An iCollege Perspective: Positioning Information Professionals for the Future

By Herman L. Totten

Introduction

The iCollege, and iSchools, as they are commonly termed, are members of the iSchools Caucus—an organization that believes that an integrative approach, that includes “expertise in all forms of information, is required for progress in science, business, education, and culture. This expertise must include understanding of the uses and users of information, the nature of information itself, as well as information technologies and their applications. In order to position information professionals for future opportunities that will require knowledge in more than one area, it is imperative to prepare them using an interdisciplinary approach, or as is commonly termed now, interdisciplinarity. For instance, in the medical field, interdisciplinarity in information studies has produced the now broad field of bioinformatics, with related fields such as medical informatics, health informatics, chem-informatics, and more. So what is interdisciplinarity?

According to a University of Nebraska-Lincoln study, interdisciplinarity may be defined as: “A mode of scholarship (e.g. research or teaching) that integrates information, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge.” My definition is simpler: “interdisciplinarity is successfully capitalizing on the similarity—and diversity—of two or more areas of expertise—it is a common goal approached with harnessed diversity.” As you might guess, embracing similarity comes easier for humans—embracing diversity—a little more challenging. However, the ability to find similarity is foremost to embracing similarity. The ability to understand diversity is foremost to embracing
diversity—this ability to understand presents greatest challenges, in my opinion, to successful interdisciplinarity in preparing information professionals for the occupations of the future.

**Embracing Similarity: the Road to Becoming an iSchool**

In 2005, I became Dean of the University of North Texas School of Library and Information Sciences (SLIS). At that time, SLIS was a one-department School and not a member of the iSchools. However, SLIS was given an opportunity in 2008 to consolidate with the department of learning technologies from the College of Education—a possibility that would expand the interdisciplinary teaching and research efforts of library and information sciences—an opportunity to prepare information professionals from a broader base of cognate knowledge—an opportunity to join with other interdisciplinary-centered library and information science schools and colleges.

Back to my story—before we decided to consolidate, we conducted a feasibility study to determine if the two units were compatible—**similar** enough to prepare future students—and what the benefits and drawbacks might be.

We first found the definitions of our fields were similar. Learning technologies included a broad range of communication, information and related technologies to support learning and teaching (Association of Learning Technology, 2006). Although different in many respects, for the sake of comparison, the profession of Library and Information Sciences could be described similarly, with the focus being placed on the creation, organization, easy retrieval and access to information and information resources, in support of learning and teaching. The units were also similar in research efforts and online course distribution. These surface level similarities suggested a much deeper degree of synergy and compatibility that was worth investigating. Successful interdisciplinarity depended on our finding and capitalizing on the similarities—or a
common efforts between and among the two units—not just finding and capitalizing on the advantages of the diversity of other disciplines.

To learn the similarities, we asked ourselves four general questions.

1. **Would the strategic consolidation of LT and SLIS provide both units with a stronger political and financial foundation for the future?**

   The answer was “yes”—consolidating the similarities and differences of the units would create a stronger political and financial entity that could more effectively compete with exemplary colleges of information science and technology in universities all over the world—that could more effectively prepare the information professionals of the future.

2. **Would it strengthen the ways in which each is able to achieve its mission, goals and objectives?**

   The answer was “yes”—the consolidation could further promote multi-disciplinarity to interdisciplinarity—an attainment that fosters uninhibited expression in each distinctive discipline’s integrated plans for scholarship, resourcefulness, and proficiency—an attainment that would provide choices for future information professionals.

3. **Would it provide ample opportunities for greater efficiency of operation or would it simply cause both units to lose their identities?**

   The answer was—the consolidation would foster an inclusive community, but with several fields of study. The strategic consolidation of LT and SLIS would provide both units with a stronger political and financial foundation for the future, and provide tremendous opportunities for greater efficiency of operation. A consolidation of LT with SLIS would not cause either unit to lose its identity; it would only strengthen the ways in which each is able to achieve its mission, goals and objectives.
Could these two units truly develop an interdisciplinary research, teaching, and academic culture?

