

Integrating Cultural Perspectives in the iField: The Case of Asian Informatics

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ABSTRACT

This research study justifies Asian informatics as an emerging area of research in the information field (iField) and demonstrates its potential to facilitate diversity of library and information science (LIS) education in the U.S. by offering a cross-cultural perspective in this increasingly multicultural information age. Providing a critical analysis of the iField doctoral education in the U.S., this paper demonstrates the needs and benefits of integrating Asian informatics as part of the LIS curricula, urging LIS education to raise cultural awareness in information studies.

ALISE RESEARCH TAXONOMY TOPICS

education programs/schools; curriculum; education; information literacy

AUTHOR KEYWORDS

Asian informatics; domain-specific informatics; LIS education; doctoral curriculum; cultural perspective

INTRODUCTION

Emerging from the late 20th and early 21st centuries, domain-specific informatics studies have developed into multiple fields constituting the rapidly shifting information studies (iField) (Bonnici et al., 2009). Exemplified by educational informatics, social informatics, health informatics, and cultural informatics (Ford, 2008; Levy et al., 2003; Kling, 1999; Bath, 2008), domain-specific informatics fields have the potential to deepen understandings of both the domain knowledge and information research. With the only appearance in a course investigating ICTs in Japan (University of Hawaii at Manoa, 2015), the term “Asian informatics” has neither been used nor justified as a field of scholarly inquiry. This critical review paper argues that Asian informatics qualifies as an emerging domain-specific research field with established thematic inquiries, approaches, and rationale of research, and can be particularly meaningful for the library and information science (LIS) scholarship. With an examination of the current iSchool doctoral education, this paper also suggests the needs and benefits of incorporating Asian informatics, along with other culture-oriented informatics research areas, into LIS education and training LIS professionals to thrive in the increasingly globalized and multicultural work environment and information age. The central inquiry for this study is twofold: 1) What constitutes the field of “Asian informatics”? 2) How does it inform LIS education, especially the doctoral education, to incorporate cultural perspectives?

LITERATURE REVIEW

Discussion of the iSchool movement started as early as the 1980s (Wiggins & Sawyer, 2010). According to Larsen (2008), iSchools “address the relationship between information, technology, and people.” Situated at the intersection of the three dimensions, aspects related to an iSchool identity have been constantly under debates, including naming conventions, curriculum design, and the field’s intellectual values (Dillon, 2012). Various approaches and perspectives have been adopted to investigate identities of iSchool communities and how an iSchool differs from a non-iSchool (Shu & Beheshti, 2016). A large number of studies examined the intellectual diversity of iSchools through the faculty’s research interests (Wu et al. 2012), teaching areas (Shu & Beheshti, 2016), educational backgrounds (Luo, 2013), and the venues of their publications (Chen, 2008).

However, there is little research on iSchool PhD program offering and design. While some studies have looked into iSchool curricula (Bonnici et al., 2009) and the core values of the graduate education in iSchools, their focus has been on Master’s programs (Wu et al., 2011, Subramaniam & Jaeger, 2011). This study aims to fill this gap and contributes to the literature by providing an analysis of PhD education in iSchools and advocates for the inclusion of cultural awareness in the curricula with an example of “Asian informatics.” Believing that doctoral programs reflect research frontiers of the iField, this study has the potential to demonstrate the future of LIS.

METHODOLOGY

This paper uses a mixed method design to examine two aspects. The first section constructs Asian informatics as a field based on a critical literature review. Specifically, we conducted literature review of multiple established domain-specific informatics fields, including social, educational, health, and cultural informatics, analyzing typical characteristics that constitute them and how they can inform the construction of Asian informatics as a domain-specific field. Furthermore, we assembled the “Asian informatics” literature, searching the keywords such as digitalization, digital libraries, open access, information and communication technology (ICT), China, Japan, and Korea. We systematically reviewed the identified articles and proposed three aspects of Asian informatics research.

