



Assessing iSchools

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Over the past decade, iSchools have emerged to educate the next generation of information professionals and scholars. Claiming to be edgy and innovative, how can and should these schools function in the spirit of assessment that now drives so much in the university? This essay, which explores how well we can assess iSchools, emerged from a doctoral seminar, *Academic Culture and Practice*, taught by Richard Cox and including four doctoral student participants and the Dean of School of Information Studies at the University of Pittsburgh, Ronald Larsen. The doctoral students, among other activities, were required to work on assignments to support a self-study for the University of Pittsburgh's reaccreditation by the Middle States Association. As we proceeded through the course, we found ourselves increasingly drawn to questions about how iSchools, in their nascent state, can assess themselves. Four major areas—reputation, evaluating productivity in scholarly publishing, student evaluation of teaching, and student satisfaction with their academic programs—that emerged based on student interest as the seminar proceeded are discussed.

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Introduction

Just a couple of decades ago, one controversy in the education of librarians and other information professionals was the loss of “library” in the name of some schools, beginning a conversation that links to the present iSchool movement. Half-a-dozen years ago the iSchool Caucus was formed, annual conferences started, and schools that were not former LIS schools began to join. Today, the focus of discussion about LIS education resides with these iSchools.

iSchools “address the relationship between information, technology, and people,” elevating information and its management to a critical role in society (Larsen, 2010, p. 3018). While some wonder why older notions of L-Schools or LIS Schools do not fit within this definition, iSchools have a more complicated

vision. Larsen adds, “an iSchool provides the venue that enables scholars from a variety of contributing disciplines to leverage their individual insights, perspectives, and interests, informed by a rich, ‘trans-disciplinary’ community” (p. 3021). The heart of the notion of “trans-disciplinarity” is creating new knowledge, but as Larsen points out, such collaboration is “not a natural act” and needs to be fostered deliberately (p. 3021).

Change occurs slowly in universities, so how does this work for iSchools? Claiming to be edgy and innovative, how can and should these schools function in the spirit of assessment that now drives so much in the university? (Olson and Grudin, 2009). This essay explores how we can assess the recent iSchools, emerging from a doctoral seminar, *Academic Culture and Practice*, taught by Richard Cox and including four doctoral students. This

seminar addresses a particular problem identified by Jonathan Cole in his important study about American universities, namely their lack of attention to preparing new faculty and leaders (Cole, 2009). This course immerses students into the history and culture of higher education, the context for the development of LIS education, and prepares doctoral students for academic careers.

We did not examine all iSchools, but focused on ones descending from older schools educating librarians and archivists, representing our immediate context (namely the school at the University of Pittsburgh tracing its origins back more than a century to the training of school librarians). We recognize that there are now iSchools lacking this lineage, emerging from other domains such as communications or computer science.

Given that our school was involved in preparing a self-study for the University of Pittsburgh's reaccreditation by the Middle States Association, doctoral students, among other activities, worked on assignments to support this self-study. As we proceeded through this course, we found ourselves increasingly drawn to questions about how iSchools, in their nascent state, assess themselves. Four major areas—reputation, evaluating productivity in scholarly publishing, student evaluation of teaching, and student satisfaction with their academic programs—emerged as the seminar proceeded based on student interest (comprehensive coverage was not the aim).

Reputation

Reputation has become synonymous with quality in higher education, emphasizing the prestige of the students, faculty, programs of study, or the school itself. Often the reputation of a school is reflected through the results of a ranking system, where higher ranked schools are perceived as more prestigious or reputable. ISchools appear to have a similar reliance on rank-

ings; of the 21 U.S. based iSchools, 17 post on their website the results from at least one of the available ranking systems. How do these rankings relate to the school's reputation? What qualities or characteristics are key to defining the reputation of an institution of higher education?

In a two-year study of higher education, 26 institutions were visited and surveyed to analyze the industry of higher education, focusing on the competition for reputation and prestige (Brewer, Gates, & Golman, 2002). The authors define three classes of universities: prestigious, prestige seeking, and reputation-based. Prestigious and prestige-seeking organizations compete in four markets: student enrollments, research funding, public fiscal support, and private giving. Such factors are often measured in ranking systems for higher education, such as the *Carnegie Classification* and the *U.S. News and World Report*.