The answer was “yes”—Consolidation could promote multi-disciplinarity to interdisciplinarity—an attainment that would foster uninhibited expression in each distinctive discipline’s integrated plans for scholarship, resourcefulness, and proficiency.

We further researched similarities, looking at four major areas:

1. Administration and finance
2. Students and Curricula
3. Research Funding and Interests
4. Facilities and Technology

We found that:

1. In the area of administration and finance, we found that—because of the comparable size of the units—finances would double. With the creation of new charters, organizational hierarchy, and new policies and procedures, the consolidation would enhance and cement administrative relationships among all personnel in the new College—as well as enhance the opportunities of students pursuing the integrated information professions.

2. In the area of students and curricula, we found that the innovative and entrepreneurial approach to teaching SLIS and LT held in common would bode well for continued creative development and adoption of new technologies that would enhance the opportunities of students who would be looking for jobs in the information profession of the future.

3. In the area of research funding and interests, we found that pooling their creative resources, researchers in the two units could learn from each other and build strategic initiatives for securing external funding on a greater number of topics from a wider range of sources.
4. In the area of facilities and technology, we found that expanded facilities and technology support would be challenging, but doable—and that proximity would add another dimension of similarity and opportunities for future information professionals to collaborate with students from other disciplines.

So, long story short, our School became a two-department College—a decision that would enhance the already growing interdisciplinarity of information sciences, as well as establish a fresh arena for collaborative efforts with learning technologies. Now that we were a College, within the passing of a few months, interdisciplinary research is blossoming and new courses—combining LIS and LT—are emerging. As I thought about it, I realized what was needed most for us to continue to succeed. We had to continue to embrace our similarities and our diversities.

Each department within each college and each college within a university is a vital part of the educational culture. Without each unit’s commitment to embrace similarity and diversity among each other and among outside communities and other universities, they must take advantage of the similarities AND the diversities of ALL others before successful interdisciplinarity in teaching and research can be achieved.

While diversity in the educational culture is primarily noted by the diversities in teaching and research interests, there are also other factors including diversities in cultural background, teaching and research methods, career goals, and work priorities. We knew that similarity can bring cohesion. But will diversity promote healthy competition needed to promote interdisciplinarity? To ensure cohesion AND healthy competition, I believe our College must concentrate on our common goals without getting caught up in the everyday differences.
My studies in successful management often bring me back to a story about a quarry—it goes something like this:

I approached a man on a quarry site and asked him what he was doing. He said, Can’t you see this is a quarry? We are building a cathedral where people can worship and show proper adoration to God.

I laughed and said, “Where is the cathedral?”

The man said “Well, while others are quarrying stone for the foundation, we are quarrying stone for slate to build the roof of the cathedral.”

“What do you mean ‘we’?” I asked

“Well, all of those you see here are building the cathedral.”

“So you are telling me that you are building the cathedral. I see no blueprints, no structure to hold a roof. And I have been watching you—you have just been walking around talking.”

“Yes, that is my job. I am called the Pit-Boss. I do not have the blueprints for the cathedral—the Architect has them. I just supervise the other quarry workers and because of my training and experience, I determine where and how the stone will be quarried from this pit. “

The Pit-Boss pointed at a man next to us who was kneeling and chiseling. He also is building the cathedral. He is the Cutter.

I walked over to the stone Cutter and said, “So you are the one building the cathedral?”

“Well, I am cutting where the Pit-Boss instructed me to cut so that I will extract usable blocks of stone. I am a skilled Cutter. This particular stone will eventually be slate for the cathedral’s roof. You cannot have a cathedral without a roof. So, yes, I am building a cathedral.”

“So you are telling me you alone are building a cathedral?”
“Well, no, I am not building it alone. The Splitter knows how to carefully split the blocks into the appropriate dimensions for slate.”

“So the Splitter is actually building the cathedral?”

“Well, yes, but the Trimmer will carefully grind and sand the slate to ensure that it fits tightly with other slate.”

“So the trimmer is actually building the cathedral?”

“Well yes, but without the Pit-Boss, the splitter, or me, there would be no slate to trim. And without the Yardman to stack the trimmed slate, the slate would not be easily available for the Slater to use to lay the roof. So, as you can see, we are all doing our part and contributing our expertise to build a beautiful cathedral worthy of worship and adoration to God.”