The second section examines the doctoral programs and curricula of iSchools in the U.S., using descriptive statistics and content analysis. We collected data from a sample of 18 first-tier US iSchools in iCaucus that are regarded as leaders in the field. The sample data include information on PhD degree offerings and required coursework of the selected iSchools (Appendix¹). To code the data, we performed two mapping tasks: (1) categorize the PhD degrees offered into eight categories (Table 1), and (2) map the collected core PhD curricula into social,

¹ <https://drive.google.com/file/d/17Yz9-fa-R70Z0ft8YgAQFTINV8YCjEIP/view>

health, educational, and cultural informatics based on their definitions from the literature. We first individually conducted the mapping tasks, and then reviewed the results together and resolved the disparities.

Category	PhD Degree Offering
Communication	PhD in Communication PhD in Communication Disorders PhD in Media Studies
Computer Science	PhD in Computer Science PhD in Network System PhD in Intelligent System
Informatics	PhD in Informatics PhD in Bioinformatics
Information Science	PhD in Information Science and Technology PhD in Information Management and Systems PhD in Information System Engineering PhD in Information Science with Concentration in Telecommunications PhD in Information Science with Concentration in Linguistics PhD in Software Engineering
Information Studies	PhD in Information PhD in Information Studies
Library and Information	PhD in Library and Information Science
Statistics	PhD in Statistics

Table 1. PhD degree offering and disciplinary distribution

ASIAN INFORMATICS

The idea of Asia has been constructed from various perspectives. Lewis and Wigen (1997) traced the geographical construction and transition of “Asia” under various world systems such as the continent-based global geography, the binary construction of the “East” and “West,” and the world region system, demonstrating the efficacy of a geographical perspective in constructing identities of Asia. Said (1979) interpreted the cultural meaning of “Asia” under the imagination of the West. Wang (2010) further argued that the idea of “Asia” was always related to issues of modernity and capitalism. The multiple Asian identities are further complicated in the current information age. In addition to Asian studies scholars who investigate languages, cultures, and histories of Asia, information professionals have made significant contributions to the field and can continue to do so in the digital age, particularly by engaging in Asian informatics research and education.

Domain-Specific Informatics Fields

Informatics research has been an emerging field; a close examination of typical domain-specific informatics fields as follows builds the foundation to construct and reflect on the field of Asian informatics. Rob Kling (1999) defined “**social informatics**” as the interdisciplinary study of the “design, uses and consequences of information technologies that consider their interaction with institutional and cultural contexts.” Current issues such as fake news, online diversity, and urban dynamic simulations (Staab et al., 2018) as covered by recent social informatics conferences demonstrate the trends of the field. Smutny and Vehovar (2020) further provides a comprehensive overview of the landscape of social informatics field, explicitly demonstrating the evolution, schools of thought, methodologies, and themes of the field around the globe.

Educational informatics was originally concerned with the “relationships between people, information, ICTs, learning and professional practices at the level of individual and social action, and in diverse organizational and institutional settings” (Levy et al., 2003). Ford (2008) further emphasized educational informatics being the integration of ICT, education, and library and information science, and defined it as “development, use, and evaluation of digital systems that use pedagogical knowledge to engage in or facilitate resource discovery in order to support learning,” focusing on both the educator’s and learner’s ends.

Health informatics focuses on the “use of information and ICTs to improve the quality of care and health and well-being of patients and the general public (Bath, 2008). Covering a variety of topics such as informatics system development, information needs and behavior research, and information ethics, health informatics exerts significant impacts on domains of research such as human biology, computer and engineering sciences (Haux, 2010).

Cultural informatics was defined as an informatics field that “emphasizes understanding of the human world, that which is made or influenced by humanity (Illinois Informatics, 2019). Cultural informatics implies the application of information technologies and computational methods to investigate questions related to art, human cultures, and humanities disciplines (Yaco & Ramaprasad, 2019).

In summary, a domain-specific informatics field investigate the contributions of information and technologies to solving problems of a specific knowledge domain. Simultaneously, it also addresses how social and cultural contexts influence the design and implementation of information and technologies. Asian informatics as a domain-specific informatics field offers the opportunity to revisit issues of information and technologies in a new context.