Many methodologies have emerged for ranking higher education institutions. Some include a subjective reputational score calculated through surveying deans and other officials, while others have based their calculations exclusively on objective measures such as research expenditures. While colleges and universities attempt to discredit specific methodologies, they also legitimize the rankings through using high-ranking scores (when they receive them) in promoting their schools. The competition for higher rankings leads administrators to shape policy with the rankings in mind. However, ranking systems are not new, dating back to before the turn of the 20th century (Stuart, 1995; Webster, 1986). One of these first attempts at reputational rankings, based on a survey of faculty members at thirty-six different institutions, occurred in 1925 with Raymond M. Hughes' *A Study of the Graduate Schools in America*, making Hughes the "inventor of the reputational ranking" (Stuart, 1995, p. 237). Hughes did a second, although unpublished, study in 1934. After these first attempts, very few rankings would be published for some years.

Contemporary reputational rankings continue to follow the example of these early systems. The *U.S. News & World Report* survey, first published in 1983, relied solely on a reputational score until 1987 (Webster, 1992). Today, the *U.S. News & World Report* compares similar schools, departments, and programs, with 30% of the score based on a reputational survey. The "Best Colleges" are listed according to six different categories based on the *Carnegie Classification*. Graduate schools are listed according to 11 different disciplines that can be further ranked according to specialty. *The Carnegie Classification* relies on more objective data, and classifies universities based on statistical data, rather than providing a list of top schools.

The Top American Research Universities appeared in 2000 to counter these other ranking systems. Published through The Center for Measuring University Performance, this ranking attempts to provide an objective analysis of American research universities, relying on 9 different measures supported by data reported by universities to third parties such as the National Science Foundation (Lombardi *et al.*, July 2000). Schools are then "ranked" according to how many factors fall into the top 25. Unlike other systems, the result is not a "top 10" list, but rather a comparative look at the "top" schools in the U.S. As competition in higher education is increasingly global, attempts also have been made to rank the top schools in the world, including *The World University Rankings*, which ranks the top 200 universities based on 13 indicators in five categories (teaching, research, citations, industry income, and international mix), and the *Academic Ranking of World Universities*, first published in 2003 by the Center for World-Class Universities and Education of Shanghai Jiao Tong University, China.

Attempting to make sense of the multitude of ranking methodologies, the Institute for Higher Education Polity (IHEP) emerged in 1993 to "provide a road map

of this complex rankings landscape," through the Ranking Systems Clearinghouse. The website offers resources for both national and international ranking systems, attempting to provide an unbiased look at the myriad of ranking systems appearing world-wide. Working in conjunction with UNESCO-European Centre for Higher Education and the International Rankings Expert Group (IREG), the IHEP has assisted in the formulation of principles for higher education rankings reflecting the academic literature critiquing ranking systems. Rankings based on a reputational factor, such as the *U.S. News and World Report*, are specifically criticized for the bias of the reputational score (Webster, 1992). Other studies have assessed the quality of the "objective" statistical data used by other rating methodologies (Schmitz, 1993; Kerr, 1991). Such classification becomes a major issue when ranking iSchools.

Seventeen US based iSchools report the result of at least one ranking scale on their websites. Of these, 15 list their *U.S. News and World Report* ranking, with little contextual information about the nature of the ranking. As few iSchools share a common origin, with many emerging from LIS and others from computer science and technology oriented programs, it is difficult to determine how the iSchools should be categorized. The *U.S. News* is one of the few systems that report the rankings specifically for LIS. The *U.S. News* further complicates the classification of LIS programs by reporting the rankings for specialties offered within LIS, including archives and preservation, digital librarianship, health librarianship, law librarianship, school library media, services for children and youth, and information systems. *The Top Research Universities* also fails to capture the intricacies of the iSchool movement. While iSchools may be situated within large research universities, few of the factors capture data related to the programs within the iSchools. Many of the data points for this system are gathered from the

National Science Foundation. While the NSF does report data for computer science programs, library science is categorized with journalism and communications. It is not clear where information technology or telecommunications programs fall within the NSF classification.