I am sure by now you know where I am headed with this little parable. The success of the quarry workers bringing their diverse talents together for a common goal is based on **interdisciplinarity**. Interdisciplinarity is building the cathedral. The beauty of its purpose can only be realized through interdisciplinarity, the core of successful information professionals. However, interdisciplinarity has to have a proper climate to survive and thrive.

**The climate for interdisciplinarity**

When I first began to research the wave of interdisciplinarity in education, I found further confirmation regarding the advantage of diversity in the National Academy of Sciences’ (NAS) statement that the emergence of **interdisciplinarity** is because of four phenomena. I believe that these four variables are necessary to maintain the climate for interdisciplinarity. I believe that three of the four variables are always with us in some form—and that one of the variables presents a challenge. I believe that these four variables are not only vital for iSchools preparing information professionals, but also vital for the success as information professionals.
Variable #1 is the inherent complexity of nature and society—not a new phenomenon at all. Nature and society have always been complex. If you do not agree, just think about all the fascinating, as well as troubling aspects of nature—the creation of Life, the inevitability of Death—the beauty of sunshine, the devastation of hurricanes. Then, ponder the intricacies of society—religious wars—social services; thriving businesses—poverty-stricken countries.

Variable #2 is the need to solve societal problems—when have we not needed to solve societal problems?

Variable #3 is the power of new technology—new technology has always seemed powerful—pencil on paper was powerful when first invented.

These first three are well-established phenomena—always with us in some form. However, NAS’s fourth phenomenon is the independent variable.

Variable #4 is the desire to explore problems and questions that are not confined to a single discipline—this desire, in my opinion holds the greatest challenge for educational administration and faculty, including the UNT College of Information. Promoting interdisciplinarity is the first step, but the desire must be present within each individual faculty and student. The desire must be born of the realization that the combination of individual—diverse—abilities is as powerful, if not more so, that the combination of similarities. The desire must believe that as cohesion is necessary in any successful community; interdisciplinarity in education means standing united, with understanding of diversity and absolution for misunderstanding. The desire means that each faculty and student respects and promotes the views of others, disagrees agreeably, and provides positive feedback.

I am happy to report that the University of North Texas College of Education is reflecting this desire—the seeds of interdisciplinarity have been planting and are growing in our College
and we are beginning to reap the benefits—synergy among our faculty and students—positive attention from the University administration, the local and global communities—students who are excited about the many opportunities to engage in interdisciplinary courses to prepare them for the interdisciplinary information professions awaiting them. Interdisciplinarity is powerful—its momentum will produce new integrated courses to ensure that information professionals have a broad informational base.

Conclusion

In conclusion I want to emphasize that this wave of interdisciplinarity, though powerful and momentous to exponential growth in both academia and the professional world, is volatile. Also note that this is not the first wave of interdisciplinarity—or the last—by any means.

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How many of you are old enough—or historically grounded enough—to remember the Sputnik? Then, as most of you probably know, the Sputnik was the first artificial satellite to be put into outer space—launched by Russia into orbit on October 4, 1957—and much to America’s chagrin, Russia had won the race to space.

However, those of you born in the latter part of the 20th century may not realize the implications of Russia’s accomplishment. In 1957, the US and Russia were in the midst of a Cold War and Russia’s indication of technological superiority over the USA was quite disconcerting. Sputnik Night, as the media would soon label it, became a turning point in space technology history. The reputation the US had sustained as the most progressive nation in the world was shattered on Sputnik night.

Even though the US launched the Explorer 1 just a few months later in early 1958 and established NASA in less than a year, it would always be remembered by all nations of the world
that the US came in second to Russia in the increasingly important space race. The US was humiliated when the London Daily Monitor proclaimed the birth of the 'Space Age' in huge headlines. No longer would the world deem America as the superior nation in science and technology.

How could a country like Russia where the majority of the population had only learned to read and write in the last 50 years outdo the most innovative country in the world—the USA!? How did this formerly backward country manage to gather the knowledge and resources to initiate a turning point in the world’s technological history? I’ll tell you how they did it.

