



SCHOOL OF INFORMATION SCIENCES

UNIVERSITY OF PITTSBURGH

James V. Maher
Provost and Senior Vice Chancellor
University of Pittsburgh

Via E-mail:

Thursday, March 01, 2007

Jim:

I am pleased to transmit to you the report of the SIS Board of Visitors. The draft report was shared with Dean Larsen and you will note that the School has begun to act on some of our recommendations already.

I believe I speak for the Board when I express my appreciation to you for the privilege of serving the University in this important way and to Dean Larsen and his team for making the experience an enjoyable one.

We look forward to returning next year to assess the School's progress towards goals.

Best regards.

Alfred L. Moye, Chair
2006 SIS Board of Visitors

SIS Board of Visitors

Meeting Report

November 7-8, 2006

Board Members present were:

Gary D. Byrd	Herb Elish
J. Roger Glunt	Brian L. Hawkins
David H. Holtzman	William Isler
James Matarazzo	Daniel P. Muhollan
Keith Schaefer	Barbara Spiegelman
Robert J. Strauss	Satish K. Tripathi
Patrick E. White	James F. Williams, II
Mary "Clare" Zales	Alfred L. Moyer, Chair

1. Introduction

The School of Information Sciences' Board of Visitors met on November 7 and 8, 2006. Materials supporting the meeting are available at <http://www.sis.pitt.edu/~sisbov/html/agenda.html>. The web site has a user-id (sisbov) and password (sisbov) to exclude it from harvesting by search engines.

The meeting opened with the Provost issuing his "charge" to the Board. A summary of this charge follows (section 2). Four break-out groups addressed the Provost's charge from different perspectives:

- Future directions for Telecommunications education
- Rebuilding interest, vision, and passion to Information Science
- Sustaining and enhancing leadership in Library and Information Science
- Capitalizing on collaboration

Each of the break-out groups reported to the Provost in an executive session, summarized in section 3 of this report. Section 4 summarizes the SIS Council's responses to the BOV recommendations.

Section 5 contains summary reports of the discussions of each break-out group. These are provided to enrich the understanding of the background to the discussion with the Provost in executive session.

2. Provost's Charge to the Board

The Provost affirmed his support for the School and its importance to the University. He endorsed the re-organization as a means to foster greater collaboration across the School and between the School and other organizations on and off campus. He also suggested that this placed the School in a stronger position to advance its research, to have an impact in new application areas, and to produce intellectual leaders.

Acknowledging that the School's priorities are now better articulated, he called on the School and the Board to address remaining impediments to success. "Why," he asked rhetorically, "should a student throw his or her lot with us?" We need to present a compelling vision that builds student understanding of what a successful information career can hold, how we differentiate our programs among our competitors, and the breadth and depth of opportunities offered through the information sciences.

The Provost indicated that he has been protecting the School's budget, noting that the budget is larger than what can be justified by current enrollment. He noted that the undergraduate enrollment has fallen 70% in 5 years and the overall graduate enrollment is down 10% over that same period.

In discussing Pitt's competitiveness with its peers, he noted that, in contrast to other universities (Michigan was used as an example), very little of our scholarship funding comes from endowments. He advocated directing financial assistance to Ph.D. students who will advance the profession, in preference to Masters students in professional programs.

The Provost acknowledged the nationwide enrollment declines in CS and IT-related disciplines, as well as the recovering job market, while asserting that SIS has the potential to attract a broader and more diverse student body. He observed that the array of professional opportunities available to our graduates should be a greater source of strength for the School than for many of our (CS-related) competitors, but that progress remains both in curriculum development and in marketing before this can be fully realized.

Financially speaking, the Provost also indicated that the School had become dependent on budget supplements derived from Net Tuition Revenue (NTR) from peak enrollments during the dot-com era. Each School in the University has an enrollment and tuition target upon which budgets are based. Actual enrollment in excess of this target yields supplemental revenue (this is "NTR"). When enrollment drops, so also does the income from NTR, and this has an impact not only on the School (which receives 65% of it), but also on the Provost's office

(which absorbs the other 35% loss). Since the peak of NTR in 2001, the School's budget has steadily declined. At present, SIS is receiving no NTR funds.

