# The Master's of Arts in Informatics Program

A Curriculum Review

Matthew Shelton

June, 2003

**Introduction**

> "…the application of technology (mostly computing) to a specific subject area but in many cases with a focus on social and behavioral aspects of information and technology as well". ("School of Informatics", 2003)

The School of Informatics at the University at Buffalo, formed in July of 1999 as the School of Information Studies but later re-named, combines the School of Library and Information Sciences (SILS) and the School of Communication (COM). This joint academic venture still grants each degree that the schools once independently granted. In addition, the new "Masters of Arts in Informatics" degree is finishing its second full year. (http://informatics.buffalo.edu)

Informatics is a generally new term in the United States. While synonyms similar, such as "informatique" and "informatika" have existed for a few decades in Europe, the term has only rarely been found in the United States. The few references to Informatics in the U.S. have been in the areas of medicine where Informatics is now blossoming. Current linguistic appearances of the term are now found in the U.S. in the fields of "bio-informatics, health informatics, nursing informatics, mobile informatics, and school informatics". ("School of Informatics", 2003)

"In September of 1999, the School initiated a curriculum planning process funded in part through the generosity of the AT&T Foundation". (Robinson, 2001) This planning process included industry interviews, a quantitative survey as well as three qualitative focus groups, two of which involved AT&T. The goal of each of these elements was to "assess workforce needs and education trends". (Robinson, 2001)

The end results of the interviews showed that "while technology skills are important, of equal importance are skills in team building, communication, knowledge of organizational strategy, and sensitivity to organizational culture". (Robinson, 2001)

The focus groups had similar results. Each group selected its own topics of discussion, and each time, forwent discussions of technology, and instead focused on "soft skills" or "organizational competencies". (Robinson, 2001)

Quotes from these meetings include[1]:

- "And the second thing is, they have no clue how to work on a team, not a single clue…"
- "...it all comes back in to communicating what you've learned effectively".
- "...if you could really give people a set of tools, conceptual tools, to know how to do that really well in the context of today's information environment, then that's worth the price of a degree to me".
- "What we have now is an environment where you eat or you get eaten, so you have to have the ability to build a good team…"

In addition, the survey confirmed the results of the interviews and the focus groups – that the direction of skill needs in modern industry were tending more toward the softer skill-sets as opposed to the more technical. Indeed, industries seemed to need employees who were more competent in areas of "communication skills, critical thinking abilities, and a general ability to work in teams, set goals and make rational decisions". (Robinson, 2001)

Further, "the American public recognizes the crucial place of technology in our society and the urgent need for technology education". (Bybee, 2003) Taking all of this into account, the administration of the new School of Informatics planned and implemented a program to educate students to meet the needs of a growing society. (Robinson, 2001)

The resulting Masters of Arts in Informatics program has been labeled as a "work in progress" ("Penniman, W. D., Personal Correspondence", 2003) by the School's Dean. Indeed as that program progresses, the feedback of its participants becomes more and more important.

That feedback has led to the study of the program itself. Prior to a Wednesday evening class, taught by Professor Gary Ozanich, a group of MAI students gathered to discuss the program's state of affairs. While many of their comments were rooted in frustration and fatigue, they are still valid.

These comments included: ("MAI Class Members, Personal Correspondence", 2001)

[1] Quotes are included in the notes from the original MAI program draft supplied by Prof. Gary Ozanich. (Robinson, 2001), which contains a more edited version of the program draft, does not include these quotes.

- "We shouldn't have to worry about failing the program when we're being used as guinea pigs".
- "Why is my degree decided on by one professor? What if I get on his bad side?"
- "What does web design have to do with Information Architecture? That class is a waste of my time".
- "..can't see how I'll get a job with a company and then somehow do this stuff there".
- "I feel sorry for the next class if nothing changes".

While many of these comments are a little uninformed about the nature of the program itself, they represent frustrated students in a program that is in its infancy, still struggling to meet the needs of its students. The original design of this study planned to use student data as the determining data to discover why the current program was upsetting students, and to what extent.

However, as literature review and qualitative data gathering commenced, the study became a tool to see how well the program continues to improve beyond its initial draft, and make suggestions to guide its continued growth using data collected from current students, faculty, administrators, as well as the administrators of other similar programs.

The study aims to be a useful tool for current administrators, as well as an added feedback channel for the program's participants.

**Literature Review**

"The challenge is to develop interdisciplinary languages and skills for design practice while also developing the methods and skills appropriate to information architecture". (Morrogh, 2003)

Morrogh's point above pertains directly to information architecture, though it is commutable; those skills need not pertain only to IA. Quite to the contrary, the current Masters of Arts in Informatics (MAI) program attempts to construct an interdisciplinary language to help its students develop those skills that could potentially pertain to any number of fields. "The new program's dual emphasis on technical and extra-technical skills will produce much needed, and sought after, graduates". (Robinson, 2001)

Keeping the real-world data in mind, the MAI curriculum consists of several core courses in Telecommunications, Information Science (IS/IA/ID), Policy and Legal Issues and Organizational Communication. Each of these courses is designed to contain an emphasis on "… competencies in communication, team building, critical thinking, organizational culture and organizational strategy. These will be in addition to, not a substitute for, technical skills". (Robinson, 2001)

It is the aim of these courses to reinforce the "organizational competencies" that were highlighted by the survey participants and focus groups as those most sought in new employees within their organizations. (Robinson, 2001)

In addition, a final or "capstone" project is required to be completed by all students. This project is not a Masters Thesis, as would be found in many Masters' programs. It is, rather, a cumulative project intended to display the "skill and knowledge gained over the course of the program". The initial design of this project infers that it be done individually. (Robinson, 2001)

The final two portions of the program, the elective courses, and other practical experiences, are much more vaguely laid out in the original draft. Elective courses can be taken from almost any other graduate discipline, and are intended to allow each student to further concentrate in a particular discipline. (Robinson, 2001)

External practical experiences are suggested as supplements for students who may not be as technically savvy as their classmates. (Robinson, 2001)

The pedagogical approach to the curriculum keeps the "organizational competencies" center stage. This is done by including a course in organizational communication, and keeping the skills taught in that course in focus throughout the rest of the curriculum. In addition, there is intended to be "an emphasis on practical experience and internships for those without prior work background" (Robinson, 2001)

Further, teamwork, one of the top-rated "organizational competencies" (Robinson, 2001), is to be emphasized in at least two of the core courses. Along those lines, a "cohort experience" is to be created to reinforce the teamwork emphasis. (Robinson, 2001)

Additionally, there were other program developments made with the same initial draft, including undergraduate study track changes and investigations into an interdisciplinary Doctoral research program. (Robinson, 2001)

There may indeed be some future for these developments. According to W. David Penniman, Dean of the School of Informatics, "the school has just received another grant from AT&T to investigate and create an undergraduate informatics program". ("Penniman, W. D., Personal Correspondence", 2003)

The initial program draft described by Robinson and Jacobson further plans for an initial class size of approximately 25 students with continued growth. While this may have been naïve for the program's initial class (which was less than 10), it is much more on target for its second class.

