Shifting Sands and the Prophet's Dream: Exploring the Future of Information Organization Education

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This paper explores four main areas that will likely have an impact upon the future of information organization education. In particular, information organization education must be prepared for the continued shift from the use of traditional library cataloging standards to more web-compliant, linked-data standards. Also, there will be more emphasis on the ethical impact of information organization work and the achievement of behavioral competencies of students interested in information organization. Finally, the paper addresses the need for educators to improve their teaching ability in order to more effectively impart the importance of information organization to all library and information science students.

Where Do We Come From? What Are We? Where Are We Going?

—Paul Gauguin (1897)[1]

Information organization (IO) has been a part of the education of librarians since the formation of formal library schools in the United States. The first order of business in Melvil Dewey's School of Library Economy at Columbia College (established in 1887) was practicing "Library Hand" (the preferred handwriting for catalog entries), acquisitions, and cataloging and classification (Miksa, 1988). Even though "information organization" now encompasses much more than the creation and maintenance of library catalogs, for most of the history of library and information science (LIS) programs, library cataloging and

KEY POINTS

- Information organization standards (particularly library cataloging standards) are in a state of flux, creating major challenges for information organization educators.

- Information organization educators should place greater emphasis on ethical issues in information organization and nurturing "soft skills" in students interested in a career in information organization.

- Information organization educators need to strive for a balance of theory and practice in all information organization courses.

classification practices and standards have dominated. A shift in the 1920s and 1930s by LIS programs to focus more on theory than on practice did not shake IO from its core curricula, nor did the more recent broadening of LIS schools to encompass programs beyond library science.

This article touches on the past and present of information organization education and attempts to predict where it is going. No one can foresee the future with complete certainty, but there are undoubtedly indications of what may come to pass, as well as opinions on what *should* occur in information organization education. After covering a brief history of curricular changes in information organization education in LIS schools, I will discuss four areas that currently affect and will likely continue to have an impact on IO education for years to come. The "shifting sands" of IO standards, the "theory versus practice" debate, and the need for students of IO not only to understand the importance of standards but also to obtain proficiency in "soft skills" have been topics of debate in LIS literature for some time and will continue to linger as issues in information organization education for the foreseeable future. Other topics, such as the resurgence of discussion regarding the ethical consequences of information organization work, and the recognition that subject expertise is not sufficient for the effective teaching of IO, are certainly not unknown in the literature but are less studied areas of IO education.

Background

Information organization is also called knowledge organization or bibliographic control and includes library cataloging. Organizing information is an activity that is crucial to the efficient functioning not only of libraries but also of any organization that creates, maintains, and disseminates information. The importance of this activity has been known for quite some time, so the theory and practice of information organization remains one of the core areas of LIS education more than 100 years after Melvil Dewey formed his School of Library Economy. However, this does not mean that information organization's place in LIS curricula has not been questioned, nor that it has been untouched by trends and technological advances, like all areas of LIS. The debate over whether LIS schools should emphasize theory or practice (or have a balanced mix of the two) continues still in IO education (Goodsett & Koziura, 2016; Snow & Hoffman, 2015). Dunkin (1962, p. 126) referred to the theory/practice dichotomy as "the ant's eye view" and "the prophet's dream," to distinguish between current cataloging practices and underlying IO philosophies. Snow and Hoffman (2015) found that many LIS practitioners do not see the need to choose one or the other; they want both—a good balance of theory and practice. Regardless, theory is the main focus in at least the required, introductory IO courses in most LIS programs at the present time (Joudrey & McGinnis, 2014).

In 2014, Daniel Joudrey, along with his graduate student Ryan McGinnis, published the third installment of his longitudinal study that

began in 2000 on the presence of IO courses in LIS program curricula (Joudrey, 2003, 2008; Joudrey & McGinnis, 2014). They found that most LIS programs require students to take at least one information organization course. In fact, metadata, basic library cataloging, special topics in cataloging, and non-book cataloging courses are actually offered more frequently in LIS programs now than in past years (Joudrey & McGinnis, 2014). Advanced courses in descriptive cataloging, subject cataloging, classification, and thesaurus construction, on the other hand, are not taught as regularly as they have been previously.