Reversing the adverse enrollment trends will require stronger branding and more aggressive marketing. It will also require a sustained effort to ensure our curricula remain rigorous and relevant, supporting the brand being marketed. Students need a clear understanding of what a degree in information science or telecommunications is, and what career opportunities await them.

While Pitt may be more expensive than other public universities, it is still about 1/3 the cost of private institutions. The Pitt brand is an important component of marketing, and the Provost indicated his willingness to invest in SIS marketing. He expressed an interest and willingness to invest for up to three years in a marketing campaign that is backed by a solid business plan and buy-in from the entire faculty. He noted that improvement in communication and marketing go "hand-in-glove" with improvements in academic programs.

3. Provost's Executive Session

Legitimate tension exists in SIS, among BOV members, and even into the Provost's office over what was referred to as a "professional school" model and an "arts and sciences" model. The Provost expressed support for the professional school model for SIS, and it was generally accepted that this applies clearly to our Masters programs. The discussion regarding the undergraduate program suggested less agreement existed among the BOV members regarding the appropriate model, particularly in light of the suggestion of finding a way to work more closely with the College of Arts and Sciences in the expansion of the curriculum across four years.

While the re-organization has eliminated the departmental structure, long-held mental barriers to collaboration and integration persist. These will be slower to evolve, but steps can and should be taken to accelerate the process. The formation of the Research Interest Groups (RIGs) is a good step in this direction. The development of a common introductory graduate course for all SIS Masters students in their first semester is also recommended.

A brief brainstorm-style discussion of terms and concepts that every SIS student should learn resulted in the following candidates:

- Information organization
- Schema
- Ontology
- Relational databases
- Object oriented databases
- Legal issues in information
- Intellectual property
- Ethical issues in information

- Security
- Geolocation

The potential for strategic unity across SIS is strong but is, as yet, unrealized. SIS's long-held expertise in the various dimensions of human interaction with information are a foundation upon which strategic unity can be built, and one for which no serious competition (or even interest) resides in Computer Science.

The School can further advance its interests by exploiting collaborative opportunities that leverage local and regional strength, within the School, across the campus, and throughout the region. A short list of partners of greatest potential includes:

- The Carnegie Libraries of Pittsburgh (CLP)
- The University of Pittsburgh Medical Center (UPMC)
- The new Department of Biomedical Informatics (DBMI) in the School of Medicine

Undergraduate Program

One of the break-out groups of the BOV was charged to advise on the information science programs. They observed that the program was treated as a "stepchild" by the faculty. While faculty taught in the program, their commitment and "heart" were with the graduate program. While understanding this view, the group observed that the undergraduate program was strategic to the long-term success of the School. It could become a strong base for both enrollment growth (at the undergraduate level) and for recruitment into the graduate program.

They further advised that the faculty give more serious consideration to offering the program in a 4-year format, without dramatically expanding the curriculum in the near term. An element for consideration should be the design and use of an IS introductory course as an undergraduate elective and as a recruiting vehicle.

Graduate Program

Several recommendations related specifically to graduate programs. The Telecommunications break-out group, for example, endorsed the development of a common introductory course for all Master's students across the School, as noted previously. General acknowledgment was also expressed regarding the growth in online education and the competition emerging for alternative modes and means for delivering superior learning opportunities. During the discussion with the Provost, a suggestion was made that a "stretch goal" be established in which 20-40% of SIS students receive their education online.

Two other areas recommended for growth include:

- mid-career leadership training
- certificate programs for upgrading professional skills.

Achievement of these requires greater attention to corporate relations, and also serves to build such relations.

Development

The University has individuals and expertise that SIS can leverage to improve its prospects for fund raising.