With a growing program, the diversity of the students entering will increase, as will the differences in each of their previous experiences and technical skills. While there are certain levels of technical competencies required for students, this will likely not carry equal weight for each student. The answer, as prescribed by the initial program draft, is a combination of internships and other work experience. (Robinson, 2001)

Internships are widely found to be positive practical additions to traditional theoretical coursework. "… internships… bridge the gap between classroom learning and practical, on-the-job training…" (Bruce, 1993) With this in mind, it may even be a good idea for all students to, regardless of previous work experience, participate in an internship or other practical work opportunity that directly focuses on the skills that are being taught in the classroom. "Practical experience is the key to succeeding in a new job". (Bruce, 1993)

Future job placement applications aside, practical experiences benefit classroom experiences by reinforcing theoretical constructs. "Most design education has its share of traditional classroom lecture-style learning where one gets to know the nuts and bolts… but there is also the studio environment…" (Morrogh, 2003)

Additionally, as mentioned in the original draft, one of the planned elements of the MAI program was a "cohort experience". (Robinson, 2001) This concept has similar merits to internship experiences as "company issues become case studies for student teams…" (Podmolik, 2002)

Overall, there is a strong textual emphasis on the practical counterpart to a normally theory-based curriculum, especially with more recent publications. This may have much to do with the current job market, and the changing *theories* about terminal education. While the practical counterpart is indeed important, theory cannot be forgotten. It is in theory where those "nuts and bolts" are learned. (Morrogh, 2003)

One of the reasons that the MAI program forecasts success is that it is interdisciplinary, attempting to combine the best of both worlds. "Practitioners tend to shy away from theory while researchers tend to emphasize it". (Nagy, 2002) Indeed the MAI curriculum is intended to create balance between theory and practice.

"Theory" and "practice" are each the other's cohort. Nagy asserts that the "experiential framework … provides practitioners background upon which to build curricula". (Nagy, 2002) Further, it is "common sense" that "curricula attempt to provide direction…" (Nagy, 2002)

Nagy's points about the development process seem to align with the MAI program's development. "The first phase of curriculum development involves the philosophical perspective and what the curriculum will be designed to address". (Nagy, 2002)

While survey and focus groups are far more real than philosophical, it is their philosophical points that helped shape the MAI curriculum. Discovering the underlying themes at each focus group event, and seeing the major thematic trends in the survey results presented a direction that, while hinted at, became so blatant that it is the theme of the entire program. (Robinson, 2001)

This leads right into what Nagy describes as "Phase Two of Curriculum Development – Determining Length and Program Emphasis". (Nagy, 2002) The curriculum development committee determined that the MAI degree was a terminal degree. This led them to create a

program that is 36 credits, or three semesters, in length. With the inclusion of one summer semester, the program can be completed in one calendar year. (Robinson, 2001)

There does not seem to be a generic amount of time for similar education. For instance, the Informatics programs at the University of Indiana are also 36 credit hours, but it is designed to take a full two years to complete. ("Dunn, M., Personal Correspondence", 2003) Likewise, the "Information Architecture and Knowledge Management" Masters at Kent State University is also intended to take two full years, but is a slightly beefy 48 credits. ("Froehlich, T., Personal Correspondence", 2003)

However, it is important to point out that each school's curriculum is set up in an entirely different way from the UB MAI program. For example, Kent State's degree, while interdisciplinary, is heavily focused on the Information Science side of theory, which appears to be the opposite of the MAI program which is built on communications fundamentals. ("Froehlich, T., Personal Correspondence", 2003; Robinson, 2001)

Further, the Informatics programs at the University of Indiana are actually multiple programs that utilize an Informatics core. The disciplines include Bioinformatics and Medical Informatics. Each program is partnered with the Informatics School as well as another corresponding Department. For instance, the Chemical Informatics program is a joint program with the Chemistry Department. This is an interesting take on "multi-disciplinary" curricula, and seems to help the Informatics school do what it does best – Informatics, and leave the other areas to departments that do those things best. ("Dunn, M., Personal Correspondence", 2003)

The third phase that Nagy describes is "Deriving the Focus of Individual Lessons". (Nagy, 2002) In his example, (which has nothing to do with Informatics), each lesson plan had a specific topic. That topic then allowed his team to develop a lesson to fit that topic. (Nagy, 2002)

In the case of the MAI program, some of the core courses were existing courses that had to be slightly adjusted to meet the thematic elements of the new curriculum. Those courses that could be developed from scratch were more able to keep the underlying themes better in mind. (Robinson, 2001)[2]

Gearing the MAI program toward a common theme is tricky. It has so far proved difficult to align the instruction of several professors to a common theme. ("Penniman, W. D., Personal

[2] See Appendix – Survey Results (Students)

Correspondence", 2003)[3] However, simply finding and retaining instructors who can teach technology is difficult. "This means our profession must not only look at how to prepare additional teachers, but how to retain them in the teaching profession after they are prepared". (Ndahi 2003)

Retention of key faculty is one of the many obstacles that the School of Informatics will continue to need to overcome. While the current set of faculty has not changed much since the program's inception, there is a need for younger faculty with cross-disciplinary backgrounds. ("Penniman, W. D., Personal Correspondence", 2003)

[3] See Appendix – Survey Results (Faculty)

**Study Objectives**

This study's objectives are:

To determine:

- How the current curriculum aligns with the underlying theme prescribed by the draft
- How the MAI program compares to other similar programs around the country
- How well the MAI program is set to continue growing
- The goals and expectations of the school's faculty and dean with regard to the future of the MAI program
- What changes could benefit the program for the future
- The opinions of the current and former MAI students regarding the program and the above issues.

To suggest:

- Next steps for the program's curriculum
- Revisions to current policies and procedures that may aid the students in their learning process, and the faculty in their instruction

**Methodology**

This study has several phases. First, the initial program draft and data collected was reviewed. (Robinson, 2001) These data were used to draft the surveys and expert interviews.

Second, a web survey was conducted for both the current and past students, as well as the core course faculty of the MAI program. Survey participation requests were sent to 29 students and 6 faculty members.

The student list was determined by a list of alpha class participants provided by Barbara Mulvenna, Informatics Program Coordinator. The beta class was determined by the current group listing provided by the Computing and Information Technologies User Group listing for the "icograd" group. This was a bit flawed because, as the program underwent a name change, there was some confusion as to the entity code in which to enter some of the students. While

most of the students were placed in the "icograd" group, a few ended up in another "infgrad" group. The disparity caused a few students to not receive the initial survey notification. Those students were later added to the database and were able to take the survey. I do not feel that this had any bearing on the results of the survey as the number of affected students was minimal.

Next, an expert interview was conducted with the Dean of the School of Informatics, W. David Penniman. This interview was done to provide some initial feedback that had since been collected from the student survey. In addition, the interview questions sought to clarify some of the points made in both the literature review and the student survey.

Finally, expert interviews were attempted with deans of similar program around the country. Due to the compressed time schedule of this project, and the order in which the data collections needed to be performed, the availability of some of the deans was a variable. Interviews were able to be performed with deans at two major universities, while the deans of the two other universities were each unavailable.

All of the data collections are qualitative in nature. While some individual questions of the online surveys could be compared quantitatively, the focus of the data analysis is qualitative.

**Results**[4]

The student survey had an acceptable rate of response. 17 out of 29 (58%) invitees participated in the survey. The faculty survey, on the other hand, had a relatively poor response rate. Only 2 out of 6 (33%) invited faculty members replied.[5] Due to this lack of response, the faculty questions that were intended to corroborate some of the student questions have to be ignored, most specifically those that asked the faculty to rate the students in various areas.