The iSchools represent a range of undergraduate and graduate degrees and certificates in a variety of programs. While the schools may be united under the iSchools banner, the differences outnumber the similarities. What factors are crucial in assessing the quality of iSchools? During the discussions at the first iSchool conference, held in 2006, the “essential attributes” of iSchools were defined as focusing on information, its connection with people and technology, multidisciplinary approaches to research, academic independence, and an active research agenda with a doctoral program (Bruce, Richardson, and Eisenberg, 2006). A notable similarity between the iSchools is their location within research institutions granting doctoral degrees, in the prestigious or prestige-seeking category where they compete in student enrollments, research funding, public fiscal support, and private giving (Brewer, *et al.*). Prestige is considered a “rival-good” (as prestige is gained by one institution, it is lost by another) also reflecting the nature of the rankings. Since much of the rhetoric of the iSchool movement suggests cooperation and collaboration, perhaps the iSchool movement has a unique opportunity to break away from the reputation-based rankings and consider other methods for assessing quality, such as what has occurred in Australian universities focusing on establishing a system of institutions with a common mission competing in the global market as a whole (Sheil, 2010; Bradley, 2008). If iSchools can see themselves as a network advancing the goals of the information professions, there is an opportunity to move beyond the competitive nature of higher education reflected in ranking schemes. Through the governance of the

iCaucus, iSchools could also adopt a similar networked approach, promoting the iCaucus standards and benchmarks for the iSchool programs. This is not to say that all of the iSchools should offer the same programs; rather, by embracing the interdisciplinary nature of the iSchools, standards of quality should be established to ensure that the network of the iSchools is furthering the iField. By focusing less on artificially established rankings and more on the ultimate goals and objectives of the movement, schools can aspire to a quality education that will prepare graduates to become iProfessionals.

As the idea of iSchools evolves, so should quality standards. To provide consistency for longitudinal comparison, ranking systems have remained relatively stagnant in their methodology. The iCaucus can provide a set of quality standards that can grow with the new field. Should these standards be expressed in an iSchool’s specific ranking? This question remains to be answered by the iSchools. Clearly, the rankings fail to capture the interdisciplinary characteristics of the iSchools; if the primary goal of the movement is to be recognized, an iSchools category in the *U.S. News and World Report* rankings would be one way to gain that recognition. However, a continued adherence to the rankings systems would only perpetuate the known problems with the rankings and competition among institutions of higher education (Kerr, 1991).

Assessments of quality are a necessity for higher education to be accountable to students, and as the iSchools exemplify, one system doesn’t fit all. The myriad of ranking systems only confuses potential students and makes it difficult for administrators to set quality benchmarks. Recently, some commentators have suggested that universities should move beyond the ranking systems and provide relevant information to students, faculty, and the public directly (Parker, 2010). iSchools can embrace this opportunity to look past the traditional measures of quality, pro-

viding an example for other disciplines to consider how they would rate their own programs. Moving away from reputational rankings, the question then becomes what measures are to be used?

Scholarly Publishing and Research

As the number of iSchools has increased over the past decade, university administrators, presented with benchmarking tasks such as tenure process reviews, long-term planning, and reaccreditation have uncovered a need to redefine success in research and scholarship. Both faculty and doctoral students present unique challenges in determining the shifting research impact of iSchool scholars. Recognizing the increasingly collaborative and trans-disciplinary scholarship emerging from iSchools raises the question of whether there has been an impact on scholarly publication (including doctoral dissertations) that can be linked to the iSchool in any tangible fashion?

Attempting to qualify iSchool scholarship presents several issues, a result of the difficulty of defining discrete subject areas across iSchools. Publishing activity in a wide range of journals and on a variety of topics adds to the complexity of iSchool scholarship. However, when attempting to quantify the impact of iSchools on scholarly research several traditional measures and methods can be applied. iSchool administrators can employ traditional methods such as citation analysis and research impact. Post-doctoral hiring into tenure track or other desirable positions presents another way to track success in scholarship. iSchools have, however, changed the paradigm. While newly minted Ph.D.s from LIS programs have taken positions in American Library Association (ALA) accredited library schools, the LIS students in an iSchool environment have more diverse interests spanning multiple disciplines. Now these LIS Ph.D.s might take positions in areas such as values in design, information visualization or digital humanities.

An exploratory study examines the scholarly impact of iSchools based on articles and reviews indexed in the Web of Knowledge under the subject “information and library science” (Bar-Ilan, 2010). The study measures the number of publications and citations, the Hirsch h-index (a quantifiable index based on a scholar’s number of citations and most cited publications) of the set of retrieved items, the most highly cited item, the most frequently appearing document type, and the journal in which the highest number of items were published by the iSchool’s home institution during the period 2000–2009. The limitations of this method are immediately clear—defining subject areas across an iSchool, publishing activity in a wide range of journals and topics, and, given that the study looked at the home institution’s publications rather than the iSchools’ publications, the possibility that articles indexed under “information and library science” did not originate in the iSchool but rather in some other department. The study finds that the leading publishers were University of Illinois (largest number) and the University of Maryland (highest rate of citations). These two iSchools also had the highest h-indices. A closer look at this study, however, raises more questions and concerns than those identified by the author, since, for example, publication numbers by University of Pittsburgh faculty alone were double those indicated in Bar-Ilan’s study.