- Allison Quick, Institutional Advancement (IA), can help to develop strategies to attract major gifts; IA can help to set specific development goals.
- Sheila Rathke, in the Office of the Provost, can help to shape the School's image and develop a marketing strategy.

A priority should be placed on building the endowment to support scholarships.

4. SIS Proposed Priority Responses

Undergraduate program

- Charge a faculty task force led by the Undergraduate Program Chair (Robert Perkoski) to develop a proposal for a 4-year program that leverages the undergraduate recruitment machinery of the University, enabling high school students applying to Pitt to recognize information science as a desirable program they can begin as freshmen. Be prepared to present the proposal to the SIS Council, the SIS faculty, and Provost's Advisory Committee on Undergraduate Programs (PACUP) during the 2007-08 academic year.
- Charge the Undergraduate Program Chair (Bob Perkoski) to lead the development of an integrated survey course for the university community and to consider how tracks within the undergraduate curriculum can become minors serving other University degree programs. Schedule to be negotiated.

Graduate program

- Charge a faculty task force led by Richard Thompson to develop a syllabus for a common introductory course for all entering Masters students. A status report is to be provided the SIS Council in February, with a final proposed syllabus to be available for faculty review by April 2007.
- Develop an online version of an information science course in the geoinformatics area and/or a telecommunications course with a laboratory component, focusing on mid-career professional education. Schedule and details to be worked out in the Research Interest Group on Online Education and reported to the SIS Council in February.

Development

- Work with Sheila Rathke to develop a brand message that differentiates SIS among its competitors. (Note: Sheila is now fully engaged; two meetings have been held with her since the BOV meeting, and two more are scheduled for the week of December 11-15, 2006.)
- Contract with Scannell & Kurtz and STAMATS for market research and design of web presence focusing on student recruitment. (Note: This has been placed on hold pending the outcome of our work with Sheila Rathke.)
- Initiate discussion with Allison Quick (IA) to develop major gift strategies and, in particular, objectives and messages for the next phase of Pitt's capital campaign. (Note: In a sidewalk conversation with Al Novak, he suggested that we work with David Dalessandro, Associate Vice Chancellor, University Development.)

5. Reports of Break-out Sessions

5.1 Future Directions for Telecommunications Education

SIS has gone through a major reorganization and has eliminated the departmental boundaries. Now the school works as one academic unit. This is a significant development and will help create an identity for the school. At present, however, programs within the school work in isolation. "The physical boundaries are gone and now the mental boundaries need to be removed." Through a faculty planning process a strategic vision for the school should be developed.

The program's desirability and strength would benefit from a clearer articulation of what constitutes a student's education at SIS.

- What our graduates offer the profession
- What our graduates offer potential employers
- Why potential students should choose SIS

The Telecommunications Program would also benefit from stronger integration within SIS, potentially resulting in attracting students interested in "information" as a profession. A common course for all SIS Masters students that builds understanding and excitement of the breadth and depth of the information professions would raise the profile of all programs, including Telecommunications. Such a course could address topics such as ontology, data organization, ethics, information security, etc and can be very important in developing and maintaining a brand and, used as a service course, can also become a recruiting vehicle.

The committee made a few other specific recommendations:

1. The collaborative effort between the provost and the Dean to provide competitive seed funding for group research is an excellent idea. This will provide greater opportunity for larger research grants. In addition, this is good mechanism to start creating a culture of collaboration among the faculty.
2. Telecommunications MS program needs a comprehensive review. Curricula should be updated in collaboration with industry and alumni. Industrial collaboration is critical and should produce opportunities for students and research support. In addition, it was felt that the name “telecommunication” has legacy baggage and may not be conveying the true meaning of the program. This may be a problem in attracting new students and employers.
3. Telecommunications Ph.D. program has a fairly healthy and stable enrollment. Right now few of the students have financial support from the institution. For the program to attract better students and improve its quality it is imperative that a plan to expand such support be developed.