Joudrey and McGinnis (2014) also determined that four out of the 58 programs currently accredited by the American Library Association (ALA) no longer require that students take any IO course, twice the number of programs reported in Joudrey's last review in 2005. For those who believe that IO is an important part of LIS education, this trend is worrisome. With many required "cataloging and classification" courses having transitioned into "information organization" courses (courses that cover the organization of information in a variety of environments, not just libraries), it seems particularly unfortunate and not particularly forward-thinking to sideline such an integral part of LIS education (Joudrey & McGinnis, 2014). Information organization is an area in which all LIS students should have some familiarity. One does not need to be a cataloger to benefit from understanding the organizational structure of information; public-service workers in particular use this knowledge to assist users more effectively.

It is unclear if the trend to marginalize information organization in LIS programs will continue, though Joudrey & McGinnis's (2014) study indicates that it would not be unexpected. What is clearer is the greater urgency for IO courses to prepare all LIS students for a future where libraries are no longer so insular in their focus in data creation and sharing. Library cataloging standards have been evolving for quite some time in order to better position library data for the web environment, and this trend will continue.

Navigating standards' shifting sands

> We are about to witness a profound transformation of the rules
> which have shaped the catalogs of our libraries for many years,
> and the occasion seems to call for a pause to reflect on its impli-
> cations for the teaching of cataloging.
>
> —Lubetzky (1965, p. 255)

The epigraph above evokes the current state of information organization, yet it was written by Seymour Lubetzky in 1965, a few years prior to the publication of the dominant cataloging code of the twentieth century: the *Anglo-American Cataloguing Rules* (AACR). The same "profound

transformation" has happened recently with *Resource Description & Access* (RDA) replacing the second edition of AACR (AACR2). Furthermore, the proliferation of other metadata standards has broadened the IO landscape to an extent that would amaze Lubetzky. Pattuelli (2010) and Joudrey & McGinnis (2014) confirm that IO courses in LIS programs contain instruction on a growing number of non-traditional library cataloging topics and standards. Libraries are increasingly adopting standards that did not originate in libraries—standards that are web-compatible and therefore understood and used by non-librarians, such as the extensible markup language (XML) and Dublin Core.

Published in 2010, RDA was designed to encourage the creation of metadata that can be used on the World Wide Web, preferably as linked data, which is a way of structuring data that makes information more easily shared and located on the Web. RDA is also based on a conceptual model called the *Functional Requirements for Bibliographic Records* (FRBR). The decision to use the International Federation of Library Associations and Institutions' (IFLA) FRBR model for the initial edition of RDA, and IFLA's *Library Reference Model* (LRM) for the latest version of RDA, is yet another signal that the developers of RDA want bibliographic data placed into a clear framework that will be easier for machines to parse.

In addition, unlike its predecessor AACR2, RDA was not intended to be a set of prescriptive cataloging rules but rather "a package of data elements, guidelines, and instructions for creating library and cultural heritage resource metadata that are well-formed according to international models for user-focussed [sic] linked data applications" (RDA Steering Committee, 2018). This movement within the library cataloging realm from a more legalistic dependence on "rules" to optional guidelines that can be tailored to specific communities has culminated in the RDA Steering Committee's RDA Restructure and Redesign (3R) project, meant to align RDA with IFLA LRM and encourage the production of linked data. According to its developers, "[d]ecisions on whether certain elements are core, and the cardinality of recorded elements, may be indicated by cataloguing agencies" (Beta RDA Toolkit, 2018). In other words, requirements are few, and those using RDA (not the developers of RDA) will decide what information is needed to describe a resource and how to transcribe that information. Therefore, RDA will be more like a data dictionary than a set of cataloging rules.