The students' results seemed to aggregate toward a similar set of opinions. For instance, many responded with a certain sense of confusion toward the underlying theme of the program with replies such as "There has been no relations to organizational communication". and "when I enrolled in the program, i thought it was more focused on system and information analysis".[4] In addition, a vast majority felt that there were courses and instructors that did not align with this underlying theme, most notably some of the LIS-disciplined coursework. [4]

[4] Please see the Appendix titled "Survey Results" for detailed survey results and interview transcripts
[5] An additional faculty member had difficulty connecting to the survey page at the same time that one of those who did respond completed it, which would have yielded a 50% response rate. Further communication with that faculty member did not reveal any cause for his difficulties.

Many students felt that they had the technical skills at the beginning of the program that was required of them as MAI students. There were a few disparities, such as "Barely. There should be stricter guidelines outlined before applying into the program". [4] However, more than 757% of the students felt that their *technical* skill level increased as a result of the program.

Each of the resulting areas that the students were asked to rate themselves on were clustered at "Excellent" and "Above Average". The students apparently think very highly of their own skills. While these responses could very well be true, they cannot be verified. Just about all respondents felt that their skill level in each of these areas increased because of the MAI program.

Overall, these last two sets of data seem to indicate that the program is reinforcing the technical skills that the students need for the program.

On the topic of resources, the students had some very strong feelings. Save a few outlying responses, the majority of students felt that their elective choices were severely limited, many times due to course conflicts. Many of the students had much higher expectations for these electives, likely because it was suggested that these courses would allow the students to further concentrate in a specific area. (Robinson, 2001) The students did, however, give a majority of positive responses to the content of the electives that they took.

The students responded extremely positively to the Informatics Computing Lab, giving specific mention to the Lab's Supervisor, Ken Fujiuchi. One example is "Ken Fujiuchi is extremely knowledgeable where computers are concerned. There is never a question that he cannot answer and he is patient and willing to take the time to show you how to do something if you ask". [6]

The open question regarding other resource or opportunities produced several suggestions such as: [6]

- Externships / Collaborative Coursework
- Internships
- More practical training
- A Community tie-in
- More career path guidance / advising

[6] Please see the Appendix titled "Survey Results" for detailed survey results and interview transcripts

All 17 responded that they would take the opportunity to partake in internships if given the opportunity, but that many did not feel that they were available. For instance, "I have been waiting since this time last year for the department to offer internship opportunities". [6]

In addition, all respondents indicated an opinion similar to "Internship is the key to experiences" or "Internships are the best teacher".[7] It would seem that the students may felt that they have the skills to complete the work required of them in the MAI program, but perhaps they are not as confident that they have the skills to complete the work required of them in the real world. Such skills, they speculate, could be learned in an internship setting.

Finally, the students seem split on their overall satisfaction with the program. Some feel that the experience has been mostly worthwhile providing them with direction. Others were disappointed with the beta-testing atmosphere, or were "concerned… feel that the program has a lot of room for improvement".[7]

The faculty survey, as was stated earlier, had a very poor rate of response. Due to this, many of the responses were exact opposites, which could mean anything. Those disparities could very well have been influenced by age, background, years teaching, etc. Unfortunately, a better metric for gauging faculty opinions currently does not exist.

Regardless, some of the responses were very interesting. The best faculty feedback about the direction of the program came from one of the closing open-ended questions: "At a very basic level, we need to work out our expectations of students, in terms of the time they have to pursue a degree. Many are working, some are not. When students are working and completing a degree in a year, they do not have the experience to grow as much as they might. As it is, it needs to be truly full-time for a year or it needs to be extended to two years. I think a limited number of competitive scholarships would help. I think better utilization of local professionals--as liaisons and possibly as instructors--would help. I also think they should work with students toward their capstones whenever possible". [8]

This sort of feedback provides an honest faculty perspective about once facet of the program's direction, which is exactly what the survey was intended to do. In fact, it begins to cast some doubt on the "work in progress" title that has been given to the program's status. Re-reviewing Nagy's comments, the above communication issues should have been worked out well

[7] Please see the Appendix titled "Survey Results" for detailed survey results and interview transcripts
[8] Please see the Appendix titled "Survey Results" for detailed survey results and interview transcripts

before the first class of the first year started. The sub-par elements of the program should not simply be chalked up to the "work in progress", and should instead be treated as major problems that need attention. (Nagy, 2002)

The last set of results, the expert interviews, gave helpful insight into the nature of the program, both at UB and at other schools. The feedback from Dean Penniman (UB) and Dean Dunn (IU) was especially useful as these programs are more similar that either is with the Kent State program.

The main theme of each interview seemed to be the "work in progress" ("Penniman, W. D., Personal Correspondence", 2003) theme that the Dean mentioned.[9] It seems to emphasize that the school, much like its industry focus, is in a constant state of change. However, it is a statement that seems to euphemize the problems that each school is facing.

**Conclusions / Recommendations**

The data collected and text surveyed have led to a series of recommendations. First of all, there is no expectation that any of the recommendations provided herein will be implemented in any fashion by the faculty and administration. While the conclusions that led to these recommendations are based in research, they are still opinion.

Each recommendation also carries some sort of cost, and perhaps some drawbacks. Nonetheless based on data collected, the following are the recommendations of this study:

1. *Create an advising system that includes Capstone guidance beginning on or before the first day of class.*

   Advising does indeed exist within the MAI program. It is, however, one of the many areas that continue to be a "work in progress". In the program's second year, the listed advisor for each student was either Gary Ozanich or Neil Yerkey, the director of the program. Students were also informed that they could choose any COM or LIS professor, who was willing, to be their advisor, and that the director would be the one who signs off on the Capstone Projects.

[9] This "work in progress" ("Penniman, W. D., Personal Correspondence", 2003) reference is made by the Dean many times in reference to the program both in public communications as well as casual conversation.

This is not too far off from other MA programs. However, the nature of the MAI program is different. The goal of the Capstone was to have a practical deliverable that encompassed what each student had learned during the program. Perhaps the format of its review should be handled in a slightly different manner.

In the case of a more traditionally "academic" paper with heavy literature review and far more quantitative data analysis, it makes sense that the advisor would guide the project's research as the project requires it.

However, advising from the first day of the program would help the MAI students to see their program involvement as a journey, a continual progression toward a final deliverable. The guidance involved with a more practical project is different from that of a more "academic" paper. The types of projects that are more likely to appear in the MAI program require much more frequent advising as they involve more practical, hands-on research that would greatly benefit from the advice of an experienced educator. Optimally, an advisor would have some real-world experience to back up their advising. This experience would give helpful insight into many of the new areas that the Capstone Projects are likely to go.

Combining academic advisement with Capstone guidance allows the student's project progress to be regularly monitored by a faculty (or staff) member, hopefully ensuring success.

2. *Separate Capstone advising from the "Emerging Technologies" class.*

Like thesis-concluded programs, the Masters of Arts in Informatics degree requires the approval of several staff and faculty members, including an advisor. This system of peer review is still quite appropriate. However, the Capstone Guidance course, which is a combination of coordinated project updates and an "Emerging Technologies" course, left many students feeling that their Capstone Projects were just another grade.