The break-out group also noted the potential of targeting special markets (e.g., the US Army Signal Corps and Verizon) to design and deliver semi-customized programs through alternative (including online) delivery models. The group emphasized the need for the emotional engagement of the faculty to ensure a successful online program, and that there were opportunities to leverage industry advances in instructional delivery. The success of the FastTrack MLIS program was noted, as was its value in informing the growth of programs in other (non-LIS) disciplines. Investment in supporting facilities and infrastructure for online education is recommended.

5.2 Rebuilding Interest, Vision and Passion to Information Science

The group focusing on re-instilling vision and passion for the field of information science spent most of its time on brainstorming ways in which the undergraduate IS program could be made more attractive and to recapture some of the lost majors in this program. From the limited information we had, but based on data and comments by the faculty, we have concerns that the undergraduate program is really a “stepchild” of the School of Information Sciences. Many faculty indicated that they were there for the graduate programs, and that the undergraduate program wasn’t that important to them. However, with the severely depressed enrollments in three of the programs, if they do not focus on this key program, the strength of the existing graduate programs will have to be reduced because of the economics of the situation. The faculty will need to come together on this issue and make a commitment to teaching and invigorating

the undergraduate program for the sake of a strong School of Information Science.

We believe that the undergraduate program should be expanded from the base of the new program developed for 2006, focusing on more than merely an information systems approach. The “Build, Design, and Secure” mantra is important, but we believe a necessary but insufficient condition to have a strong and attractive undergraduate program. Dean Larsen presented a three-dimensional model, with three axes of information technology, information itself, and society intersect, and it is the intersection of all three that define information science. We concur with this conceptualization and yet find the undergraduate program fairly one-dimensional along the axis of technology and systems. We think that the additional emphasis of these other dimensions will increase the attractiveness and the sexiness of the program, and will increase the ability to instill undergraduates with a passion for the area that may have been missing. The undergraduate program might include tracks or concentrations in such areas as systems and their implication, systems and their application, and the in depth study of systems. Such an approach would require undergraduate program offerings by the MLIS faculty and others, and the undergraduate program could serve as a catalyst to further bring the faculty out of the silos and into a more integrated posture in making the undergraduate program a success.

Our group strongly believes that there is a wide array of areas of study and a wide array of jobs that call for a variety of skill sets that are broader than merely the study of computer science or systems. These include all sorts of information handling, web design and support, understanding the nature of information, etc. Therefore programs that deal with the social, ethical and legal implication of systems have great appeal to employers and students alike. These need not be put into an artificial pecking order as softer or easier than CS, they are different! There needs to be conscious effort not to sell this as a second-class approach. It is an alternate approach, and from the experiences at the ATLAS program at the University of Colorado, these are programs that draw the attention and interest of women, and thus effectively deal with the diversity goals the School and the University have identified as being important.

The group suggested that the School should explore making the undergraduate program a four-year program that draws from entering students, not just undeclared majors, or people who don't like their initial majors. This would enlarge the potential pool of prospective majors, and also allow the major not to be so packed and concentrated in the junior and senior years, which make graduating in four years more difficult. It also allows for starting in the major earlier, and being able to take related major courses in other segments of the university such as business, anthropology, computer science, etc. This does have implications for developing appropriate definitions, marketing language and a message about this degree for the admissions staff to effectively communicate. Drawing one's own majors as freshmen could also result in better students, and

not just act as a safety-net major. The administration needs to work with the School in defining an appropriate goal for the size of the undergraduate program, so that it provides adequate revenue for the university, but not such a large cadre to stress the existing faculty and call for enlargement of the faculty. Our discussions suggested that such a number might be in the area of 200 – 210 majors.

Another suggestion of the group was to consider offering minors for other degree majors outside of the School, as well as cross listing of courses to bolster the service offerings of the School, assuming the School would receive appropriate credit (and revenue) for doing this. There need to be incentives for the faculty to offer service courses that might be attractive to students in other majors. These service courses would also serve as “advertisements” for the School of Information Sciences that might draw majors who find this program more attractive than the CS or business programs in which they are enrolled.

