-round reference services. The program is still in its nascent stages and will be continually refined based on patron feedback and emerging technology, but the program's core components currently offer some feasible possibilities for replication.

WACCI Program

Students from West Africa who currently hold a Master of Science, or an equivalent degree, in fields such as plant breeding, horticulture, or other agronomy-related disciplines are eligible to apply for the five-year PhD program offered by WACCI, which is conferred with a University of Ghana degree. In this program, a student spends two years immersed in classroom study at the University of Ghana before returning to his or her home country in West Africa to establish a breeding program. WACCI is funded with a five-year grant from an Alliance for a Green Revolution in Africa (AGRA), and the initial grant is designed to support a total of 40 West African plant breeders over five years. WACCI is modeled on the highly successful African Centre for Crop Improvement (ACCI), located at the University of KwaZulu-Natal in South Africa. Mann Library is also a partner with ACCI, but given some differences with regards to resource access in South Africa (see the section on Access to Resources), this paper's focus will remain on WACCI.

The mission of WACCI is "to train plant breeders with expertise to improve the indigenous crops that feed the people of the West African sub-region. The WACCI plant breeding training programme will produce skilled, knowledgeable and properly resourced breeders to breed locally important crops to meet local needs and preference."[9] If WACCI scholars are to develop new crop varietals aimed at reducing the food shortage in Africa, as well as a complete a PhD thesis, then they must have access to current scholarly information. Infrastructure and in particular, access to the internet, continues to be a major challenge for many academic libraries in Africa.[10] The University of Ghana is home to the Balme Library, a premier research library in West Africa. The Balme Library has number of subscriptions to scholarly electronic resources, but given the overtaxed internet bandwidth and frequent power outrages within the University it is difficult to use internet resources effectively.[11] In addition, print collections in agricultural sciences at both the Balme Library and the agricultural department library are severely outdated. Visits and reports from librarians worldwide typically note similar resource conditions

in many academic libraries in Africa: shelves are filled with old books and if computers are available, they have limited or no internet access.[12] During my 2008 visit, the faculty member giving me library tours showed me what she currently considered to be the best pieces in her departmental library collection. It was a collection of nutrition books that had been donated to the library by an international foundation several years prior through a "book trunk" program. She liked them because they were always available. She was well aware of the plethora of current research available online but noted that the taxed bandwidth of the university did not provide many opportunities for on-line research. WACCI addressed the access to the internet impediment early in its planning stages; housed in small, gated building, WACCI has its own internet and electricity infrastructure. Although it resides on the University of Ghana's campus, the Centre maintains a contract with a national internet service provider. This means that the scholars at WACCI remain largely unaffected by the University's slow internet service. This situation is a bit of Catch-22; while it is wonderful that WACCI students have the ability to access the resources that they need, power outages and internet service are still major issues for the over 29,000 other students who attended the University of Ghana in 2007-2008.[13] According to reports on the University of Ghana's web site, this is an issue of critical importance and will continue to be addressed in the strategic plans for the University.

Access To Resources: International Journal Delivery Programs

Mann Library played a major role in determining what resources could provide WACCI with the type of breadth and depth they required. Interlibrary programs offering cooperative lending and borrowing have long provided member libraries with access to materials that they do not own. Interlibrary loan programs range in size and scope; programs like DOCLINE at the National Library of Medicine have partners world-wide who have agreed to cooperative lending and borrowing terms. Many academic libraries in the United States belong to more than one lending and borrowing consortia in an effort to maximize their access to resources. These programs are largely contributory in nature and are designed, however, to supplement collections rather than to provide unlimited access. Each WACCI scholar requires a lot of infor-

mation to complete a PhD thesis and therefore using interlibrary loan services as the dominant mode of access was not a sustainable approach. Additionally, the agreement WACCI and Cornell share does not grant access to library resources at Cornell because it is not a dual-degree partnership. Mann Library's solution was to work two ongoing developing world journal delivery programs, TEEAL and AGORA. This advantageous approach provides scholars in Ghana with access to quality resources for their PhD programs in addition to leveraging more support for journals programs that are designed to continually expand to meet the needs of developing world communities. Access to Global Online Resources in Agriculture, or AGORA, offers full-text online access to over 1200 journals in agriculture and was launched in 2002 by the Food and Agricultural Organization of the United Nations with Mann Library as a major partner. AGORA is also the sister program to The Essential Electronic Agriculture Library or TEEAL, which is a Mann Library initiative. Since 1999, TEEAL has offered low-cost access to agricultural information in an off-line environment by utilizing a local area network. The ability to access information off-line, as I noted in my discussion about infrastructure, is a major boost to institutions without adequate bandwidth. TEEAL and AGORA are complementary, working in tandem in developing countries, and it is the hope that as developing countries are able to invest in infrastructures to support stable bandwidth, AGORA will be the primary agricultural journal delivery program.