Giving the responsibility of reviewing each Capstone to one professor is not only an unfair burden on one faculty member, but is also potentially harmful to the students. The students many times received conflicting opinions from their original advisor and Prof. Halavais, who instructed the Capstone Guidance course. ("MAI Class Members, Personal Correspondence", 2001)

Instead the advising portion of the MAI program should be separated from the structured "Emerging Technologies" course. The advising, as stated previously, should rest in the hands of that student's advisor. This way, the advising load is balanced, and is not set on the shoulders of any one professor.

Implementing this, and the previous, recommendation has both measurable costs and benefits. The benefits are massive to the MAI students, as well as to the faculty, (namely whoever would be instructing the "Emerging Technologies" course in the next year). However, the overall workload for each faculty member would increase. This may not be an acceptable situation. One solution would be to hire either an additional faculty member, or an MAI program advisor - the latter of which could both coordinate the academic advising for each student, and perform advising in whichever areas they are particularly strong.

3. *Establish an internship program with available internship opportunities.*

The data and literature both reinforce the merit of practical experiences that are tied to the theoretical instruction in the classroom. This is also reinforced by much of the student survey responses. Students want to have experience under their belts, not just the theoretical know-how that the lecture environment provides.

This is another area that is mentioned as a "work in progress," though it may be the most important one. Internships are valuable pieces of the overall education of each student. It is clear from student feedback that the in-class projects are not enough practical experience to prepare them for similar responsibilities in the real working world.

While the Dean has mentioned ongoing efforts in this area, the need is here now. Several other departments at the University have well-structured and well-respected internship programs. Coordinating with those departments could yield a wide range of internships that might not have been available without that coordination. In addition, any contacts that the School of Informatics has now would likely be assets to other departments as well. One example of this would be the strong relationship that the School of Informatics has with AT&T.

4. *Encourage faculty to use externships (or cohort experiences) as a practical instruction component.*

The initial program draft made mention of creating cohort experience opportunities, this would be a good step to take in the near future. (Robinson, 2001) The Cohort experience is a partnership between faculty members and external (or perhaps internal) organizations. These partnerships place students in an organization to complete a project or similar deliverable. It is hoped that the project would align with the in-class instruction provided during the same time period. Cohort experiences may take a bit more coordination on the faculty end than internships, but they would be just as, if not more, valuable.

One example of this experience is the web site design project that was completed for the Information Architecture class instructed by Professor Ruiz during the Spring Semester. This project paired teams of students with an organization or club of their choosing to complete some sort of web design project.

These cohort experiences would allow students to work in the real-world work force, applying the theoretical skills that they are currently learning. They would also give the students the feeling that the feedback process also applies to their project. It would be ideal to match the classroom instruction to the phases that their cohort project goes through.

The cost of cohort experiences is time and bit of coordination. This begins to put a lot on an instructor's plate. In the long run, however, the total amount of work for faculty would decrease, as the practical component of their particular course would be handled by the organizational cohort.

5. *Encourage faculty to model their lesson plans around the organizational communication fundamentals that were outlined in the initial program draft.*

The conversation with Dean Penniman created the impression that the department felt that the level of organizational communication fundamentals presented in each class was not a problem. On the contrary, student feedback and comments show that there is disparity between the Communications professors and the LIS professors in regard to how well the materials that they present keep the underlying themes in mind.

As mentioned by the Dean, this could be solved by both informing existing faculty, as well as by continuing to hire new faculty who come from multi-disciplinary backgrounds.[10] There is little cost involved in simply reinforcing the overall theme with each instructor.

[10] See Appendix – Survey Results (Interview Transcripts for Dean Penniman)

6. *Create elective tracks so that students may better specialize their degree with electives that are available to them.*

It has never been the complaint of the MAI students that the electives were of poor quality. Quite the opposite, in fact many students feel that the electives that they are able to take are excellent.

The problem lies in schedule conflicts. Many of the MAI students hold full-time jobs as well as attend classes full-time. There were very few classes that fit into the schedule of a student that is attempting to finish the program in the prescribed 3 semesters and take all of the core coursework in the order that is presented by the department.

One improvement to this situation would be to create elective tracks. For instance, an Information Architecture track could be created that gives students course opportunities in Database Design, Information Retrieval, etc. These courses could then be scheduled to fit nicely with existing class times.

Another option would be to move some of the COM or LIS courses to an online format so that schedule conflicts disappear. Indeed, there are several online courses at the moment that are very appetizing to the busy graduate student. More of these would likely increase the satisfaction of the students, and allow them to truly specialize their courses of study.

Creating the elective tracks from existing courses may not be all that difficult, and should not take too much time. However, it is nearly impossible to perfectly coordinate those electives with each student each semester. It may be feasible to schedule one course from each track during an available time period during each semester. The cost of doing so is no more than the normal cost of doing business, plus a little bit of time.

7. *Hold regular feedback sessions between the Administration, Faculty and Students.*

An initial feedback session was held during the fall semester. This was a round-table discussion with Dean Penniman, the chairs of the COM and LIS departments, Drs.George Barnett and Judith Robinson, as well as several students who were able to attend the session. Several of the recommendations made by this study are echoes of that session, most notably those pertaining to elective coursework.

This type of round-table feedback helped the students in attendance to understand where the faculty was coming from on many of the issues that the students were confused about. In addition, it seemed that the concerns of the students were taken seriously, and may influence the future of the program.

It is unfortunate that only one of these sessions were held. It became apparent to the students that their only other route of feedback was the professors. In fact, the catalyst for this study was a discussion that involved a professor with whom many students felt comfortable discussing matters of the program with.

It seems that the only cost for this would be time. Better coordination, in general, of the feedback process would be ideal. Another option would be to reinforce the idea that each student's advisor is an appropriate feedback route. The advisor could then both advise the student in that area, as well as relay their concerns to the Dean and other program administration.

8. *Start Informatics instruction early!*

This recommendation is a double-edged sword and applies not only to the MAI program, but the School of Informatics as a whole. The Informatics instruction process should be started at the undergraduate level. The initial draft mentioned altering the undergraduate IT component in the Communication program to better align with the MAI program's content. While this is helpful, and overall useful to any Communication major, it does not take the place of a fully IT-driven degree. For instance, Indiana University was one of the first schools to offer a "four year degree in information technology". (McKimmie, 2003) In that style, UB could offer an Informatics track for Communication majors.

Along those lines, UB could offer an Informatics degree at the B.S./B.A. level. Interestingly enough, UB has received a grant from AT&T to study the implementation of just such a program. It could potentially take the place of the IT component currently being included in the Communication undergraduate program.

An undergraduate Informatics program could take two different forms. First of all, it could be a springboard program that better prepared the students for the next step – the MAI program. That springboard could be a combination of practical skills training as well as a deep reinforcement of the core organizational communication fundamentals of Informatics.

A second potential for such a program is that it could prepare students to enter other areas of study. Similar to the Informatics program at the University of Indiana, the core focus of a student's undergraduate education would be in Informatics. Their continued education would allow them to totally concentrate their studies in another area. This combination would yield truly cross-disciplinary students.

The cost of such a program is not easy to be measured, and is likely best left to the appointed focus groups and administrators who will guide the future of the program.