The RDA Steering Committee's decision to loosen RDA's requirements will likely have minimal impact on teaching general information organization courses in LIS programs that already focus more on principles than on the intricacies of specific standards. Courses that focus more on cataloging within libraries, particularly at the advanced level, will need re-development. The use of application profiles created for specific user populations, libraries, or material types will likely proliferate in the absence of guidance from RDA. In particular, the Library of Congress/

Program for Cooperative Cataloging Policy Statements (LC-PCC-PS) may become the *de facto* best practices guide for libraries that crave more concrete guidance. Even though this will likely be a welcome outcome for many catalogers in academic and research libraries, the cataloging needs of other library types (school, public, special, etc.) will be increasingly marginalized unless other institutions or associations step up to create robust application profiles, as it is unlikely that most libraries will have the resources to create one for their individual use and alter their bibliographic records accordingly. Inconsistency in transcription and choice of elements will likely flourish.

Interestingly, a similar scenario presented itself in the early 1960s, a time shortly before the introduction of AACR when there was a great deal of discussion about internationalization and simplification of IO standards, much like today. In a 1962 article that pondered the future of technical services in libraries and the impact of that future on IO instruction, Carlyle J. Frarey, senior lecturer and assistant to the dean at the School of Library Service of Columbia University, predicted that LIS programs will focus less on descriptive cataloging codes (such as AACR) and more on subject cataloging, which includes more rigidly controlled vocabularies and classification schemes (Frarey, 1962). Even though his prediction ultimately did not come to pass because cataloging rules remained fairly prescriptive in AACR and AACR2, the idea of LIS programs placing greater emphasis on subject analysis (and perhaps identity management as well) over descriptive cataloging standards still has merit in the current information environment.

In addition to changes to traditional library cataloging descriptive standards, the continued use of the now 50-year-old machine-readable cataloging (MARC) standard is also problematic, and its future (or lack thereof) is more certain. MARC has stymied data sharing not simply because it is unlike other modern encoding standards but also because no one outside of the library community uses it. In 2011, the Library of Congress announced that it was developing a replacement for MARC called BIBFRAME (Bibliographic Framework). BIBFRAME was developed to provide "a foundation for the future of bibliographic description, both on the web, and in the broader networked world that is grounded in Linked Data techniques" (Library of Congress, 2018), similar to the goals of RDA. It has been slow to take hold in the library cataloging world since its debut. Nonetheless, the Library of Congress has a great deal of time and money invested in BIBFRAME, so it is likely that it will begin suspending MARC cataloging in favor of BIBFRAME once sufficient piloting is complete. Perhaps this will happen within the next five to seven years, since much has already been done in converting MARC records into BIBFRAME (Wiggins & Williamschen, 2018). This creates an interesting situation for IO educators, particularly those who teach MARC cataloging. Since most libraries will continue to use MARC for many years to come, discontinuing

the teaching of MARC would short-change students looking for library cataloging positions now. Teaching a variety of metadata standards, including MARC, will be necessary to prepare students for the shifting sands of the post-MARC world and connect bibliographic information of the past to the future.

Even if the dream of RDA's flexible resource description and BIBFRAME's library linked data does not take hold, the slow march of libraries using only web-compliant standards will eventually come to pass. Many IO educators have been preparing students for this eventuality, but it always has been and will continue to be a challenging balancing act for educators who must prepare students to obtain jobs in the current information environment as well as future environments that are far from certain.

Achieving social justice through information organization: the importance of ethics discussion in the classroom

In June 2015, Jacky Alciné noticed that Google's new automatic tagging feature for Google Photos had categorized his collection of photographs, but not in the way he anticipated. A series of photographs that he took of himself with a friend at a concert was labeled "Gorillas"—not just one photograph, but over 50 (Wachter-Boettcher, 2017). Why were these photographs categorized under "Gorillas" when his other photographs were correctly tagged as containing "Cars" and "Skyscrapers"? He soon learned that there was a flaw in the algorithm that Google had programmed using existing data to detect patterns and interpret new information. The "flaw" was that the algorithm was created without enough existing data to distinguish between a gorilla and Jacky Alciné and his friend, both African-American human beings.