Related to this last notion, is the possible redesign of the course that is part of the general education requirements. This introductory course might well be “jazzed up” to be not an overview, but a course that challenges students to consider the implications of the information and technology that they use. For example, students could debate the sociological and legal issues emanating from Facebook, and other social networking tools. This kind of course would be attractive to students, could be a draw for potential majors, and if offered by a passionate and energetic faculty member, could help reshape the undergraduate program and the perception of Information Science at the University of Pittsburgh. Support for this approach was submitted by Board Member Rodgers who was unable to attend the meeting and is appended to this report.

In our reading materials it was suggested that there was a possible plan to seek ABET accreditation for the undergraduate program. We suggest that this strategy be carefully thought through. ABET accreditation would likely do little to make the major more attractive to the average 17-year-old prospective student, and it might well add such rigor and singularity to negate the kinds of breadth we mentioned in the previous conclusions. It might be appropriate to seek ABET accreditation for one track of the undergrad program, but we feel it would mitigate against the breadth for which we have advocated. Such additional rigor might also lengthen the program, also making the program less attractive.

The group spent considerable time discussing the need to communicate more effectively “WHAT” the information science program was, and the nature, breadth, and array of careers and job opportunities that could result from an IS degree. It was suggested by one faculty member that Penn State had done a remarkable job in communicating this, and we suggested that this be heavily poached upon as appropriate. Exploring what other I-schools are doing and examining programs like the CU ATLAS program also deserved merit. The School should consider collaborating with other I-schools that also had

undergraduate programs to develop an aggregate list of the kinds of jobs and careers actual graduates had received in the past few years to have actual data to provide greater specificity to the promotional materials that need to be developed. Additionally, documenting the types of service learning opportunities and internships that majors had engaged in make the major more attractive. It appears that the School has an enviable position in this regard compared with other undergraduate majors, and this is an important positive dimension to many career-oriented undergraduates (and their parents).

Finally, it is important that the School and the administration consider rethinking the whole notion of being a “professional” school. The MLIS degree certainly falls in this purview, but the undergraduate program certainly does not. Positioning this program as an eclectic degree (with heavy emphasis on a liberal education), based on a firm systems underpinning might be a more useful conceptualization.

5.3 Sustaining and Enhancing Leadership in Library & Information Science

The break-out group took favorable notice of the LIS program’s national ranking, as well as the high rankings of each of its specializations. Pitt ranked in the top 10 in the US News and World Report in:

Medical Librarianship

Children’s and Youth

Archives and Preservation

Schools

Digital Libraries

Systems

They also observed that it is not a well-known program outside of the profession.

The Digital Libraries concentration was noted as affording a good opportunity for collaboration among the faculty of Library Science and Information Science. The group cited the need for an additional \$200,000 in financial aid in the MLIS program in order to remain financially competitive with peer programs such as Michigan, Illinois, and Maryland. The group advocated involving faculty, staff and the Dean in fundraising to build an endowment for scholarships and the development of an investment fund to provide technological assistance to the MLIS Fast-Track Program.

Other topics of discussion included the growth of job opportunities for graduates

of the MLIS program in spite of the salary structure for these jobs.

5.4 Capitalizing on Collaboration

The break-out group focusing on ways and means for improving collaboration within the School and between SIS faculty and others emphasized the importance of articulating a vision that is real, meaningful, and measurable to an external audience. This vision then needs to be translated into a branding and marketing plan, and the vision, brand, and marketing messages need to be reflected in the actual life of the School... its teaching, research, and service.

Given a vision appropriate to the School, the next questions include:

- What are we marketing?
- Who is the audience?
- What is the message?
- How do we get it out?

A top priority should be to collaborate with Institutional Advancement on setting specific development goals. This is seen as a ripe opportunity given the extension to the capital campaign that was recently announced.