These recommendations are each feasible, though some costly. Dean Penniman makes a good point when he mentions how the industry has changed since the inception of the MAI program.[11] This is entirely true, and while the future of the national and global economy is uncertain, technology is likely to remain. The need for education in the areas of information, technology and society will always exist.

Continued improvement of the MAI program is of vital importance the future of technology itself. Instructing students how to not only use technology, but also how to work with people and those technologies, could mean the difference between the continued rapid infusion of technology into society and stagnation.

In conclusion, it is my hope that the recommendations above are given serious consideration by the faculty and administration of the University at Buffalo School of Informatics. Many of the recommendations made are simple, and involve improving the communication both within the department as well as between the administration and its students. While a "work in progress" is always changing, directing it to change for the better is the key to its success.

[11] See Appendix – Survey Results (Interview Transcripts, Dean Penniman)

**Appendix – Works Cited**

Bruce, C. E. (1993). Experiential education. *The Black Collegian, Nov-Dec, v24, n2,* 76-81.

Bybee, R. W. (2003). Improving Technology Education: Understanding reform – Assuming Responsibility: Actions By Many Individuals And Diverse Organizations Are Needed If Meaningful And Lasting Changes Are To Occur. *The Technology Teacher May-June, v62, i8,* 22-25.

McKimmie, K. (2003). Brains For IT: How Colleges Are Meeting The Demand For Information-Technology Education. *Indiana Business Magazine, v47, i5,* 23-27

Morrogh, E. (2002). IA: Educating Information Architects. In *Information Architecture: An Emerging 21st Century Profession.* (pp. 135-141). New York: Prentice Hall.

Morrogh, E. (2002). IA: Education Theory: A Design Foundation for Information Architecture. In *Information Architecture: An Emerging 21st Century Profession.* (pp. 144-153). New York: Prentice Hall.

Nagy, S. (2002). Using Theory In Curriculum Development: The Future Selves Curriculum. *American Journal of Health Studies, v18, i1,* p31-37.

Ndahi, H. B., & Ritz, J. M. (2003). Technology Education Teacher Demand, 2002-2005: It Is Clear That There Is A Shortage Of Teachers, Especially Technology Education Teachers. *The Technology Teacher, v62, i7,* p27-31.

Podomalik, M. E. (2002). Internships Offer Real Experience. *Crain's Chicago Business, v25, i49,* pSB10.

Robinson, J. & Jacobson, T. L. (2001). Integrating LIS into an Organizational IS/IT Environment. Presented at the annual conference of the Association for Library and Information Science Education, January 9-12, Washington, D.C.

School of Informatics. (2003). Retrieved June 12, 2003, from http://informatics.buffalo.edu/school/informatics.asp

**Appendix – Personal Correspondence Citations**

**1.** 2003, March 26. Members of the MAI Class: Brian Fix, Tara Pokrasky, Taruna Satyamurty, Matt Shelton, Nicole Skorka.

**2.** 2003, June 6. Froelich, T. Director, Kent State University School of Library and Information Sciences.

**3.** 2003, June 9. Penniman, W. D. Dean, University at Buffalo School of Informatics.

**4.** 2003, June 9. Dunn, M. Dean, Indiana University, School of Informatics.

**5.** 2003, June 15. Members of the MAI Class: Tara Pokrasky, Matt Shelton, Nicole Skorka.

**Appendix – Survey Results**

**A) Student Survey (17 / 29 Respondents)**

**i.** Which MAI class are you a part of? (Alpha, Beta, Other)

- 23.5% Alpha, 70.6% Beta, 5.8% Other

**ii.** What degree(s) have you completed before entering the MAI program? (Open)

| |
|---|
| BA Journalism |
| communication ba |
| BS in Pharmacy & Physiology |
| BA in history |
| BA in Communication |
| B.A. Journalism and Mass Communications/English LiteratureCertificate - Paralegal Studies |
| B.A. in Communication |
| B.A. Psychology, The State University at Buffalo, Sp '02 |
| BA Communication |
| B.A. in Communication |
| International Studies B.A./ Spanish B.A. |
| B.A. in Journalism |
| BA - Business Administration |
| Bachelors (Bachelor of Commerce(business)Post Graduate Diploma in Business Administration (major International Business) |
| BS in Business (MIS) |
| BA-Anthropology / MLS-Library Sciences |
| English UB1993 |

**iii.** What GPA range do you expect your final MAI GPA to fall in? (Ranges from 4.0 to 3.0)

- 70.6% (4.0 – 3.75), 23.5% (3.74 – 3.5), 5.8% (3.49 – 3.25)

**iv.** The overall theme of the MAI core curriculum was intended to revolve around Organizational Communication. How well do you feel the curriculum has lived up to that theme? Please explain. (Open)

| |
|---|
| Although the website design,etc. did somewhat fall into Organizational Communication, I don't feel it did too closely. |
| well |
| Poorly - the theme has gotten fragmented |
| Most classes covered that theme fairly well. Many of the lectures and assignments related to their usefulness within organizations. |
| The program is not as good as I had hoped. A lot of let downs and disorganization. Some classes are irrelevant. |
| I think that the "higher ups" involved in the MA Informatics program need to focus more on communication. Throughout the program, it was apparent to me that there was extreme miscommunication that could have been easily prevented.As a student, only one class taught me organizational communication and that was the class on Org Comm. Other classes may have reinforced the theories of organizational communicaton, but only one class actually taught the skills. |
| I think there was possibly a lack of organizational communication as a department. The program itself did poke into organizational communication (Dr. Goldhaber's class mainly) and Dr. Yerkey's Information Design course. The group projects themselves taught me a lot about organizational communication. It wasn't the projects itself, but rather the process and progress behind it. |
| Hmmm....if you think about it, really all of the courseshave covered organizational communication in some respect, even if it was very abstract and/or superficial. In other words, you can rather easily put that spin on nearly all of the material that we have covered. However, when it really comes down to it, only 2 courses have explicitly covered organizational communication: COM 537, Organizational Communication, Dr. Goldhaber & ICO 565, Information Design, Dr. Yerkey's portion. The former covered material relating to how to conduct yourself in an |

| |
|---|
| organizational environment, with a focus on presentation of ideas. The latter covered a great deal of material on project management. Much of the discussion focused on working with teams and overcoming organizational roadblocks. |
| Time and project management skills learned. But, no real work place studies. |
| Not too well. Most course content seems to be oriented to informational systems and analysis', and the telecomm. Industry. There has been no relations to organizational communication; a topic consistent in my undergraduate studies. |
| As far as organizational communication is ocncerned, I feel that most of out core classes did indeed stick to this theme. |
| Not very well. It more emphysize technical aspect, I feel. Just as Web Design and Information Architechure. |
| Very well. |
| when I enrolled in the program, i thought it was more focused on system and information analysis. Atleast thats what I derived from the talking to faculty and others involved with the program. I think the program was more inclined towards technology rather than Organizational communication or similar skills.I dont think I have learnt any new organizational communication skills. |
| There are some courses that seem to mention that theme, most notably the OrgComm class. As underlying as it might be, it's not as present as it could be. |
| No strong feeling. Because only one course was on orangizational communications. |
| Other than "Intro to Goldhaber 101" and Yerkey's scenarios, there hasn't really been all that much talk about OC, has there? I suppose Gary's attempt to have us formulate a digital schtick counts, but not much else that I can think of. |