Information scholars, like many others, have been using citation analysis as a means of measuring the impact of their work. The earliest uses of citation analysis date back to the 1920s, and it has mostly been used in the science, technology, engineering and mathematics (STEM) disciplines. Methods of citation analysis that have long been employed include: determining journal impact factor (that is, the average number of citations a journal receives compared to the number of articles published); assessing a scholar’s number of citations and publications; determin-

ing the Hirsch h-index of a given author's citations; identifying scholars' most frequently cited items and most frequently appearing document types; and identifying the top tier journals in which faculty and doctoral students' citations appear. The use of citation analysis in any form has limitations: variations in citing practices among researchers can produce distorted results; every piece of literature that is used in research is not necessarily cited or, conversely, literature may be cited but not used directly; and, finally, the immeasurable effect of cultural and language influences on citation choices (Laborie and Halpern, 1976). Various studies have been done on the viability and desirability of utilizing citation analysis tools such as journal impact factor and the h-index to validate academic success. Most disciplines agree that the notion of journal impact is here to stay; most also agree that it is currently the best means of citation analysis.

If iSchools seek to continue using citation analysis to assess the quantity of faculty publications and doctoral dissertations at an iSchool, administrators and scholars might consider performing their citation analysis using the University of Indiana's program, Scholarometer. Scholarometer allows users to query publication information and provides a statistical analysis of citations. As a social, or crowdsourcing, application, Scholarometer requires users to tag their queries using a controlled vocabulary of disciplines. Scholarometer, however, still relies on the h-index to deliver a quantifiable result. Concerns arise when using the h-index in an iSchool environment, however, because the h-index is traditionally used for the "hard" sciences. While a "g-index" has been created, normalized for humanities and social sciences, there is still some question about its reliability. Other concerns with using the h-index—such as context—should also be noted. For example, scholars may be cited unfavorably or they may cite themselves. The h-index, regardless of whether it is de-

termined by conventional methods or via a more interactive social tool like Scholarometer, provides quantitative information only and does not speak directly to the quality of a scholar's publications. How, then, should iSchools proceed?

A brief review of publishing trends in 28 iSchools shows an increase in collaborative works and multi-author publications. There are fewer monographs and more trans-, inter-, and multidisciplinary works. Methodologies have also shifted to a more technological focus. There has been, for example, an increase in network methods such as social network theory and actor network theory, suggesting an increased awareness of the importance of connecting and collaborating across disciplines. As with monographs, there are fewer humanistic methods being employed (historiography, for example) which are often lone endeavors. As research foci and methodologies have shifted, so too have publication venues. Unlike monographs, LIS scholars have not yet seen a decrease in publishing in discipline-specific journals, but many question whether the current print journal is a sustainable model, with increasing publishing costs and a rise in online publishing venues.

Scholarly publishing in LIS programs (as well as Information Systems and Telecommunications programs) generally employs a "siloed" approach, in which each discipline-based department acts independently. Attempting to qualify research and scholarship in the trans-disciplinary model of the iSchool is made increasingly difficult because in the past ten years we have seen both the emergence of the iSchool as well as a transition to electronic formats. This means we may have pertinent electronic data for the past five years, but likely not the preceding five. The limited extant literature on iSchools suggests a research and scholarship agenda as diverse as the iSchools themselves; some foreground arts education, sociology or anthropology and others emphasize Human Computer Interaction or systems design. While these

disparate notions may seem to be in conflict with one another, in an iSchool model they represent the assorted configurations of potential collaboration. Scholarship originating in iSchools ranges from user studies on children in narrative spaces to data mining and bioinformatics. For this reason, iSchool scholars might consider new ways of assessing the impact of publications that are more in keeping with the values and goals of these diverse institutions. Examining the contributions of an individual over time and assigning new values to existing rubrics for areas such as collaborative scholarship and the evolving set of journals in which iSchool faculty publish could provide a clearer picture of both the impact of iSchools on scholarly publishing and any emerging trends in iSchool scholarship.

