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THE I-SCHOOL CONCEPT IN THE UNITED STATES AND BEYOND^{*}

ABSTRACT Information schools (“I-schools”) have played a crucial role in the recent history of library and information science (LIS) education in the United States. This paper identifies key characteristics of i-schools and describes how they have helped address long-standing challenges in LIS education. With a focus on “People, Information, and Technology”, i-schools have built strong multidisciplinary programs in research and instruction. As a result, i-schools have achieved increased stature and relevance, cross-disciplinary partnerships, increased student enrollment, and stronger financial standing. The i-school model also has relevance outside the U. S., as can be seen in i-school models which are emerging in China, India, Japan, Singapore, and Germany. 12 refs.

KEY WORDS Library and information education. Library and information science. I-schools. Information schools.

美国信息学院理念及其延伸

摘要 信息学院(i-school)在当今美国图书情报学(LIS)教育史中具有重要作用。本文明确了信息学院的关键特征,并描述其如何帮助定位图书情报学教育长期面临的挑战。以“人、信息、技术”为中心,信息学院已经在科研和教学中建立了强大的多学科项目,结果获得学科地位提升、交叉学科伙伴、学生入学增多和较强的经费支持。在美国以外的地方也正在出现类似信息学院的模式,可见于中国、印度、日本、新加坡和德国。参考文献12。

关键词 图书情报教育 图书情报学 信息学院

Introduction

Programs in Library and Information Science (LIS) have faced profound challenges in the past two decades, and many of these challenges continue. At the same time, a number of programs have managed to achieve significant successes through the introduction of innovations which have fostered change and growth. The information school (“i-school”) movement has been at the forefront of many of these innovations. In the history of library education in the United States, the i-school movement is likely to be recognized as one of the most critical developments. Since the mid 1990s, the i-schools have had a positive and forceful impact in the education of library and information professionals as well as in the field of information itself. These successes include increased intellectual stature and visibility, strengthened research programs, and increased enrollment and financial growth. The significance of the i-school movement is particularly striking in the view of the challenges encountered by li-

brary education in the decades before the emergence of the new programs.

This paper will identify some of the major challenges in LIS education, outline key features which characterize the i-school movement, and discuss how United States’ i-schools have sought to address the problems faced by LIS education. While the i-school concept is well-known in the U. S., it is relatively new in other parts of the world. This paper considers whether the i-school concept has relevance beyond the U. S. Instances of initiatives compatible with the i-school model are described. The author has 18 years of experience as an academic administrator at a leading i-school (The University of Michigan School of Information) and this experience has provided an inside look into the early stages and growth of the i-school movement.

LIS Education Challenges

In the period between the late 1970’s and the early 1990’s, over a dozen library schools in the U. S. fell vic-

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tim to closures, including historic and highly prestigious programs at Columbia University and the University of Chicago. There have been numerous theories offered as to why so many library schools closed at this time^[1-2]. Some of the reasons suggested for the decline are recognizable as challenges faced by LIS programs in the past and well into the present. Programs tended to be small in size, under-funded, vulnerable to enrollment decline, and were associated with a profession which lacked prestige and offered declining employment opportunities. LIS schools also tended to be isolated within the parent university. Their programs were not considered central to the intellectual mission of the university, were viewed as lacking in relevance to the larger academic community, and the research of their faculty was considered lacking in academic rigor.

The challenges encountered by LIS programs are also reflected on a global basis. For example, educators have noted that the library profession suffers from low-prestige and an image problem in Germany^{[3]505}, and Asia^{[4]25}, and faces declining employment opportunities in South Africa^[5]. Singh describes the problems faced by LIS programs in South Asia which are small in size, poorly supported, and poorly positioned to develop strategies for collaboration and cooperation. He also cites a lack of quality control as it relates to faculty, research, and curriculum content^[6]. Miwa^{[4]20} points out that in Asian countries there is no system of regional collaboration for quality assurance, accreditation, or curriculum development as found in U. S. and Europe, and that as a consequence, Asian programs become attractive targets for U. S. and European institutions seeking a foothold in this region.