At the end of World War II, in 1945, the Allies overtook the city of Berlin. Although the Western Allies seized most of the human and physical assets of Germany, they allocated Berlin to Russia. Russia not only seized German Scientists and displaced Jewish intellectuals by the thousands, as did the Western Allies, but Russia also seized countries from the Baltic to the Adriatic, and in so doing, created what Winston Churchill deemed the “iron curtain” that divided the Continent of Europe into two distinct regions—the region behind the iron curtain that Russia controlled and the regions not yet seized by Russia. Behind the Iron Curtain were the ancient states of Central and Eastern Europe - Warsaw, Berlin, Prague, Vienna, Budapest, Belgrade, Bucharest and Sofia. Within this “Soviet sphere” another term coined by Churchill, Russia abducted and exploited the brilliant minds of these diverse peoples.

Russia had acquired its own interdisciplinary team from which to glean the brightest and best minds in Europe. Russia’s edge over the US in the race to space boiled down to one advantage—the advantage that always leads to success—the advantage that Russia gained by exploitation—what was that advantage? The advantage of interdisciplinarity! The advantage of a COMMON GOAL approached with HARNESSSED DIVERSITY!
Although Russia used its ill-gotten interdisciplinary team to its advantage in the beginning, it made the mistake of trying to force these diverse minds into the mold of the Soviet culture. Instead of celebrating their differences, the Russians tried to produce a “melting pot” a single bowl of Soviet puree! A concoction of Soviet minded robots where all in the nation were forced to conform to a single set of cultural beliefs and practices.

On the other hand, America made the first steps accentuating and capitalizing on differences among its people—rather than a melting pot, America strived for a tossed salad.

America decided to implement the change to use radishes, cucumbers, lettuce, carrots, and tomatoes to create a colorful, yet distinctive nation of people. In the tossed salad of society, the components are clearly radishes, cucumbers, lettuce, carrots, and tomatoes as separate components and SALAD is the whole nation. The Russian’s failed philosophy used radishes, cucumbers, lettuce, carrots, and tomatoes to blend a concoction not unlike V8! America, with its consciousness of the importance of combining SIMILARITY and DIVERSITY determined to provide educational opportunities for all its citizens—whether radishes, cucumbers, lettuce, carrots, or tomatoes!

The successful rocket launch of the Sputnik forced Americans to self assess and question American education, scientific, technical and industrial strength. So in 1959, Congress increased the National Science Foundation’s appropriation to $134 million, nearly $100 million higher than the year before. By 1968, the NSF budget was nearly $500 million –monies allocated to “promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense.” Monies to promote INTERDISCIPLINARITY—which is the embracing of similarity combined with harnessed diversity! As a result of interdisciplinarity, we beat the Russians to the moon! We, as a College, cannot afford to miss the opportunity to learn
from others—to embrace our common goals with harnessed diversity and prepare our students for future opportunities. We are committed to embrace the experiences, perspectives and expertise of all minds! We must cultivate the resources so that we prepare our graduates to compete in the increasingly interdisciplinary information professions.

Now back to the independent variable: desire. You may be thinking that interdisciplinarity brings adversity. It is true that some in academia have lingering debates over combining the disciplines to produce new fields that will require a new kind of information professional. After all, one-focus disciplines must continue to research and provide education. Each is the foundation of interdisciplinarity and must remain to support interdisciplinarity. Otherwise, interdisciplinarity would become the V-8 of education. However, bringing together distinct disciplines to expand knowledge is on the forefront. The climate of universities is changing. The success of interdisciplinarity is evident—it has made the United States the strongest and greatest nation to date. The Soviet Union tasted the success of interdisciplinarity, but because they exploited it, then discarded it, they failed!

The universities, like those of us who belong to the prestigious iSchools Caucus, are finding that embracing interdisciplinarity results in effective learning—learning that covers many fields and provides understanding for students who may not grasp the concepts from a single disciplinary perspective. The University of North Texas College of Information will not let interdisciplinarity be an adversity. We are seizing the opportunity and realizing the benefits.

Stand by! Are you ready to practice your information expertise wherever it may lead? Common goals approached with harnessed diversity may just send you to the moon!