Another area that iSchools can explore is the current lack of iSchool-specific journals or other publications. To date, no one has completed a dissertation that focuses on the concept of the iSchool itself. The lack of existing scholarship about iSchools points to a need for further study about them. The dearth of existing journals addressing the trans-disciplinary nature of iSchool research and scholarship presents a unique opportunity for today's iSchools and the iCaucus. An iJournal, created by iSchools, would provide a venue for their emergent collaborative scholarship. An iJournal might employ both traditional print and online components, allowing for an exploration of more visual or auditory elements of scholarship, like those being developed in disciplines such as cyber-scholarship and the digital humanities. Finally, the annual iConference presents an ongoing opportunity for iSchool-specific scholarship.

To better address issues of measuring iSchool impact on research and scholarship, iSchools may also want to improve their tracking of iSchool faculty and graduates, offering insight into how faculty scholarship has changed and whether or not there has been a shift in dissertation topics or the

kinds of employment common to iSchool Ph.D.s. These kinds of data analyses may provide insight into whether this change in scholarship precipitated—or is the result of—the appearance of the first iSchools in the early part of the 21st century.

Students and the Evaluation of Teaching

Student evaluation of teaching (SET) is used widely in higher education and generally understood as a means of measuring the efficacy of teachers and the extent of student learning. Despite questions raised by faculty and scholars as to their validity, SET results are commonly used in various faculty reviews. Although not the sole determining factor in promotion and tenure, measuring teaching and learning helps in faculty evaluation. Such evaluation also falls in line with the growing demand for accountability in academia, demonstrated in part by documents like the Miller Commission's 2006 report, *A Test of Leadership: Charting the Future of U.S. Higher Education*.

One of the most remarkable and controversial assertions of the Miller Commission's report concerns a lack of accountability in educating students and measuring students' achievements (such as using the Collegiate Learning Assessment). The commission states that the purpose of measuring and gathering data on, among other things, "successful education" and "student learning" is for higher education institutions to demonstrate their "contribution[s] to the public good" (U.S. Department of Education, 2006, p. 4). This type of measurement and disclosure is described as part of the need for educational institutions maintaining public trust. SET plays a role not only in informing personnel decisions, but also as an input for a system claiming to have the public interest at heart and aiming to translate "successful education" into "solid evidence, comparable across institutions, of how much students learn in colleges or whether they

learn more at one college than another” (U.S. Department of Education, 2006, p. 14).

The implementation of SET in higher education goes back almost a century. Hermann Remmers, a professor of education and psychology, pioneered the collection of student ratings at Purdue University in 1927 (Algozzine *et al.*, 2004). Remmers and his colleague, G.C Brandenburg, designed the *Purdue Rating Scale for Instructors*, presenting students with 10 qualities, including: interest in subject, sympathetic attitude toward students, fairness in grading, liberal and progressive attitude, presentation of subject matter, sense of proportion and humor, self-reliance and confidence, personal peculiarities, personal appearance, and stimulating intellectual curiosity (Brookover, 1940) for rating their instructors (Knudsen and Stephens, 1931). At the time, Remmers designed the rating scale for teachers to use only for voluntary self-improvement.

Teaching evaluation slowly grew into a mandatory process. According to Haskell, the inclusion of SET results for the purposes of tenure and promotion review increased during the 1960s, but was still largely voluntary as noted by Centra in his review of the development of SET research (Centra, 1993). However, a 1993 survey suggests that nearly 90% of US campuses required teaching evaluations (Trout, 2000). The reasons for this change from voluntary to mandatory are various, but can be related to the continuing development of tenure and the desire to quantify learning for accountability purposes. Yet tenure existed for decades without the formal inclusion of student evaluations. The development of academic tenure in the U.S. can be traced back to 1915 with the establishment of the American Association of University Professors (AAUP), although tenure predates this in America's oldest universities.

Academic freedom was the central issue in arguing for tenure. By the early twentieth century the ideals of academic

freedom and tenure were converging in the hiring practices of institutions (Cameron, 2010). In 1915 the AAUP outlined regulations and principles for the formal appointment of tenured faculty and the right to academic freedom in their report, *Declaration of Principles on Academic Freedom and Academic Tenure*. Tenure and academic freedom were at the forefront of the American Association of University Professors' (AAUP) concerns due to cases of faculty being unjustly dismissed, but as the AAUP report explains, clarity and understanding of these issues was for the benefit of faculty and universities alike, protecting institutions' reputations and potential societal influence (American Association of University Professors, 1915). With more faculty and administrations buying into the benefits of tenure and the AAUP continuing to argue for its implementation, academic tenure became pervasive throughout the US by the 1960s, coinciding with mandatory SET (Metzger, 1973).