Ethical issues have been raised in information organization literature for decades to highlight the power of IO as a means of discrimination and as a form of social justice (e.g., Berman, 1971; Olson, 2002). However, the increase in the use of computer algorithms to categorize and label information has led to a resurgence in discussions of the ethical impact of information organization in a variety of contexts. In recent years, the Association for Library Collections and Technical Services (ALCTS) division of the ALA has offered a number of events that have encouraged dialogue about cataloging ethics, including an e-Forum and several sessions at ALA hosted by the Cataloging and Metadata Management (CaMMS) section of ALCTS (Cotterman, 2017; Miller, 2018; Shoemaker, 2017). Furthermore, a growing number of articles and books are calling for more discussion of and more action on addressing ethical issues in IO in both the subject and descriptive realms. Areas of concern include not only situations like Jacky Alciné's story above, but also how information in authority records can be disrespectful and misleading (Billey, Drabinski, & Roberto, 2014), the inclusion of gender, race, ethnic, and other types of bias in subject

vocabularies and classification (Adler, 2017), and the lack of user studies used to inform IO standards (Hoffman, 2009; McCourry, 2015).

As society relies increasingly on technology to automate information organization, it is imperative to educate LIS students on the importance of identifying and addressing ethical issues that arise in information work, not only in advanced coursework but in introductory courses as well. Wachter-Boettcher (2017) notes that situations of biased output (of which there are many) occur not due solely to the technology itself, but often because of the lack of diversity of and critical reflection by those who design it. IO educators will need to include discussion of ethical dilemmas, and the importance of including diverse viewpoints in addressing these dilemmas, in all IO courses. Tying these issues to students' day-to-day reality is helpful for making ethical problems more tangible and accessible while also emphasizing the importance and impact of information organization—going beyond the "prophet's dream" of theory. For example, students can read and discuss an article on the use of metadata for photographs that demonstrates the importance of metadata for preserving memory and history (Macpherson, 2014). Then they can juxtapose that information with another article that reveals how metadata from facial recognition software can be used to discriminate and oppress (Cole, 2016). Often students are not aware of the ethical implications of information organization, and for this reason it is all the more important to raise awareness in IO classrooms. This, in turn, will encourage LIS students to be good stewards of information in their jobs and in other areas of their lives.

The hard reality of soft skills

Fairly or unfairly, for many years the information organization professional has been stereotyped as antisocial, shy, and/or rules-obsessed. Though there may be a grain of truth to this stereotype for *some* cataloging librarians, most are actively engaged in pursuits that require collaboration and leadership, just like any other information professional. The 2015 white paper titled "Re-Envisioning the MLS: Findings, Issues, and Considerations," written by members of the College of Information Studies at the University of Maryland, highlights the critical knowledge and skills of MLS-holders now and for the foreseeable future. The authors of this document conclude that *all* MLS-holders (not just reference librarians and administrators) should be service-oriented problem solvers who are collaborative, creative, and flexible (Bertot, Sarin, & Percell, 2015).

The *Core Competencies for Cataloging and Metadata Professional Librarians*, approved by the Association for Library Collections and Technical Services (ALCTS) executive board in January 2017, incorporates the findings of the Maryland document and highlights other important competencies for information organization professionals. The Task Force that created the document also solicited community feedback, consulted current literature,

and analyzed cataloging and metadata job postings from 2010 to 2015 to determine the preferred competencies for cataloging and metadata librarians (Evans et al., 2018). These sources confirm that what are often referred to as "soft skills" are highly desirable and often required by employers of cataloging and metadata librarians (Evans et al., 2018). The findings of the Task Force, though important in their own right, nonetheless validate what has been known in the literature for some time: that information organization work encompasses so much more than simply knowing and applying current IO standards (Glasser, 2007).

For this reason, IO educators should assess their school's information organization curriculum with the knowledge that "soft skills" or "behavioral competencies" (as the *Core Competencies for Cataloging and Metadata Professional Librarians* describe them), such as interpersonal communication, public-service orientation, initiative and adaptability, professional curiosity, and problem solving, are essential for future information organization professionals (Cataloging Competencies Task Force, 2017). Current and future IO courses should incorporate assignments and activities that promote collaboration and communication among peers, highlight ethical issues that students may encounter in practice (see the section above on social justice in information organization work), and encourage students to be creative and flexible. Clearly, other courses in LIS programs can assist students in developing and/or refining behavioral competencies, but incorporating them as much as possible into IO courses will reinforce the importance of these "soft skills" in information organization work.

