

Observations by the Dean, Associate Dean, SIS Council Chair, and Program Chairs (BSIS, GIST, TeleNet, LIS)

1. What are the major factors in your discipline that are currently shaping its long term, strategic evolution?

- The demand by employers for students to possess team and group collaboration skills.
- The demand by employers for students to possess problem solving skills.
- Internationalization is becoming more of an expected learning outcome.
- Industry hiring has picked up and looks to be strong in the near future.
- The field is rapidly expanding and includes a variety of topics including mobile, social media, data analysis, tablet computing and smartphone applications.
- The increased demand for education services by non-traditional students including adults, career changers, second degree students and skill builders.
- The relationship building that is beginning to occur between information science and other academic fields:

Art, technology and media
Business
Geology and Geography
Health related

2. What is the impact of these factors? Why are they so important? What difference do they make?

Employers have always made an impact because they hire many of our students and they impact society with their products. As employers place more of an emphasis on team and problem solving skills, curriculums need to adapt in order for students to be competitive. And, as industry expands around the globe new employees are expected to have an appreciation of cultures, work styles and even be open to global assignments. In some cases, proficiency in two or more languages can be quite advantageous. In Information Science, web systems are accessible across the globe and it makes sense for our students to design and build systems that can operate anywhere and anytime. They should have an appreciation of cultural norms and time zones and an understanding of the various privacy policies and censorship activities of governments.

Information Science is an ever changing field. It is exciting to watch the proliferation of new tools, gadgets, phones, software, tablets and PC's. However, it is very challenging to learn the new technologies or to stay abreast of what the current issues are. But, these are the technologies and systems that people are using so they cannot be ignored. Social media was rarely mentioned ten years ago and now most every major industry and much of society has become dependent on this new connection bound system of technology. It is critical that the curriculum reflect many of these technologies and ways of interacting. Of course, this means faculty need training in these new areas in order to stay abreast of new developments.

Technology has enabled new delivery systems and new models for education and course availability. The online course is no longer viewed as a secondary method of learning and many institutions including MIT and Stanford now offer them. Some students who have time constraints cannot attend traditional face to face classroom instruction. Instead, they are primary candidates for on line learning. This open up many new opportunities to serve populations that may have been previously excluded. The undergraduate program could expand its enrollment by offering a series of courses in face to face as well as online in order to attract more candidates.

Lastly, most fields have recognized the value and application of both the tools and conceptual thinking of the Information Science discipline. These fields have at times developed specialized applications but often they seek partnerships with experts of the information field. This has opened up new opportunities in the health sciences, geographical information systems, art & technology and business and industry. Opportunities for faculty members to cooperate with member of other disciplines and fields have increased significantly.

3. How do these factors affect the future of SIS and your program?

These factors affect the competitiveness of the undergraduate program. If we want to continue attracting high quality students we need to have a curriculum that prepares students for a demanding workforce. And, successful graduates act as a catalyst for attracting new candidates to the major. Secondly, the ever changing nature of the field places pressure on faculty members to familiarize themselves with the newer technologies. Lastly, faculty need to be open minded about online delivery of courses.

4. How can the School respond most effectively to these factors?

Almost all of these forces impact the curriculum, teaching methods, admission policies and strategic partnering.

In particular, the curriculum needs to continue offering more opportunities for students to work in teams and in collaboration. In the last few years we have integrated more team projects requiring the application of problem solving skills into our capstone, user centered design, database, introduction and systems design classes. And, we are beginning to add an international component to the curriculum. This will involve being more aware of cultural impact and language in regards to system design.

In regards to teaching methods, faculty members need to be open to developing courses for online delivery. This would involve working more with instructional designers and learning from our previous efforts. Online learning uses many of the competencies faculty members possess in their face to face instruction. However, there are some new demands and skills with communication facilitation and student collaboration that may need to be learned.

When we have a curriculum that is available to both traditional and non-traditional students, our admission policies and marketing can be broadened. In this way we can attract those students who are looking to change careers or advance in their current pathway.