Employment prospects and their relationship to curriculum development is becoming an increasingly important issue in the health and development of LIS programs. A lack of job opportunities in librarianship has led to declining enrollments, and subsequent closing of some schools. While jobs in libraries are declining, opportunities in other environments in the non-library sector are growing, especially in areas in which IT has burgeoned^{[4]22-23[5,7]}. At the same time, LIS programs are not always positioned to take advantage of these opportunities by preparing graduates with skills for the new workforce, and curricula have not kept up with the times^[8]. Developments in IT have led to opportunities for graduates equipped with skills in knowledge organization and management, but curriculum gaps prevent LIS graduates from taking advantage of employment opportunities in related information fields. The lack of adequate

infrastructure, especially in the IT area, and the lack of financial support hinders the ability of LIS programs to update their instruction and research in IT areas that are critical^[6]. Adding to the challenge, employers or the larger public have not yet recognized how the skills of LIS graduates can apply to positions in the information management workforce^{[4]24}.

I-schools Respond to the Challenge

What is an i-school? Currently, there is a formal organization of i-schools, called "The I-school Caucus", which is comprised of 21 schools. However, many other programs have adopted features common to i-schools, and it is the position of this paper that the concept of i-school is much broader than a formal group. This paper will consider the term "i-school" as it is broadly applied and will focus on identifying distinguishing characteristics of i-schools which have helped shape the i-school concept. These are features which have helped LIS programs gain relevance and stature in the larger academic environment and beyond, and which have provided effective in addressing the challenges that resulted in closure or decline for so many LIS schools.

Broadening the Intellectual Base

I-schools are broad-based and interdisciplinary, in terms of curriculum, research, and the composition of faculty. An underlying premise in many i-schools is that the problems of the information world are too complex to be solved by a single discipline. Accordingly, the faculty of i-schools has grown increasingly interdisciplinary, with scholars from diverse fields. A recent study shows that in the I-schools Caucus, there are 172 unique areas of study that are represented among the faculty^[9]. As the curriculum of i-schools becomes more broad-based, there have been more extensive opportunities for graduates of their professional programs, and schools have also been able to attract students from a wider variety of disciplines and interests.

Establishing a unique identity

While i-schools have been forging ties with other disciplines, it has nevertheless been important for them to establish their own identity. A focus on the connection between people, information, and technology is an important part of the i-school identity. On its website, the I-school Caucus describes the group as "schools interested in the relationship between information, technology, and people. . . . The I-Schools take it as given that expertise in all forms of information is required for progress in science,

business, education, and culture. This expertise must include understanding of the uses and users of information, as well as information technologies and their applications". This focus underlies the curriculum and also research endeavors of the i-schools^[10].

With a mission centered on People, Information, and Technology, the i-school's focus on People denotes an emphasis on individuals and society. This distinguishes i-schools from fields, such as pure computer science, which are less-centered on users. The term Information connotes the wide variety of fields, such as library science, information economics, and information policy, which all have in common their focus on information. The term Technology encompasses all aspects of technology as it is used to serve people's information needs. The strengthening of the technology base in i-schools at a time of the emergence of IT as a powerful force in society has helped to make i-schools especially relevant inside and outside the academic community.

Achieving influence and relevance through the centrality of information

In an age where the critical importance of information is increasingly relevant, i-schools have been given the opportunity to become highly visible in the media as well as in research venues. Working in partnerships with other disciplines engaged in research in these areas has been an added benefit for i-schools as they gain increased prominence within the university. Other researchers at the university as well as lay people can more easily relate to the kinds of problems that i-school research is addressing. With i-school faculty now being viewed as experts in a wide variety of IT and information-related issues, the mission of the i-school can be seen as increasingly central to the mission of the university.

Achieving stature through research partnerships

The prominence given to high quality research in i-schools has led to more rigorous criteria for hiring and promoting faculty, with increased priority on research records which meet the competitive standards of top research universities. One major benefit is that i-school faculty have been increasingly successful in securing substantial funding from peer-reviewed grant awards. This enables faculty to conduct larger scale research projects, and the research is often cross-disciplinary, opening up opportunities for LIS faculty to partner with colleagues in other fields, as for example, in research on digital libraries. Cross disciplinary ventures have multi-

ple benefits: they offer additional disciplinary perspectives for LIS problems, they provide LIS researchers with opportunities to apply their methodologies and knowledge to a broader set of information issues, and the expansion of research venues has led to partnerships which gives LIS faculty a broader audience which can appreciate and benefit from the findings of their research.

Achieving leverage through collaboration

The broadening of the LIS base has also led to partnerships within the university, and the creation of joint degree programs and cross-listing of courses in other fields. In addition, industry partnerships have helped to support research and student tuition costs, along with external funding from foundations. While LIS programs and i-schools are typically small, the leveraging and partnerships have enabled schools to accomplish goals which would be next to impossible to achieve on an individual basis. By sharing or "leveraging" their strengths with partners, i-schools have been able to undertake projects on a far larger scale, and have helped overcome the challenges and threats that have previously been the downfall of smaller-sized programs.