The overlap between the rise of academic tenure and mandatory student evaluations is significant, with the links between them easily taken for granted. Assuming that SET is a requisite piece of the tenure process rests in the belief that the practice of SET is fair, accurate, and reliable and does not impinge on academic freedom. Perhaps the most basic assumption in this scenario is that classroom teaching can be quantified in such a way that a number or rating can describe to what extent a teacher qualifies as “good,” “effective,” “bad,” or “ineffective,” or any other vaguely prescribed measure that lies in between.

These assumptions have been questioned by researchers. Educators themselves do not agree on what defines the concept of “good” or “effective” teaching (Trout, 2000). Are the parameters for good teaching universal across the higher education landscape? Critics point to the difficulty in answering these questions in the affirmative as a significant reason to stop administering SET as a part of tenure

review or considering it as a minor factor. Even if the definition of good teaching could be clarified and agreed on, the task of creating an instrument that allows students to evaluate accurately teaching in light of that definition is no small undertaking. Marsh and Roche (1997) believe that teaching is a multidimensional activity and that SET instruments should accurately reflect this characteristic, but downplaying the assessment of a faculty member's rating as good or bad or anything that could be used to determine promotion or tenure. Others criticize SET methods. Paul Trout, an English faculty member, even questions their ultimate purpose (Trout, 2000; Clayson, 2009).

The issues around SET can be viewed as an opportunity for reimagining and improvement, especially for *iSchools*, in the definition and practice of student evaluations. A significant part of charting the future of SET has to do with determining its purpose; is it a tool for voluntary self-improvement, or a mandatory exercise that will impact universities in making personnel and budget decisions? This is precisely where *iSchools* could enter the discussion. In a sense, *iSchools* define themselves by the boundaries they cross and blur. Their purpose is characterized through engaging and exploring the connections between information, people and technology, rather than prescribed by a particular discipline (Olson and Grudin, 2009). Given the interdisciplinary nature of *iSchools*, there is potential for innovation, since SET can be understood as falling within the intersections of information, technology, and people. These three areas are not only substantial parts of what SET is and how it is implemented, but they are also points of entry for *iSchools*, suggesting reimagining student evaluations on two levels, definition and practice. Rather than search for the global definition of "good" teacher, teaching evaluation could be defined in relation to the goals for a class. Another option, as Marsh and Roche (1997) suggest, is that SET could be designed to build

off the many dimensions that are brought together in the act of teaching. Already aware of and familiar with multiple disciplines, *iSchools* could observe instructors or survey institutions to determine what dimensions are appropriate for particular disciplines.

For SET to become a fully supported and understood tool, a new direction is needed. It is possible that through its process of development, the *iSchool* demonstrates some potential innovative ways of thinking about how SET is defined and imagined. Rather than search for a single definition of "good" teaching and attempt to measure it, the purpose of SET can be explored and expanded. The *iSchool* experience is showing that blurring the line between expected boundaries and posing new questions is not necessarily a bad thing. In terms of SET, this could lead to more useful measurements and genuine results.

Student Satisfaction

As *iSchools* mature, they would be prudent to ask whether their students are satisfied with this trans-disciplinary model of information science education. Today, American universities and colleges are accountable to accreditation agencies, boards of trustees and visitors, parents, and students. Student satisfaction assessments act as one measure that schools may use to demonstrate performance and effectiveness to these stakeholders (Bryant, 2006).

An interest in the assessment of student satisfaction emerged in the mid-20th century, as evidenced by Lora Robinson and Richard Seligman's 1968 efforts to develop a "student morale" measurement tool. Robinson and Seligman (1968) observe that, prior to their work, there had been little attention given to evaluating student morale on campus. In carrying out their own study, they employed the College and University Environment Scales (CUES), a tool created by C. Robert Pace of UCLA

in the 1960s to assess campus climate. As CUES was not designed just for measuring morale, the researchers identified the “morale-relevant items,” including whether faculty show an interest in students, whether the quality of teaching is perceived as high, whether the expression of ideas is encouraged, and whether older students demonstrate a concern for new students (Robinson and Seligman, 1968). Drawing upon these, the authors develop what they refer to as a morale scale. Pace, whose metric served as a basis for the morale scale, later developed the College Student Experiences Questionnaire, another standardized instrument including measures to assess student morale or student satisfaction (Upcraft and Schuh, 1996).