As the school pushes forward in these areas it gives us the capability of reaching out to other departments making our expertise available. This outreach can be in a form of specialized courses or certificates to departments that are trying to make their students more competitive. For example, students majoring in Health Information Management from the School of Health and Rehabilitation Sciences currently are required to take some our courses. This is an area that can be expanded into more of a formal offering such as a certificate.

5. Who are the necessary partners that would need to be engaged in order to respond effectively?

The key partners would include the employment community, Center for Instructional Development and Distance Education (CIDDE) and select academic departments on campus. In each case, a strong partnership would promote increased interaction, a melding of skillsets, an increase in knowledge transfer, and a focus on the future.

6. What would an effective response look like and what difference would it make?

The school can continue its work with its Corporate Advisory Board and further research the skills and abilities necessary to compete in today's workforce. In addition, continued interaction with professional associations, both academic and professional, will enhance the school's position in delivering the necessary academic programs for our student to take a competitive stance. Information gleaned from these types of interactions would be shared with faculty members for inclusion in their courses.

In regards to online delivery of undergraduate programs, the core courses in the curriculum need to be re-designed for online delivery. This re-design would occur with CIDDE in order they become compelling and draw student interest and involvement. A student looking at a career in the information field would select the University of Pittsburgh because of the strength and convenience of the curriculum.

As for partnering, having a certificate that other departments can recommend or require for their students would mutually benefit both entities. For, example an outside department may recommend a series of specially designed Information Science courses that will enhance a student's understanding and skill set. These courses would be offered both online and face to face making them universally available.

Updates of Last Year's Observations Report

The capstone experience for undergraduates through the election of taking a capstone course, internship or independent study provides students an opportunity to connect the seemingly disparate body of knowledge obtained from different courses. In particular, the capstone course has produced some very interesting projects including a few that are being publicly used on the Web. In the last two years, undergraduate students have written web applications representing a small business, for social networking, community sports organizations and book clubs. One of our students last year had been successful in developing a Web business.

One experience stands out. After last year's capstone course a subset of seven students wanted to continue their work on web applications and software development. They signed up for independent study credits but met at the same time so, in essence, this was a seminar class for undergraduates. The program chair facilitated the teaching of the class and brought in an expert in Agile methodology. The small group of students decided to write a small game called Betrayal using a collection of professional techniques including: GIT- software version control, SCRUM- a software management philosophy, templating, and formalized testing procedures. Betrayal provided players with an opportunity to join a company and points and promotions were earned by working on tasks with other workers. However, a worker could work cooperatively on a task or betray the other worker. In each case there were rewards and risks.

This group experience of writing code and using professional techniques was one of the highlights of the capstone experience. All of the students were extremely pleased with their efforts and many said it was the best course of their Pitt career.

In regards to assessment, the undergraduate program focused specifically on general education requirements. Given that the program is an upper division program and students take their general education requirements outside of SIS, the program chair identified the Collegiate Assessment of Academic Proficiency as the most appropriate assessment vehicle, and the Critical Thinking Module as the most relevant skill area to be assessed. The CAPP Critical Thinking Module was administered to 71 undergraduate Information Science students. The results were very positive. In particular, when compared against the national norms 61 (86%) of the students taking the test scored at or above the 50th percentile.

The undergraduate program continues with trying to effectively implement a coherent assessment process to its courses. Progress was made by forming small faculty committees that reviewed and judged final projects coming out of project oriented

courses. The assessment process is something that still needs to be further refined and enhanced.

The undergraduate curriculum with its core courses, concentrations and capstone experience has shown to be a successful curriculum for recruiting students. Each of the last five years has shown growth and currently 149 BSIS students are in the program this fall semester.

It is still a challenge to keep the curriculum competitive and to meet the needs of a stratified population of traditional and working adults. The discussions of moving some courses to an online mode is in its early stages, but it is a necessary move to stay competitive.