Achieving financial strength and stability

Enrollments throughout LIS education have been growing in the past decade in the U. S. , and the variety of attractive employment opportunities for graduates has helped attract a broad spectrum of potential students, including but not limited to those interested in LIS. In addition, many schools have increased their student base by undertaking programs in undergraduate study and in distance learning. Since the budgets of many or most programs in the U. S. are tied to enrollments and the tuition revenues that these enrollments generate, this has resulted in a much stronger financial position for i-schools.

In addition to the increase in financial support resulting from tuition revenues generated from enrollments, I-schools have also recently benefited from an increase in revenues generated from research funding. For example, the investment of the National Science Foundation in digital library research has resulted in millions of dollars available for projects in this area. At the same time, additional millions have been awarded for research related to libraries as well as for research on library education, as a result of the federal government funding for the Laura Bush 21st Century Librarian Program. The W. K. Kellogg Foundation provided millions of dollars for library education projects as well as community information in-

initiatives. The health informatics area has also proven a source of significant federal funding for i-school research. Sponsors of these programs have generally encouraged and even at times mandated the development of partnerships, which has helped schools to become more entrepreneurial and to foster the development of teams, working together with partners on campus or externally. These grant opportunities have encouraged schools to foster strong research skills among faculty, leading to increased stature within the university and external environments. With funding from various sources of increased financial support, i-school programs have been able to invest substantially in IT and other critical infrastructure needed for instruction and research.

Can the I-school Model Extend Beyond the U. S. ?

The influence of the i-school concept can be found well beyond the formal “I-School Caucus” organization. In many LIS programs there is evidence of increased interdisciplinary curriculum and faculty composition, a stronger research profile and increased partnership and stature within the university, with substantial impacts on financial standing, enrollments, and employment opportunities for graduates.

While the i-school concept has helped many LIS programs in the U. S. address major challenges, one can ask whether the U. S. i-school experience can have relevance for LIS programs in other countries. There are a number of features of U. S. higher education which are markedly different from those in other national venues. For example, there is a variety of funding models in the U. S. for higher education, and funding can come not only from the state or government, but also from external sources such as tuition revenues, private foundations, and individual donors. Federally-supported research is likely to be more prevalent in the U. S. Also, U. S. programs are likely to operate with a governance model which affords greater autonomy, and are less likely to have a centrally-controlled curriculum, or faculty hiring controlled by the state. Clearly, the i-school model will not work exactly in other countries as it has in the U. S. Nevertheless there are signs of developments outside the U. S. which reflect key parts of the i-school model.

The Beginnings of an Asian I-school Consortium

As in the U. S., there is evidence in many countries that

a number of LIS programs are adopting some of the features that characterize i-schools, such as interdisciplinary curriculum development and expansion of LIS professional practice into other employment venues. In addition, some programs in Asia and Europe are also beginning to identify themselves as i-schools. In the Asia-Pacific region, there is an initiative underway to develop a consortium of i-schools (CISAP). In e-mail messages to the author in August 2008, faculty leaders from a core group of schools in Japan, India, and Singapore indicated that a draft proposal for a Consortium is being developed which will be taken to other schools at the December 2008 meeting of the International Conference on Asian Digital Libraries.

The goal of the CISAP Consortium is to be inclusive and to represent a partnership not only of i-schools, but a collaboration opportunity for LIS programs as a whole. This is particularly significant in the absence of a formal organization of LIS programs in Asia comparable to ALISE (Association for Library and Information Science Education) in the U. S. and EUCLID (European Association for Library and Information Education and Research) in Europe.

As of this writing, the initial guiding principles of the newly emerging consortium include providing a cross disciplinary perspective on Information; and advancing education, research and practice through collaboration and cooperation while embracing the diversity of communities and cultures across Asia Pacific. If the consortium comes to fruition, it would serve as a forum to exchange ideas and information with a view towards helping educate the “new breed” of information professionals. The consortium would “launch collaborative activities across regions—collaborative research projects, students and faculty exchange, and distance education”^[11].