Similar to the rise in international academic collaborations, international journal delivery programs are also increasing. Aimed at ensuring that developing countries have access to a cross-section of quality scholarly information, international journal delivery programs have been developed through collaborative efforts with United Nations agencies, publishers, and universities in the fields of agriculture, health and biomedicine, and natural resources, to provide libraries and research centers in developing countries.[14] Eligibility for TEEAL and Research4Life programs, which AGORA is part of, is determined by the World Bank's country classification schema. This classification is based on Gross National Index Income (GNI), formerly referred to as the GNP. The country classification list is divided into Band One and Band Two countries; Band One countries receive free access while Band Two countries incur a relatively small fee-

for-access.[15] This standard provides a discrete basis on which the Research4Life Programs and TEEAL could use when they approached publishers. Another program that has used this standard, but is not associated with WACCI or the Research4Life Programs, is the Social Sciences Library, a two disc CD that is coordinated and distributed by the Global Development and Environment Institute at Tufts University. Publisher's cooperation and goodwill is critical to the success of these programs and thus, an internationally recognizable standard was necessary to first determine "countries of need." Given that an international standard exists, and while it is admittedly not perfect, leaving out countries such as South Africa who still have an access to scholarly information gap, it provides opportunities for other resource-rich programs to emerge.

TEEAL and AGORA include nearly all of the resources to which the students will need to access. However, a few journal titles are either not included in TEEAL and AGORA or have additional restrictions placed on them by the publishers.[16] TEEAL and AGORA have several advantages; first and foremost, they provide access to quality scholarly information. The journals within these programs were chosen first by citation analysis and then by review from worldwide researchers. Access to the current scholarly information is crucial to WACCI scholars because without it, they may miss out on tried-and-true plant breeding techniques or drought-resistant hybrids. In addition, TEEAL and AGORA are programs that are likely to be available in a student's home country when he or she returns to start a breeding program. This is a major factor; WACCI's five year PhD program is designed so that the students will complete two years of study at the University of Ghana before returning to his or her home country in West Africa. Essentially, when each student returns home to establish a breeding program, he or she is at the mercy of the existing infrastructure. The prospect for a student in many areas of Burkina Faso or Mali to gain access to the internet regularly is fairly grim, and would be especially grim if they were dependent upon access to electronic resources at Cornell or at the University of Ghana. TEEAL and AGORA are continually expanding to research centers and NGOs throughout West Africa, and it is likely that each student will have access to one of these resources at a near-by facility. Prior to each student's return to his or her home country it is

the role of the liaison librarian to provide information on where in the country TEEAL and AGORA reside, and if necessary, to communicate with the research facility to ensure a smooth transition for the WACCI researcher. Utilizing already existing resource initiatives has provided a sustainable path to ensure each student has access to scholarly resources throughout the duration of his or her PhD career— no matter where they are physically located.

Professional Collaboration and Reference Services

"The librarian coordinating services to distant students must build strong ties with various constituents both inside the library and outside, both within the profession and without."[17] This paper is focused mostly on the resources and services from Mann Library to WACCI. It is not the intention, however, to ignore the excellent body of literature discussing the need for increased conversation between developing world librarians and developed world librarians, nor to assert that librarians in the developed world are the ones who should provide outreach to develop partnerships with other institutions. Collaboration requires participatory efforts from everyone, everywhere. Peter Johan Lor, former Secretary of IFLA, noted the work of other professionals who had written, "although North America academic libraries are the driving force behind much innovation in the LIS field and are the source of much new thinking in the discipline, librarians in other countries have sometimes to deal with certain issues before they become critical in the United States or Canada; hence there will be times that the flow of information will travel in the other direction."[18] Such times are quickly approaching. Collaboration with WACCI has provided an amazing opportunity to work with other librarians and information consortia in Ghana, and this has been one of the most rewarding pieces of the library partnership program. It has, for instance, provided the opportunity to work more closely with ITOCA, the Information and Training Outreach Centre in Africa, and discuss new information trends and initiatives ongoing in Africa. This summer, I learned that the agricultural research centers in Ghana have recently developed a digital repository initiative. While this is interesting news in its own right, it has particular importance to me as the liaison because WACCI students regularly search for recent agricultural extension documents.