Effective educators and the "curse of knowledge"

A hopeful vision of the future of information organization education includes discussion of not only *what* should be taught in IO courses (standards, soft skills, ethics, etc.) but also *who* should be teaching them and *how.* Full-time LIS faculty and adjunct instructors will continue to teach IO courses for the foreseeable future. Having adjunct instructors who are current practitioners teach IO courses makes sense—they are on the front lines of practice and can help guide students through the often complex terrain of information organization practice. However, despite misguided calls for LIS programs to rely solely or primarily on practitioners to teach IO courses (Elrod, 2008), full-time faculty members teaching in information organization are needed in all ALA-accredited LIS programs. Full-time faculty members can ensure that IO courses remain in LIS program curricula and are taught on a regular basis. In addition, they are, in most cases, first and foremost educators who are focused on effective teaching and learning practices. This is not to imply that practitioners are poor educators—far from it. There are a number of full-time practitioners who are excellent teachers and generously devote time from their already busy schedules to educating the next generation of information professionals, and they are needed to teach IO courses for which a full-time educator is

unavailable. Nevertheless, it is important to make the distinction between *expertise* in information organization and *effectively teaching* information organization—sometimes they go hand-in-hand, but sometimes they do not.

Education literature includes studies of what is called the "curse of knowledge" (Hattie & Yates, 2014) or the "curse of expertise" (Hinds, 1999). It is the idea that experts often do not remember how difficult it is to learn the skills and knowledge that come as second nature to them now and therefore underestimate the time it takes for novices to learn those same skills and knowledge. Even though students do appreciate educators with high levels of subject knowledge, the ability of the educator to effectively communicate information and provide helpful feedback has a more profound impact on students' ability to learn the material than expertise (Hattie & Yates, 2014). For this reason, it is imperative that IO educators (full-time and part-time) not only invest time in keeping up with trends in information organization (which will be addressed shortly) but also reflect upon and research new pedagogical approaches that will improve their ability to convey course content and assess student learning.

Snow and Hoffman (2015) noted in their study of what constitutes an effective beginning cataloging course that, after the need for practice creating bibliographic information, the "[e]ffectiveness of the instructor was cited as the second most important element that helped students learn cataloging" (p. 194). Study participants did cite knowledge of the subject matter as an important part of an educator's effectiveness, but participants also emphasized the importance of an educator's attitude, enthusiasm, teaching ability, and engagement with the course material and students. These findings are in alignment with what scholars in the discipline of education, such as Bain (2004), have confirmed previously about effective instructors: that they think deeply about and continually evaluate their teaching methods and how they assess student achievement, treat their students with respect and caring, and have the ability to take their extensive knowledge of a subject area and package it in a way that students can appreciate and understand. Furthermore, Bain is careful to point out that being an excellent teacher is not something that is innate but learned. For this reason, the effective information organization educator of the future (and present, for that matter) is someone who is eager to continuously examine and improve his or her pedagogy.

It is difficult for IO educators to carve out time from their busy schedules to improve their teaching, but it is important for them to do so. Effective teaching will likely engage not only students who are interested in becoming IO professionals but also all future information professionals who will use and/or have control over the product and process of the IO professional's labors. If these information professionals do not have a solid understanding of the importance of IO at their institution or organization, then there is a greater possibility for IO work to be deprioritized and

defunded. The number of IO courses taught online will likely continue to increase, so educators must keep apprised of effective teaching strategies for online courses, as well.