Emergent I-school Models in Asia and Europe

In China, India, Singapore, Japan, and Germany, there are emerging models of i-school programs which feature key i-school characteristics. Each school has interdisciplinary curriculum and research programs which reflect a broadening of the intellectual base and a focus on user-centered technology, and which offer diverse employment opportunities for graduates and diverse research opportunities for faculty. Building research strengths is a key priority, with some programs exhibiting very competitive and established multidisciplinary research programs.

Collaboration and the development of strategic partnerships are helping programs leverage their strengths. The programs are also developing a strong case for centrality and relevance within their parent institutions, and some are gaining increased financial support and autonomy. All exhibit qualities of the entrepreneurial, competitive and innovative spirit which has characterized the most successful i-schools.

The five i-schools described below are all multidisciplinary with strong LIS connections. Four had their origins in LIS-based programs, and the fifth has emerged as a new school with an IT focus but under the leadership of a director with a distinguished career as an LIS faculty member.

School of Information Management at Wuhan

The School of Information Management in Wuhan, China (SIM) has a proud LIS tradition going back almost ninety years, and is developing an extensive interdisciplinary expansion of its research and instruction. The SIM school offers master's and doctoral degree programs in library science, information science, archival science, publishing science, information resource management, management science and engineering, and e-commerce, with bachelor's degree programs in most of these fields as well. The curriculum's cross-disciplinary approach includes a combination of traditional library science with courses in digital libraries, publishing, with courses extending to areas such as information economics and intellectual property.

The SIM service ethos is reflected in its focus on public service and public welfare. From the school's brochure and other materials provided to the author by the School's dean, Chuanfu Chen, it can be seen that students and faculty are providing community service activities in rural and under-served areas, as well as consulting services to a variety of ministries in Chinese government. The School's partnerships span a variety of connections with the library profession, other i-schools, and industry. There are collaborations with software and publication companies, as well as sponsorship of librarian conferences. The School has established an International Collaborative Academy of Library and Information Science (ICALIS) with the goal to promote collaborative research and information exchange between SIM and i-Schools in the United States and other countries. Deans of American i-schools serve on the academy's advisory board. The ICALIS Academy activities will include hosting research fellows, and provision of seed funds for collaborative research projects. An inaugural project with

the i-school at Syracuse involves faculty and doctoral students at Wuhan who will investigate the impact of information technology on scientific communication and collaboration from socio-behavioral, organizational, and use perspectives. Another prominent aspect of SIM's research involvement is its Center for the Studies of Information Resources, a university-based national research institute.

The International School of Information Management at Mysore

The International School of Information Management at the University of Mysore India (ISIM) is a new program which was inaugurated in 2007. Its founding director Shalini Urs has a background which includes over thirty years of teaching in LIS as well as extensive involvement in digital library research and projects. On its website, the ISIM identifies itself as an i-school and has partnerships with i-schools in the U. S. Its curriculum prepares students "to design, develop, implement, manage, and evaluate information systems in a wide range of environments in the global context". The curriculum is interdisciplinary and highly IT-focused. ISIM is a separate department from the LIS program at Mysore, but supports areas such as digital libraries, cultural informatics, and information retrieval. On the research front, ISIM has work which includes extensive projects on Indian digital libraries, and on natural language processing in Indian languages.

Partnerships have formed an important part of ISIM's strategy. The School has a formal collaboration with the International Institute of Information Technology in Bangalore, and has a number of industry partners in the IT area which provide internships. The Ford Foundation provided substantial seed money for starting the ISIM. Its objective was to lay the foundation of a new kind of institution with a multidisciplinary program centered around information. Another key objective was to develop a new institutional model. In an August 2008 e-mail message to the author, the School's director pointed out that while higher education in India has largely been based on the public sector model, ISIM has adopted a public-private partnership model. Although ISIM is academically linked to the University of Mysore, it is financially and administratively autonomous, and is governed by an independent Board of Governors rather than by the University administration.

The Division of Information Studies at Nanyang

The Division of Information Studies at the Wee Kim Wee

School of Communication and Information, Nanyang Technical University in Singapore (DIS) is a program with a curriculum which originated from an LIS base, and in 1998 began to expand its breadth in order to attract students from more diverse background in response to the changes in the information environment. In e-mail messages to the author in August 2008, the current DIS head, Abdus Sattar Chaudhry, and incoming head Christopher Khoo Soo Guan, indicated that the new curriculum was introduced before the advent of the i-school movement, but once that movement was underway, the school realized that its vision was very close to that of i-schools. In the course of its curriculum development DIS looked at major LIS counterparts in the U. S. and took away ideas from some of the major programs. The program also held discussions with its counterparts in the Asia-Pacific region, and undertook several initiatives to foster collaboration, culminating in the forming of the CISAP consortium of i-Schools in Asia. The DIS website shows that the innovative graduate program has grown exponentially in recent years, attracting students from diverse disciplines and professional backgrounds. Its students gain skills for careers in librarianship and work in digital libraries and institutional repositories, as well as in areas of user interface design, and IT applications in information management. In the multidisciplinary curriculum, students can blend courses from the various concentrations of LIS, Archival Informatics, and Information Management and Systems.