Technology plays a major role in the services Mann Library can offer to WACCI. This includes the technical environment as well as the technical abilities of the students. Library literature is flush with innovative ways to use Web 2.0 technology; for instance, cell-phones can be used as Clicker technology and Twitter can stream news to patrons from a library web site. However, if the patrons are uncomfortable with a particular form technology and/or if it is not built into their "electronic walkway," then it is of little use. Understanding and providing access to the "right" kind of technology is a major component in working with WACCI. One benefit to both myself as the library liaison and the WACCI students is an onsite workshop on the topic of scientific writing and research training. Thus far, one module has taken place and it offered an opportunity to see first-hand how the students interact with their virtual environment. An important discovery was witnessed as a result of the onsite training, and that was that all of the students are comfortable with e-mail, but not all are necessarily comfortable with wikis, blogs, or other Web 2.0 environments. To this end, reference services at Mann realized that it is important to provide WACCI with as much e-mail based resource and reference assistance as possible. Many of the tools embedded right into library databases are very e-mail friendly, and one partner library service we can offer is citation alerts. As mentioned previously, WACCI scholars must not only find a way to access information once they leave WACCI to set up their breeding program, he or she has the added challenge to keep current on his or her area of research. Citations alerts help with this. Currently, the students receive e-mail based citation alerts, but there is a healthy body of literature discussing the advantages of SMS technology. Cell phone technology is very popular in developing countries, and the students have already confirmed that moving from e-mail to text-messaging citation alerts would be a welcome switch. The international reference services program will continue to grow and develop based on both available technology and patron preferences.

Conclusion

In the succinct words of Richard Dougherty, "with all the collaborative projects out there, libraries should not try to go it alone. Look for partnerships."[19] Mann Library is able to facilitate access to resources and reference services for the scholars in West Africa through a series of collaborative partnerships based largely on existing initiatives. By applying our expertise to reach out to researchers and students who suffer a serious lack of resources and services, we can work towards new models of patron services and librarianship that address a critical information divide. It is through partnership and collaboration that librarians will define the library of the 21st century: one that is not governed only by institutional boundaries, but also by networks founded on common interests and areas of study. Examining current collaborative efforts and programs offer exceptional opportunities for librarians in both the developed and developing world to form new alliances and devise partnership strategies.

Notes

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3. Altbach and Knight, "The Internationalization of Higher Education," 290.

4. Lizabeth Wilson, "Local to Global: The Emerging Research Library," *Journal of Library Administration*, 48, no. 2 (2008): 130.

5. Sara Hebel, "Thinking Locally, Acting Globally," *The Chronicle of Higher Education,* June 29, 2007, http://chronicle.com/weekly/v53/i43/43a03801.htm.

6. Jane Wu and Mary Anderson Ochs. "AGLINET, AGORA, et al: Enhancing Access to Information in Support of Research and Extension in the Developing World," Paper, World Library and Information Congress: 72nd IFLA General Conference and Council. Seoul, Korea August 20-24 2006.

7. Wilson, "Local to Global," 130.

8. World Bank. "Cultivating Knowledge and Skills to Grow African Agriculture. A Synthesis of an Institutional, Regional, and International Review," (Report No. 40997, 2007), http://siteresources.worldbank.org/INTARD/Resources/AET_Final_web.pdf.

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10.   Roy Steiner et al. "Promoting African Research and Education Networking," (International Development Research Center, January 2005), http://event-africa-networking.web.cern.ch/event-africa networking/cdrom/PAREN/PAREN_exec_summary_final.pdf (accessed December 15, 2008).

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13.   University of Ghana, http://www.ug.edu.gh/index1.php?linkid=168 (accessed December 11, 2008).

14.   Mary Ochs, Barbara Aronson, Jane Wu, "HINARI and AGORA: revolutionizing access to scientific information in the developing world" *The Journal for the Serials Community*, 17 no. 2 (July 2004). 175-182.

15.   Access to Global Online Information in Agriculture (AGORA), "Eligibility," www.aginternetwork.org, (accessed December 15, 2008).

16.   In an effort to curtail the problems that these restrictions might cause the students, Mann developed an international document-delivery service specifically for the students at the crop centers in Africa.

17.   Backhus, Sherry Hawkins and Summey, Terri Pederson. "Collaboration: The Key to Unlocking the Dilemma of Distance Reference Services, " *The Reference Librarian*, 40, no. 83/84 (3/24/2004): 200.

18.   Peter Johan Lor, "What's so international about international librarianship?" Lecture at the School of Information Studies, University of Wisconsin-Milwaukee, Milwaukee, July 1, 2005.

19.   Backhus and Summey. "Collaboration." 200.