**v.** Are there any courses that you feel do not include the above theme? (Open)

- 82.4% - Yes, 23.6% - No

**vi.** Which MAI core course was your favorite? (Open)

| |
|---|
| Each of the courses I took with Gary Ozanich was my favorites. I felt that I learned a great deal in useful information and had ample opportunities to prove it though group presentations and papers. |
| lis...architextural design |
| Telecom Technologies |
| COM 631 |
| Telecommunication class by Gary Ozanich |
| ICO631 : Evolution of Telecommunication Infrastructure |
| Evolution of Telecommunications Infrastructure. |
| COM 631 Evolution of Telecommunications Infrastructure, Dr. Ozanich. The professor was fantastic and the material was interesting. This made for a fun learning experience. |
| Organizational comm. |
| Database management with Yerkey. |
| Evolution of the Telecommunications Infrastructure...probably because Gary taught it. |
| Organizational Communciation |
| Com 631 Telecommunication Infrastructure |
| COM 631(gary's Class) COM 537 (the policy class with gary last summer)The systems analysis class iwth Dr Yerkey (i took the class in Spring 2002) |
| COM631 taught by Ozanich |
| COM 637 |
| Gary's class(es), aturally, were the least stressful. Can't really pick a favorite. |

**vii.** Which MAI core course was your least favorite? (Open)

| |
|---|
| Information Arch. |
| n/a |
| Info Architecture, Intro Info Science |
| ICO 564; I do not feel that this course was worthwhile or had any relation to the program. |
| I do not see the points of having some of the classes with regards to Informatics. |
| All but COM537. |
| Library information systems?Electives we were exposed to. |
| LIS 507 Introduction to Information Science & Services, Dr. Ruiz. I can't honestly tell you one thing that I learned from taking that course, other than the material in the 2 presentations that we had to do. |
| Information Architecture had an organizational comm. flair because we had to learn how to work with each other with limited skills. |
| We had only one class that focused on communications (Org. Comm). Since then, most classes have been focusing on information systems and analysis and the telecommunications industry. |
| Survey of Information Science and Services |
| Just as I mentioned above, some course more emphysize technical aspect. |
| Most of the required classes have been concerned with information handling; a major ingredient in org. com. |
| Introduction Information Sciences |
| The IS/IA classes seem to lean too heavily on Library use and not as much on Org use. |
| Most of Class does not revolve around organizational communication. Actually the problem was build in my understanding with technology as key. |
| Not much OC in that 507 endurance test, that's for sure. |

**viii.** Are there any core MAI course instructors that you feel did not have a grasp of Organizational Communication, and were therefore unable to incorporate it into their course materials? (Yes or No)

- 70.6% - Yes, 29.4% - No

**ix.** Do you feel that, before entering the MAI program, you had the technical skills to complete the work that was required of you as an MAI student? (Open)

| |
|---|
| Yes. It required a certian level on computer skills but if one felt at ease with computers, each new program could be learned with little difficulty. |
| yes |
| Uncertain |
| Yes |
| Yes |
| For the most part, yes. Two courses in particular made me question my technical savvy and knowledge. |
| Barely. There should be stricter guidelines outlined before applying into the program. |
| When I first inquired about the MAI program, I was assured that the only necessary technical skills were basic computer and web skills; that the focus was on people's interaction with technology, not so much the technology itself. So, yes, I felt I had the necessary skills. As a caveat, I would say that communication needs to be improved from those who set these criteria and the professors. I think the criteria as basic computer and web skills is rather ambiguous. It needs to be clearer exactly what skills are necessary. |
| Prety much yes. Although some of the web site building and database development material was very foreign. |
| Yes. Basic web-development skills (BASIC), knowledge of Office utilities, etc... |
| Absolutely not |
| No |
| Yes, though I had to learn a couple of new programs to complete certain assignments |

| |
|---|
| Yes |
| Yes. |
| Yes, I did. Spend 2 years in LIS program, many of the requirment were the same |
| right up to the point of not knowing html, yes.seems like it would be simple enough to teach that in the first week or two, though. |

**x.** Do you feel that, as a result of being an MAI student, your technical skill levels have increased? (Open)

| |
|---|
| Slightly. I did not learn any new programs per say, but my exposure to certain programs i.e. the Internet, powerpoint, etc. did increase. |
| yes |
| Yes |
| Yes |
| Not significantly |
| Yes, somewhat, but through independent learning and not hands-on experience. |
| Definitely. |
| Definitely. Before I entered the program, I had only basic level technical skills. Just by the nature of the classes we have taken, I think my skills have increased. Before I took Dr. Yerkey's Networking Technologies class, I had absolutely no networking knowledge. Now, I have a much greater skill level in that area. |
| Yes |
| Yes, in web-development and database management |
| Absolutely not |
| Yes |
| Yes. |
| Yes |
| No. |
| Yes, learn some details in using dreamwaver package |
| somewhat, yes. I hadn't telnetted into a cisco before... |

**xi.** Personal Ratings in areas (Excellent, Above Average, Average, Below Average, Poor)

- Organizational Communication:
  - 11.7% - Excellent, 64.7% - Above Average, 23.5% - Average, 0.0% - Below Average, 0.0% - Poor
- Critical Thinking:
  - 23.5% - Excellent, 58.8% - Above Average, 17.6% - Average, 0.0% - Below Average, 0.0% - Poor
- Decision Making:
  - 29.4% - Excellent, 52.9% - Above Average, 11.8% - Average, 5.8% - Below Average, 0.0% - Poor
- Goal Planning and Setting:
  - 23.5% - Excellent, 47.1% - Above Average, 17.6% - Average, 11.8% - Below Average, 0.0% - Poor
- Team Building:
  - 23.5% - Excellent, 58.8% - Above Average, 11.8% - Average, 5.8% - Below Average, 0.0% - Poor
- Research and Data Analysis:
  - 11.8% - Excellent, 64.7% - Above Average, 23.5% - Average, 0.0% - Below Average, 0.0% - Poor

**xii.** Do you feel that, as a result of being an MAI student, your skills in any of the above-mentioned areas has increase? Please elaborate. (Open)

| |
|---|
| Team Building was a big part of the program. Being forced to relay on others for help, on presentations, etc., it was necessary to work together as a team. |
| yes |
| Yes - critical thinking, goal planning and setting |
| My critical thinking has increased dramatically since entering the program. |
| Yes. Project management and teamwork in classes are the main reasons why my skills improve |
| Yes, somewhat. I feel I am a much better presenter and communicator, skills I attribute to learning how to be an effective presenter using PPT. |
| I think my research skills have greatly increased along with team building and decision making. |
| Definitely. I think not only have my skills increased, but my confidence to employ those skills has increased greatly. |
| Yes. I have a better grasp on time management and research. |
| Team building. Lots of group work has developed my teamwork skills. |
| Yes, I feel that all these skills have increased |
| Not obviously. But maybe. |
| Because of the exceptional amount of report writing required for this program, my research and data analysis skills have increased dramatically. |
| Yes, I feel my team building and goal planning and setting skills have improved vastly. |
| Yes. I think that my OrgComm appreciation has increased, and that my ability to think as an Organization would thing has greatly increased. |
| No, I wish there was a course design to teach students only reserch and data analysis |
| maybe I understand OC slightly, though theoretically, better now.Maybe if there was a feild there for dealing with insane schedules...I think I might be a bit better at that now. |