Today, higher education administrators gauge student satisfaction through a variety of tools. Upcraft and Schuh (1996) characterize some of these assessment measures as static, indicating that higher education administrators may gain insight about the student satisfaction climate on campus through information that does not involve “undertaking a complex research study” (Upcraft and Schuh, 1996, p. 154–155, 151). Sources may include anything from student newspaper articles to student retention rates. Administrators can build upon what they learn through their static measures by engaging in “active means” of assessment (Upcraft and Schuh, 1996, p. 157). These active measures may be qualitative, such as structured interviews with students, or quantitative, such as surveys designed to gauge student satisfaction with courses, programs, and general campus experiences. Colleges and universities have the option of purchasing satisfaction surveys from companies such as Noel-Levitz (Bryant, 2006) or administering surveys that are developed in-house.

Student satisfaction is “the result of a complex set of factors” (Appleton-Knapp and Krentler, 2006, p. 254). Quality of instruction, interaction with professors and colleagues, and class size are just a few of the determinants identified in the litera-

ture. While there have been limited studies on the relationship between student expectations and student satisfaction, Appleton-Knapp and Krentler (2006) note that studies outside of the educational literature support this relationship. A study in the health care field determines that an individual’s satisfaction with health care has a direct relationship with the expectations that the individual holds (Murray, Kawabata, and Valentine, 2001). While many would argue against comparing students and consumers, literature that explores satisfaction is abundant in the business journals. Although multiple forces shape consumer satisfaction, researchers in the business field often use surveys to assess whether there is agreement between consumers’ expectations and their opinions of the quality of experience or product received (Crisp, *et al.*, 2009).

Most everyone feels disappointment when expectations have been invalidated. Even if the experience of the individual is not outwardly negative, it is possible that an inconsistency between expectation and experience will lead to dissatisfaction. In considering the consequences of a relationship between expectations and satisfaction, Appleton-Knapp and Krentler (2006) argue that it is important for educators to understand that they have the ability to inform and shape preconceptions that students possess. Others have confirmed this (Fishbein and Ajzen, 1975). Students entering an information science program will presumably form expectations about the education that they will receive based on encounters that they have with information professionals and the field prior to their enrollment. In order to be satisfied with the iSchool model, student expectations should be in line with the goals of the iSchools and iSchools need to provide students with an understanding of the concepts behind these schools.

In the library science field, education in the iSchools is almost unrecognizable to the training that was once the norm. Lynch (2008) discussed the evolution of pro-

professional library education in the United States, noting that it has its roots in “apprenticeship and in-service training sessions,” a vocational and practicum-based model (p. 936–937). She notes, however, that in the 1980s the field recognized the need to “examine what the Information Age had brought” (p. 944). Some library schools transitioned to the iSchool model of interdisciplinary education. The transition in educational goals was evident in the changing names of schools, with “library” schools becoming “information” schools (Olson and Grudin, 2009). What impact might this transition have on student satisfaction? In the case of students who plan to be librarians, some may be surprised to find a very different model in the iSchools. Given that the iSchool organization is a new development in information science education, it is likely that many students at iSchools are actually not aware of what the iSchools represent.

In November 2010, the University of Pittsburgh’s School of Information Sciences disseminated an electronic student satisfaction survey in which students’ knowledge of the meaning of an iSchool was assessed. Current students in the undergraduate, master’s, doctoral, and advanced certificate programs were asked four short questions related to iSchools: Have you ever heard of the concept of an iSchool? If “Yes,” from where? What is your definition of an “iSchool?” Was the fact that the School of Information Sciences is an iSchool a factor in your decision to attend the University of Pittsburgh? With only seven doctoral students and 11 undergraduate students choosing to participate in the survey, the 101 respondents were predominantly Master’s degree students.

The results indicate that there is not collective understanding of the meaning of an iSchool among the School of Information Sciences students. Of the respondents, 35 students reported that they never heard of the concept. The students who responded that they had heard of the concept cited a number of different sources for this infor-

mation, including administration and faculty, the School of Information Sciences website and the websites of other iSchools, literature that they read during and after the application process, and associations such as ALA and ASIST. Not all of the students who replied that they had heard of the concept of an iSchool demonstrated an actual understanding of it. Many students equated the idea of the iSchool with distance learning. One student response suggested that he or she thinks the idea of the iSchool is the same as the Web-based Information Science Education (WISE) consortium. The association students have with iSchools and web-based learning is strong and perhaps the greatest misconception needing to be addressed. Some survey respondents maintain that the term is simply a label with little meaning, describing it as “jargon” or an effort to be “trendy.” Such students have not internalized the iSchool goals shaping the education they are receiving. The various definitions offered by students indicate a very vague or simply inaccurate understanding about iSchools.