In addition to continually updating their pedagogical knowledge and skills, IO educators need to stay involved in IO practice in order to ensure that students receive a good balance of theory and current practice in their IO coursework. In order to combat accusations that full-time faculty teaching in IO are "too far removed from the day-to-day reality of the cataloging world to train catalogers" (Clack, 1993, p. 29), these faculty members should engage in continuing education opportunities to keep course content relevant and provide real-world examples. This continuing education could involve faculty members re-engaging in actual practice, but it need not be. Faculty members should be actively involved in professional organizations where they can interact with current practitioners in order to stay current on the issues and concerns of those "in the trenches." Another way to achieve a similar result is to teach continuing education courses, workshops, and/or webinars to practitioners on a regular basis. Preparation for these teaching opportunities help faculty members update their knowledge of IO standards and practices and provide important networking opportunities with practitioners. The future of IO education depends on full-time and adjunct educators who are continually engaged with what is happening in practice, are passionate about IO, and want to improve their teaching.

Conclusion

Most of the areas of focus in this article could apply to any area of LIS education; they are not specific to information organization. Keeping up with the ever-changing number and content (the "shifting sands") of standards always has been and likely will always be the IO educator's burden to bear. However, other areas are not the IO educator's burden alone; aspects such as the balancing act of teaching theory and practice (the "ant's eye view" versus the "prophet's dream" [Dunkin, 1962, p. 126]), encouraging the development of behavioral competencies, emphasizing the ethical implications of information work, and improving pedagogy are firmly within the broader LIS education domain. Partnering with faculty in other areas of LIS will be critical not only to ensure that students focusing in IO obtain the needed skills and knowledge to be successful information professionals, but also to confirm IO's place in LIS curricula. If LIS faculty view IO as unimportant or as an unworthy professional pursuit, then they will not encourage students to take IO courses, or they may actively *discourage* students from concentrating in IO. For this reason, IO educators must continually advocate for IO both when interacting with students and when engaging with their LIS colleagues.

Furthermore, the belief that required IO courses should focus primarily on theory and ideas, and advanced IO courses primarily on practice,

should be revisited. In the conclusion to their last study on IO, cataloging, and metadata graduate education, Joudrey and McGinnis (2014, p. 546) wrote that "[l]ibrary and information science programs must provide all graduates with a basic education in information organization—one that includes the basic ideas of cataloging, but not one that focuses on the minutiae of cataloging practices." Indeed, LIS graduates do need a solid foundation in IO for the reasons already discussed in this article, but the last part of Joudrey & McGinnis's statement need not be in opposition to the first. Exploring "the minutiae of cataloging practices" (or, at least, some of the minutiae) is a way for IO students to make connections between IO concepts and the real-world application of those concepts. For example, assigning Library of Congress subject headings and subheadings to a resource and then placing them into the appropriate MARC fields and subfields can help LIS students gain a better understanding of how subject and coding decisions affect search and browse results in a library catalog. Even though not all LIS students will work in a traditional library (such as a public or university library), it is still a lesson that can be transferred easily to other information environments. Simply discussing the importance of controlled vocabularies may not be enough for LIS students to grasp the implications of its use; they need hands-on experience as well. To put it another way, "[i]t's not just what you know, but how you practice what you know that determines how well the learning serves you later" (Brown, Roediger, & McDaniel, 2014, p. 57). This idea appeared frequently in the study by Snow and Hoffman (2015). They found that the need for practice was the most important element in effective beginning cataloging courses, according to study participants. One respondent remarked that beginning cataloging courses should contain "[m]ore practical work! Cataloging is a skill learned through practice. Theory is important, and should be taught, but always with lots of practical applications to back it up" (p. 194). Granted, the focus of the study was beginning cataloging courses and not general information organization courses, but the sentiment is still applicable in both cases. Dunkin's prophet's dream that does not incorporate some of the ant's view will likely be lost to the educational ether. Practice, when done effectively, will help demonstrate the relevancy of information organization, which is desperately needed to ensure a healthy future for IO education in LIS curricula.

Information organization education, like other areas of LIS education, faces many challenges now and in the coming years. This is not unusual, as change has always been a constant companion for the LIS educator. Change is both daunting and exciting, yet we carry on, continuing to honor where we came from and looking forward to where we are going.

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Note

1. The English translation of the title of Paul Gaugin's 1897 painting *D'où Venons Nous / Que Sommes Nous / Où Allons Nous.*

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