DIS has an extensive research portfolio which indicates the capacity to build a strong cross-disciplinary program of research in a variety of information-centered areas. Evidence that DIS faculty have garnered reputations in their university as high quality productive researchers who collaborate with colleagues in other divisions can be seen in the three cross-disciplinary research groups that DIS has established within the School of Communication and Information: knowledge management; information literacy; and web intelligence. The DIS website reflects the extensive research activities undertaken in the various cross-disciplinary clusters.

The School of Library, Information and Media Studies at Tsukuba

The Graduate School of Library, Information and Media Studies at the University of Tsukuba, Japan (SLIM) was formed in 2002, when the University of Tsukuba merged with the University of Library and Information Science and established the new SLIM school.

The School's website notes that "[t]he aim of this Graduate School is to produce leaders in our highly information-oriented society, by helping students study within a wide range of disciplines that are the base of human intellectual activities". There is a two-year masters program and a three-year doctoral degree program. The courses span LIS and a variety of legal, cultural and media areas. As can be seen from its website, SLIM has an array of interdisciplinary research projects focusing on "information and media as the fundamental technology for all academic fields" and a variety of research activities including notable projects in digital libraries. There are cross-disciplinary research groups focusing on: information media and society, management of information and media, information media systems, and information media development. These groups include both SLIM faculty as well as researchers from other departments. Research funding for the field of library management was established with a donation from TRC Inc.

Shigeo Sugimoto, Director of the SLIM Research Center for Knowledge Communities, provided the author with details of a recently-funded educational project on Content Creation and Management of Rights, funded by the Ministry of Education. In this interdisciplinary project, small teams of students from different disciplinary backgrounds work collaboratively on content development, learning experientially. The project is in partnership with the parent university, as well as with other universities and colleges, and organizations.

The School of Library and Information Science at Humboldt

In Europe, the School of Library and Information Science, or Institut für Bibliotheks- und Informationswissenschaft (IBI) at Humboldt University in Berlin is LIS-centered, with a multidisciplinary focus evidenced by ties with economics, HCI, and anthropology. As the only LIS program at a research university in Germany and the only German program with the authority to grant a doctorate in library science, the IBI retains its LIS identity, and similar to the Illinois and North Carolina programs in the US., is an i-school which decided to retain the word "library" in its name. Until recently, the IBI faced an uncertain future. In 2004, the author was part of an external review panel to determine whether or not the school should be continued. In part, the review considered possible directions for LIS education and whether IBI was positioned to lead in the new information environment. At the conclusion of the review, the School was

re-established and given resources for more faculty hiring and curriculum expansion. The IBI's new economic model provides additional financial resources which help the program set its own direction; the school is now in a position where it controls essentially all of the funds for the Institute including the critical tuition income, a situation which is highly unusual in Europe and reflects the University's strong commitment to the school^[12].

According to materials provided to the author in August 2008 by the School's new director, Michael Seadle, Humboldt's IBI is strengthening its research base through the acquisition of faculty leadership in digital library research and a research project involving the European Digital Library. Grant funding at IBI Humboldt was non-existent until recently, but it is now among the top ten research recipients at the University.

The School has partnerships with i-schools in the U. S. , and is also part of a group exploring coordination of LIS education in the European Union and the U. S.

Conclusion

The i-school concept is thriving in the U. S. Many LIS programs are enjoying a period of major growth and have overcome challenges which threatened LIS programs in the past. A number of the features which characterize i-schools can also be seen in other parts of the globe, and are indicators of the changing face of LIS education. In the U. S. and across the globe, LIS schools have incorporated an interdisciplinary curriculum, hired interdisciplinary faculty, gained greater relevance within the university, implemented high-impact research programs, and benefited from partnerships and collaborations. There is evidence that the i-school concept can extend beyond its initial borders, and new i-schools are emerging in Asia and Europe.

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