What impact may this patchy understanding of an iSchool have on student satisfaction? If expectations do indeed have a relationship to student satisfaction, students whose expectations are not in line with the goals of the iSchool may not be satisfied upon entering the program. With such a small number drawn to the school because of the goals it holds as an iSchool, a question arises: will these students be satisfied with an education that is formed with these goals in mind?

Educators can shape student expectations. Appleton-Knapp and Krentler (2006) determine that one way to manage expectations is to make course or program expectations clear to students at the earliest opportunity and to listen to their expectations on the first day. Clarification could be provided to the students with a weak or inaccurate understanding. The responsibility to remedy the lack of understanding of the meaning of the iSchool falls on the

larger iSchool community. More iSchool-specific scholarship may provide clarity to students, as may greater discussion of the iSchool concept on the individual school websites. Just as the iSchool is evolving as an idea, students' understanding of this new approach to information science education is taking shape. As iSchools mature and become a more visible and vocal presence, students entering these programs will likely understand the iSchool goals and have expectations in line with them. If there is harmony between institutional goals and student expectations, it is likely administrators, faculty, and students alike will be satisfied with the learning community.

Assessing iSchools While They Are in Motion

We live, in our universities, in a new era of assessment, one that is rapidly changing. There is another issue here, namely what might be lost in the evolution from one school, the library school, to a new one, the iSchool. The earlier school existed to train librarians, and for some, especially those dropping library in their name (Paris, 1988), the purpose expanded well beyond library education.

This has been made more complicated by the corporate model of the university, threatening to shift the university from a public good to that of a business. The criticisms are familiar—universities are training not educating; accountability, auditing, and reporting are overwhelming both faculty and administrators; productivity measures drive faculty while not necessarily supporting fundamental activities such as teaching and research; the university is no longer a social institution, now it is an industry; branding and marketing consume ever greater amounts of resources (time and money); credentials are products to sell not earn; and the priority is to get higher rankings, even if it is understood that such rankings are flawed (Tuchman, 2009). We have to address the earlier dis-

ussion of assessing iSchools in this context. Although there is much work ahead in order for iSchools to establish themselves, there is no secret why iSchools appeared at this time. Olson and Grudin (2009), in their description of the iSchool movement, provide a telling comment about what is going on. Affirming that library science continues to have an important role in the new schools, they state, "they were producing librarians but failed to meet the academic standards of leading research universities" (p. 15–16). While there are exceptions to this assessment, in general this is worthy of additional discussion. Whether the research and scholarly goals of iSchools will chart the course for these new schools amidst constant and more detailed assessment and corporate-like agendas in universities is open for speculation.

Conclusion

We can find evidence of healthy LIS and iSchools, but one might worry about how healthy any of these must be to function in the corporate university that has subsumed the modern research university (Cox 2010). What might iSchools become? Some could argue that there is nothing new with the idea of the corporate university, or the problems associated with it, since the university has always been part of the real world with financial and other infrastructure requirements. We must ask if any of the various means for assessing iSchools (such as those discussed here), while acknowledging that we have no choice but to meet these demands, actually help us in formulating visions and missions that nurture the iSchool to function as part of a research university and contribute to the public good by creating new knowledge and educating the next generation of scholars and practitioners to be producers of knowledge. There are few faculty, for example, who would balk at the requirement to have their courses evaluated, knowing that such evaluations can be helpful in making them better teachers

and that they need to be accountable for what they do in the classroom. However, when faculty are burdened with layer after layer of bureaucratic assessments that reduce the time for them to keep up in their own field or to do research in it, then the natural consequence for many is to disengage from such endeavors and leave it to others to take on this labor. As iSchools strive to establish themselves as new academic programs on their campuses, generating new challenges for faculty identities and responsibilities, it remains to be seen whether they can meet these new requirements along with the increasing requests, from both external accrediting agencies and their own campus administrations, for data, self-assessment, and new metrics. Academic assessment is a reality, a form of accountability that none of us can (or should want to) escape from, but the visionary rhetoric that we hear from new academic programs such as iSchools suggest hope and promise for more engaging academic endeavors; there is a difference, of course, between the reality and the hope.

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