The Research Interest Groups were noted as the strongest current program SIS is conducting to foster collaboration. The signature strength of Pitt in medicine and related disciplines also points to an area of opportunity for SIS, particularly as medical practice and the medical sciences become increasingly information intensive.

Collaboration outside the University could be fostered through service learning activities. This might be an excellent way to differentiate SIS from other I-Schools. A claim that information and information technology are common necessary components underlying the solution of modern social problems (e.g. AIDS, global warming, energy dependence) could be reinforced by giving students the opportunity to engage these problems together with external stakeholders. For example, teenage girls are the most rapidly growing group of new smokers because they believe that this will help them avoid obesity. What information and information technology strategies would be useful to address this problem?

In response to the draft report, Board Member Mulhollan wrote: "SIS ought not restrict itself to local collaboration, albeit a good idea. We are talking about a national status and I believe there are many other opportunities to collaborate as well, e.g., the Library of Congress' National Digital Information Infrastructure and Preservation Program."

Appendix

Dear Dr. Moye, Dean Larsen and my fellow BOV members:

I am sorry I missed the fall meeting of the Board of Visitors. I read the draft report of the meeting with great care. While I can't comment on the faithfulness of the report relative to the meeting, there were a few things on which I wanted to comment.

Given the Provost's charge, I am focusing on Capitalizing on Collaboration in the broadest sense. I am not a technically trained professional in either telecommunications or information science, but I am completely and totally dependent on both in my profession as a Private Banker/Wealth Manager. I feel there is a specific opportunity for our school to design an undergraduate course or courses in collaboration with all of the other schools to focus on and emphasize the role of both telecommunications and information management as an essential underpinning of the other schools. For a freshman, either already decided on a path or "still shopping", the course needs to emphasize the use/management/ethics/role/ and cost (among other things) of telecom and information in any and all of the career choices and positions in our world. At a minimum, we will expose this essential group to a key part of our world's infrastructure. Beyond, that, additional course work in the "field" could and would show those unaware of the opportunities in our school, of career opportunities and paths available if this be their chosen field. Those choosing a "major" should see specific paths and opportunities. The potential employers need to be collaborators with us in designing the curriculum. (If this has been discussed, I apologize for the side-track).

We cannot focus only on the post-graduate opportunities without attending to the "entry-level" needs. I know my next story is on a completely different level, but the idea is solid. There was a recent article about a Southeastern undergraduate school (the name escapes me), who went to Wal-Mart and said. "we'd like to develop a major in our school to focus on retail management. What do you need/want in a future manager? Please help us develop the right curriculum so our graduates have career opportunities with the largest retailer in the world." (Not only did Wal-Mart help design it, they funded it, and got surrounding state governments to help!). Ours is a different issue...but the point is to start with the end in mind.

I think we need to stay committed to our leadership in LIS, rebuild the interest in IS by having the other schools sell it for us (with our help and design of course). The direction for Telecom education needs to be developed and then vetted with the world leaders in Telecom.

We have the building blocks. We need to become more nimble and focused with how we connect the building blocks and how we use the rest of the University to make us the most valuable school on the campus. I applaud the work of the professors and administration in helping to move us forward. I am fearful that unless we make quick change we will have a slow death. Perfecting each of the

positions on the team is useful, but it is not sufficient unless each position knows how it fits with the others to make a winning team...forgive my football analogy, we might have some members going to the pro bowl on an annual basis, but we haven't figured out how to improve in the weaker positions to make us a super bowl team...individual excellence is a fine accomplishment, but not at the expense of the overall mission of the school.

I missed seeing you all, I look forward to meeting Dean Larsen in person, and I look forward to hearing about the progress of our school. As you can tell, I am passionate about getting it right at the beginning...and I am "voting" for collaboration with the other schools early in the undergraduate academic experience...leading to either more informed graduates and hopefully more committed professionals seeking excellence with a major in our school.