**xiii.** Do you feel that the elective coursework offered to you as a student allowed you to concentrate your studies effectively into an area of study that you were more interested in? Please elaborate. (Open)

| |
|---|
| Yes, as a public relations practitioner, I was able to take communication/media related coursework as well as tailor some of my projects for my core classes to that area. |
| y |
| No - not so far - I am taking Marketing of Info Services, but it centers around libraries |
| NO; Not enough electives and those that were offered were either not of any significance, or overlapped with core courses. |
| No. Classes conflict in timing and although it was brought to the department's attention, nothing was done in the following semester. |
| Not at all. There were few electives offered in my area of secondary interest and those that were offered and did interest me were always in conflict with the courses that we were required to take. |
| not particularly. Time constraints and unavailability was a major problem. I think most people picked one that simply fit their schedules. |
| Unfortunately, this is one of the complaints I have about the program. We only get to choose 4 electives as it is, which is a very small number. Unless all 4 of the electives concentrate on a specific area of study, it is impossible to build a concentration. |
| No. I took the classes that fit into my schedule. |
| Some what. Only a select few of the offered ICO, COM, LIS catered to my interests. Other departmental courses did entice me, but scheduling conflicts prohibited me. |
| NO!!! I was technically not able to choose my electives and therefore could not have a focus area. Far too many schedule overlaps. |
| Yes, I can choose some basic Communication courses. |

| |
|---|
| Some courses offered were interesting. Most however, were not. I was able to take an ecletic mix, which kept things interesting to say the least. |
| NO. I think there should be more elective courses to choose from within the department. For the this lack of choice I had to enroll in other departments for my electives. |
| No. There were too few interesting options. |
| Yes, I took all my elective coursework in the area of technology, networks, education use of technology. |
| Sort of. Unfortunately, neither the Brown-Syed UNIX class nor Yerkey's network thing seemed to be fully worked out enough to be fully functional. |

**xiv.** How did your expectations of the electives offered to you as an MAI student differ from those that were actually offered? (Open)

| |
|---|
| Not significantly. |
| about the same |
| Those offered may or may not expand horizons/skills. I had expected elective courses to be creations achieved through collaboration with professors in other areas. This process would provide a greater number of pertinent courses and would expand the thinking of all professors and students involved. |
| Not enough electives and those that were offered were either not of any significance, or overlapped with core courses. |
| I had higher expectations. |
| I was under the impression that there would be enough electives offered in a variety of secondary disciplines - that is, we would be offered a choice. I thought that there would be so many to choose from that choosing a secondary concentration would be difficult. It was difficult, but not because there were too many electives offered. To the contrary, there were next to none. |
| I thought that I could possibly have a concentration in a specific technology or profession like project management. |
| I was disappointed with the electives offered to us. Scheduling conflicts with core, required classes made it impossible to choose many of the electives available. Last semester, I was forced to take an elective that I did not really want to take simply based on the fact that it was the only one available that fit into my schedule. I ended up not liking the course and finding it of little benefit. The third summer session, I am taking an information storage and retrieval course simply for the credits. I have no interest in taking this course. We are expected to complete courses in this session, but little was offered other than thesis guidance courses. |
| I though there would be more electives at available times. |
| I thought more would be technically oriented. So far, only two electives have followed that assumption. Further, they were not as advanced as I hoped. |

| |
|---|
| I thought that we would actually be able to choose our elective instead of being forced to take it because there was no other class available. |
| Average. We have some courses in schedual. But few we can choose. |
| I thought there would be more technilogical classes offered. |
| I expected it to a more dynamic program with a lot of group work and more interactive.Some of the courses were not structured well and I still donot understand why we actually took some of the core courses that we took. I expected it to be a program where one can take the core courses and then after taking the core courses to decide on the electives (according to my intrest) and build on them. I also expected that there would be more guest lecture series where these speakers could shre their sucess stories or otjherwise and give us a glimpse of real world experiences. |
| I had assumed that the electives would be more open to those students who worked full time. Those that were tended to be LIS classes that were not so much intended for someone with a more technical background. |
| No difference to me |
| They didn't, if I understand this question correctly. |

**xv.** How would you rate the overall quality of the electives that you partook with regard to how well the materials aligned with your MAI curriculum? (Excellent, Above Average, Average, Below Average, Poor)

- 5.8% - Excellent, 23.5% - Above Average, 47.1% - Average, 23.5% - Below Average, 0.0% - Poor

**xvi.** Please rate your overall satisfaction with the availability of MAI-curriculum-related electives: (Excellent, Above Average, Average, Below Average, Poor)

- 0.0% - Excellent, 5.8% - Above Average, 23.5% - Average, 52.9% - Below Average, 11.7% - Poor

**xvii.** Please rate your overall satisfaction with the Informatics Computing Lab: (Excellent, Above Average, Average, Below Average, Poor)

- 52.9% - Excellent, 41.2% - Above Average, 0.0% - Average, 5.8% - Below Average, 0.0% - Poor

**xviii.** Please comment on the rating that you gave the Informatics Computing Lab: (Open)

| |
|---|
| It was helpful to use when on campus but preferred to work at home. |
| it is great, i was very impressed |
| I am not a heavy user, but have never found resources or help lacking. Ken is sincerely helpful. |
| Staff was very helpful, machines had quality and had the necessary programs. |
| Very up to date equipment. |
| Ken Fujiuchi is extremely knowledgable where computers are concerned. There is never a question that he cannot answer and he is patient and willing to take the time to show you how to do something if you ask. Hands-on teaching is the best way to learn. |
| It's great that we have a computing facility dedicated for us and Library students. However, as the semesters progressed, more and more undergraduates and non-Informatics students were taking advantage of the facilities. For the most part it was being exploited for fast and convenient printing more than anything else. |
| The lab is fantastic. The machines are nice, and the staff is wonderfully knowledgable and helpful. |
| The staff is excellent. They are always willing to help. |
| The hours are great and the machines are relatively fast. Paper is an issue though. |
| I never use it because I have a computer at home. |
| Very good. No matter the hard material or the environment is very good for research. I like it. Comprehensive and Fast. |
| It's an excellent lap with optimal equipment and software. |
| The Informatics lab is excellent, I think one of the very few up to date labs on campus |
| Great Lab. Could use a more normal login (UB ITName, etc.) |

| |
|---|
| I like the LCDs, very nice. Need a wireles network |
| It would seem that the whole point of a lab like that would be to provide students with hands on experience throughout the instruction, but full class participation was never possible. Maybe a few more servers are needed. Don't know how to solve that one, myself. It just seems that things are too slow there for a high tech lab. Looks nice. Doesn't do much. |