Emerging Themes in Asian Informatics

We propose three critical aspects of Asian informatics. Studies of **ICTs in Asia** contribute to our understanding of the current Asian societies, particularly the impacts of information and communication technologies on public lives and nation-level administrations (Qiu & Bu, 2013). The development of ICTs in China concerns how the nation could play the digital card and “underpins innovation, structural reforms, the new industrial revolution, and the new digital economy” to fulfill the goals from the 13th Five-Year Plan (Yu, 2017). In Japan, ICTs have been widely applied in crisis communication (Cho et al., 2013) and administrative

management (Fujita et al., 2005). The ICT industry in South Korea has become one of the major driving forces to overcome the economic crisis and is strongly supported by government policies (Hong et al., 2015).

In the aspect of **digitalization of cultural information**, various types of cultural heritage institutions have done tremendous work for the digital transformation of Asian research. Digital humanities initiatives offer important channels for project exhibitions, information sharing, and cross-field collaborations. Asian libraries have also been the leading force for digital humanities projects, especially in digitization of manuscripts and documents², managing digital collections and archives³, creating databases⁴, and supporting scholars and researchers on their DH endeavors.

The development of digital cultural information and movement of open access have generated new concerns in **information ethics**, e.g., privacy and the right to be forgotten (De Baets, 2016). When digitizing cultural information that originates from an Asian context, handling information ethics becomes more complicated with variances in cultural, political, and societal perceptions of privacy. This cross-cultural consideration on information ethics can shed light into principles for other culturally-specific or marginalized archives (Allemann & Dudeck, 2019; Luker, 2017).

Based on the review, we define “Asian informatics” as a field that simultaneously sees Asia from the perspective of information and investigating information in the Asian context. As with other domain-specific informatics fields, it requires the combined expertise in both Asian scholarship and information studies. We argue that it is applicable to extend this framework to other cultural contexts and combine area studies with informatics research, incorporating a cultural perspective into the iField.

LIS DOCTORAL EDUCATION IN THE U.S.

Our examination of the doctoral education landscape of iField suggests two major change: (1) the emergence of the informatics research in the iField, but however (2) the lack of awareness of cultural contexts of information in informatics research.

Figure 1 demonstrates that the iField has been constructed with eight perceived fields of research. The majority of the PhD programs focuses on information science (N=14) and computer science (N=13), suggesting the increasing emphasis on computation in the field. Figure 2 further illustrates the emergence of informatics research in the iField. Drawing upon definitions of social, educational, health, and cultural definitions as discussed previously in the paper, we identified 32 courses as they relate to informatics research from the 163 core courses offered at the 18 iSchools (Figure 2). Among the 32 courses, the majority (62.5%, N=20) is in the category of social informatics, 2 courses in the health informatics field (6.25%), 3 in the educational informatics field (9.37%), and 3 in the cultural informatics fields (9.37%). In addition to the four identified informatics fields, there are 4 out of 32 (12.5%) general informatics courses mapped

² For example, the Chinese Rare Book Collection: <https://guides.library.harvard.edu/Chinese>

³ CR/10 project at the University of Pittsburgh Library System: <http://culturalrevolution.pitt.edu/#HomePage>

⁴ For example, the Chinese Local Gazetteers Project (<https://www.mpiwg-berlin.mpg.de/content/chinese-local-gazetteers>) and China Biographical Database Project (<https://projects.iq.harvard.edu/cbdb/home>)

into the “Others” field. As shown in Figure 2, current informatics curriculum still has a strong technical emphasis. The social and other contexts of information, despite being partially addressed in social and cultural informatics, are not well represented in the doctoral curricula.

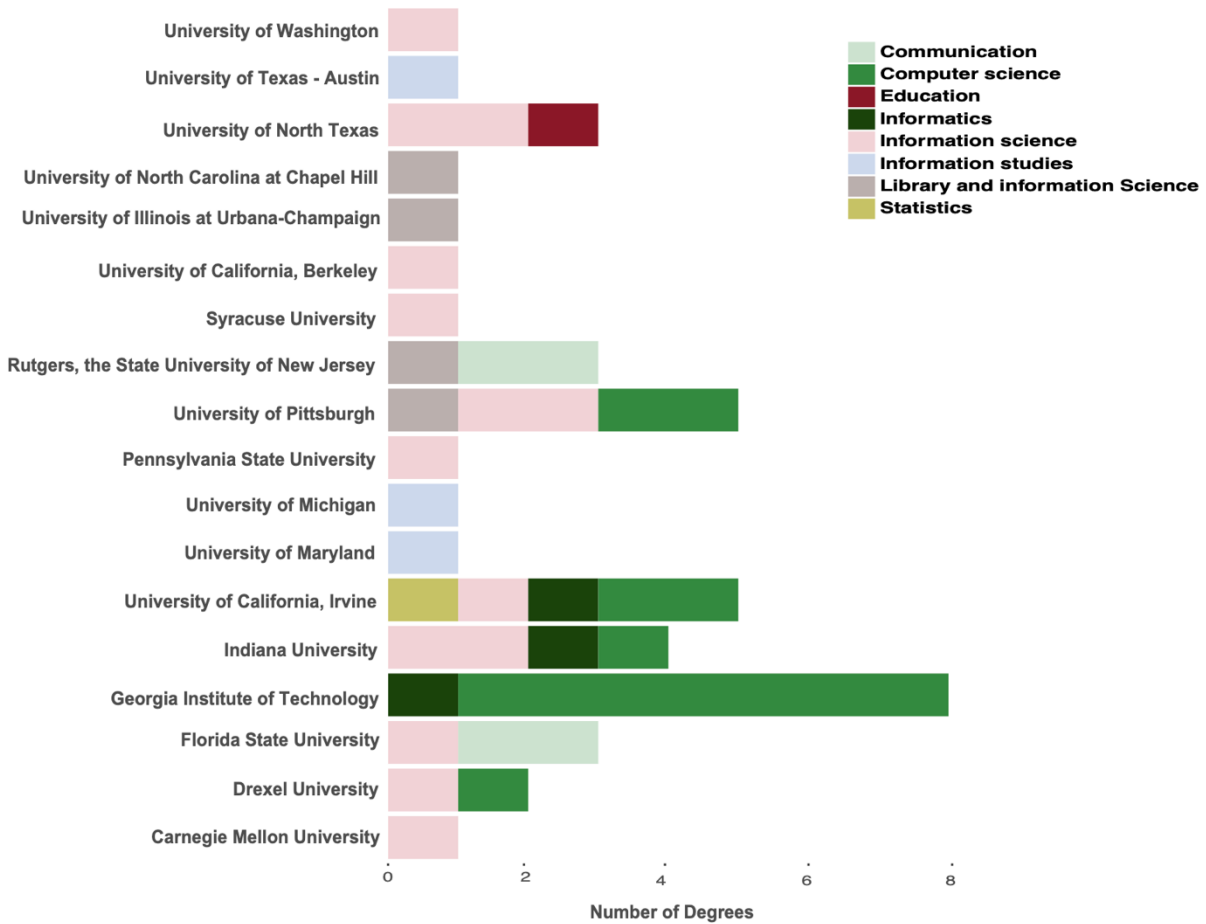


Figure 1. Distribution of PhD degrees among the selected iSchools

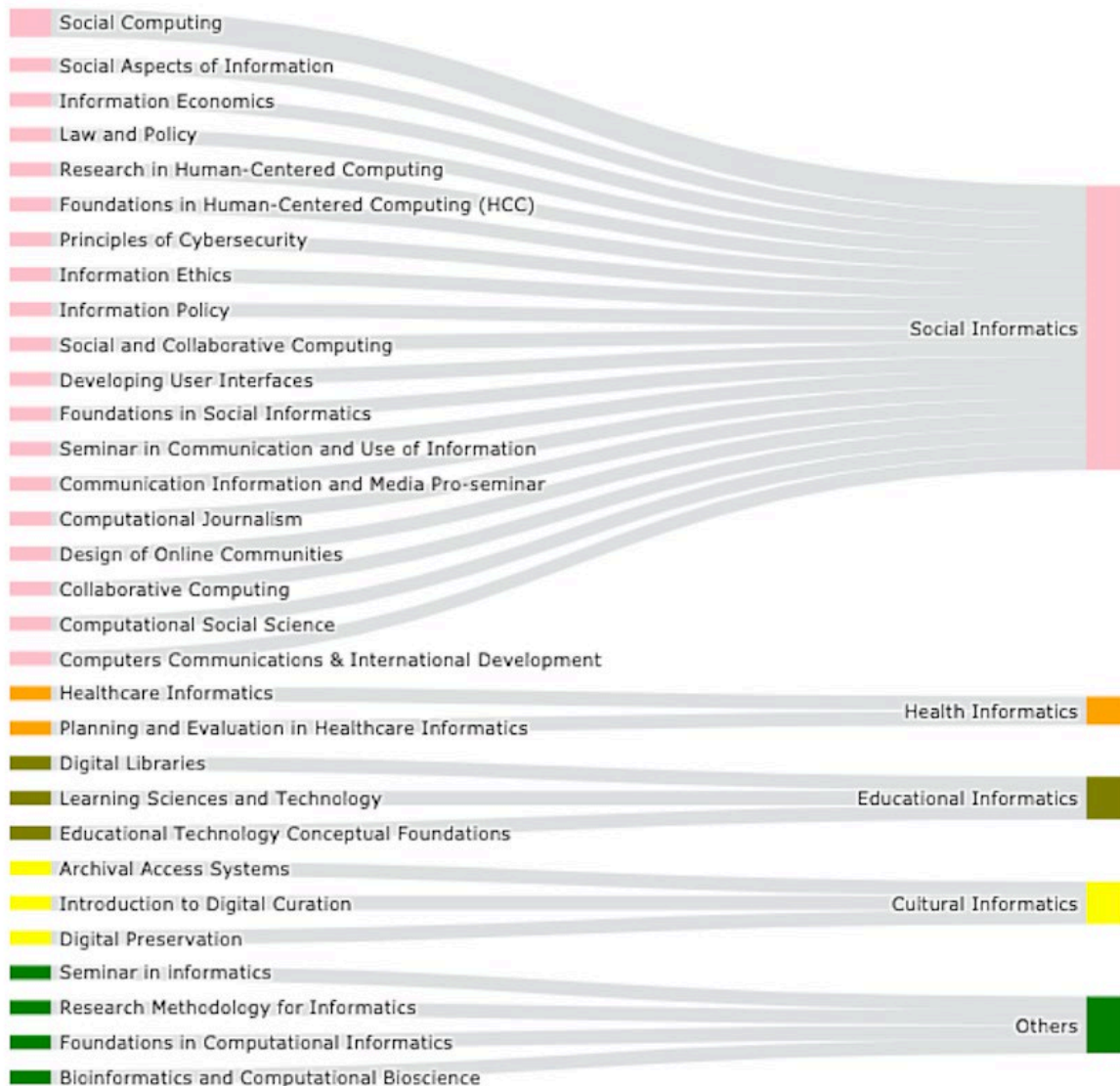


Figure 2. Informatics related doctoral courses among the selected iSchools

CONCLUSION

The construction of the “Asian informatics” field demonstrates an example of how to incorporate cultural contexts into information research. Integrating a cultural perspective will have multiple benefits: (1) it will promote the diversity and multiculturalism of LIS education, which has been a long-term desire for LIS education in the US (Abdullahi, 2007; Aytac et al., 2016; Jaeger et al., 2011); (2) it improves the competency and competitiveness of information professionals to thrive in the increasingly globalized, multicultural information age; and finally (3) it provides supplemental means and perspectives to facilitate certain fields of LIS research,

such as information ethics, ICT research, and digitalization. The soil for the future information research and profession, the doctoral education in LIS has the potential to extend its curricula to the master's level and increase the efficacy of the MLIS programs. More specifically, it will train the next generation of information professionals with not only the capability of handling technologies and computation, but also an open mind to critically engage with various cultural and societal contexts of information.

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