**xix.** Are there any other resources or opportunities that you would have found helpful to furthering the education that you received as an MAI student? (Open)

| |
|---|
| not that I can think of. |
| not really |
| Externships or colloborative coursework with related academic departments |
| I would have liked to have done an internship. |
| Better teaching material. More preparation. More practical training. |
| An assigned advisor would have been beneficial to my experience as a student in the MA program. Guidance with my Capstone would have alleviated some stress. |
| Definitely more career planning and advisement. There is nothing that leads me to believe that there are any opportunities to job search in the department. I am left to scavenge through Career Planning and the Internet. Leads and guidance would be a BIG, HUGE plus. |
| A survey course of computer and web essentials specific to the program, including databasing, spreadsheets, web development, powerpoint, and research skills. |
| A community tie-in. Why have a university that has no ties with the community? |
| Technical workshops, rather than lecture based classes |
| More hands on work, availability of beginner level classes for technical skills |
| I am not sure. |
| More career path guidance. |
| I think there should be more classes held in the lab to create a more interactive learning enviornment. |

| |
|---|
| Internships! Job Placement! |
| Research |
| yes. -those couple of weeks of html would have been nice.-a lab (and classes) full of hands on configuring, etc, would have been good. -a class on Linux (even a theoretical one) would have been welcome. |

**xx.** If given the opportunity to supplement elective coursework with an internship in the Informatics field, would you? (Open)

| |
|---|
| Yes, That would have been a great opportunity for further internship experience. |
| yes,if interesting internships were available |
| yes |
| Yes |
| Yes. |
| Certainly. |
| most definitely. I did not get much out of my electives thus far besides basic web designing skills and basic e-commerce knowledge. |
| Definitely. However, I have been waiting since this time last year for the department to offer internship opportunities. |
| Yes |
| Yes |
| Yes |
| Of course, I want it very much. |
| Yes, I currently am in the middle of negotiating an internship. |
| I think making Internships/Practicums manadatory as part I think maybe a Career resource center would be good |
| Yes, definitely. |
| Would love it |
| yes, definitely. |

**xxi.** Please comment on your thoughts regarding internships and how they may or may not effectively supplement classroom education: (Open)

| |
|---|
| I had four interships by the time I finished my undergrad and graduate education. My education alone would not have gotten me the job I have today. They are vital to job placement and should be allowed use to supplement classroom education. |
| i may not have gotten all th knoledge i neede for the program, but an internship would have given me experience |
| internships are risky if faculty do not invest a lot of time assuring the pertinence of the experience. A pertinent internship accounts for the needs of the student and the organization and results in a portfolio-demonstrable outcome. Because organizations do not think in terms of semesters, it would be great to create internships that span multiple semesters. An internship that satisfies the above criteria would apply and solidify classroom learning and render the student vastly more marketable. |
| I felt I was lied to by the program directors. They had mentioned connections with local businesses and had setups for internships. However when I asked about these, I was told I was on my own. Very poorly planned. |
| Internship would have a powerful impact for the student not only in learning new skills, but making contacts as well. |
| Internships are an excellent opportunity to gain hands-on experience in the field that interests you prior to graduation. Also, it provides an opportunity for job placement once you graduate from the program by establishing contacts. |
| Internships are where the jobs are in our tough economy right now. Internships allow us to network effectively and learn applicable, on-site skills that cannot be taught in a classroom. |
| "Real world" experience is totally necessary in the field we are studying. It's nice to have the classroom instruction, but the opportunity to see how it all actually works is so important. |
| Internships are the best teacher. |
| An internship might relate to systems design and analysis, but the coursework will |

| |
|---|
| not provide enough background to make me competant without training. |
| An internship would most certainly have helped with the job search. We would have been able to gain real work experience which would have driven home the lessons learned in class while contributing to our resumes and allowing for networking to occur. |
| Of course they may. Deparment should provide some resources to us. I feel study cannot only in school. You need to pratice. You can finally know how much you get from school. And what you want and need to learn. |
| It is difficult to truly learn anything (and retain it) while inside a classroom. An internship provides an excellent opportunity to apply skill learned in the classroom to real life situations. |
| I think internships are a great way to learn new skills and put the knowlledge gained in class to work, not to mention a great way to do some networking and find a job after graduation |
| Internships bring practical experience to the classroom. They help reinforce the soft skills that are being presented by instructors. |
| Internship is the key to experiences |
| Internships give that crucial real life experience weigght to the resume that the letters M.A. do not necessarily provide |

**xxii.** Overall, how happy are you with the program and the degree that you will receive? (Open)

| |
|---|
| I feel that it was a good program. I am happy with the degree. |
| very |
| Pretty happy - I feel I have been well introduced to a new world. I hope to continue learning and adapting. |
| Fairly happy. |
| I am disappointed with the M.A. in Informatics offered at UB and I am not proud of my work at all. I would have been better off having a headstart in my career rather than wasting time and money on "beta-testing" this program. |

| |
|---|
| I would not say that I am unhappy, concerned is more the word. I feel that the program has a lot of room for improvement. I also feel that opinions of students should be considered more. I don't feel that our feelings, opinions, and concerns were heard throughout the program. Some may have been listening, but few heard. |
| I am extremely happy to work towards a one-year Masters degree but I am disapointed that I don't have much direction with my degree. Knowing a little bit of everything is great but where do I go from here? |
| I am very happy. When I think about it I have learned a lot from the coursework in this program. I think that I am prepared to enter into a new field with many of the basic skills that are necessary for success. |
| Pretty happy. Though, I would really like to know specifically what I can do with the degree. |
| I am not happy with the program. I understand that it is in its infant stages, but as administrators, they should have properly planned the curriculum to correspond with course topics (I.E.- webloging in the first semester, telecom courses back-to-back, adequate advisement and time to prepare the capstone). |
| I was a bit disappointed with the program. I thought I would have learned more. I am happy to have (almost) earned a Master's degree. |
| Very happy. At least, I learned a lot of things and get my degree. |
| Fairly satisfied. I believe it has provided me with some direction. |
| Yes, I. like the program becasue of its flexibility and some of the great faculty members we have had. |
| I am about 70% happy with the program. It has a ways to go, but it has definitely been a good experience. I feel that the degree will benefit me in the long run. |
| 90% |
| As happy as I expected to be, I guess. My thought now is simply that any Masters program (and presumably more so a Phd) is just an endurance test, to see if you're going to crack. Unfortunately, HR people probably don't know this unless they have endured it also. I am simply hoping that some do. |

**xxiii.** Please provide any other comments about the MAI curriculum, electives, program, faculty and resources. (Open)

| |
|---|
| none |
| n/a |
| Faculty - supportive as a group, a bit fragmented, and sometimes too rigid in expectations. This degree is a terminal degree to teach real-world skills, not pretty projects. People skills remain where Informatics is at, coupled with project management capabilities and an awareness of organizational behavior and the concepts/rationale behind technologies. Students need to know more about feasibility analysis, how business decisions are made, and how to contract out project/technical work. It wouldn't hurt to be aware of cultural issues either in a world where IT projects are increasingly being shipped abroad. |
| I thought the course work would be tougher however. I am not sure how, but the courses need to have some sort of connection. |
| I should be paid for beta-testing this program for the school. So much money was spent on new equipment and so on that they forgot the most important component: the student. Despite taking time to listen to our views, there doesn't seem to be any visible improvements in the program and there are no benefits to us as the changes won't be in effect until the next batch of students start classes. Hopefully th program will improve and gain recognition by the time we enter the workforce in the near future. |
| None. |
| The program is only going to get busier and more hectic as enrollment gets higher and higher. I think more time and effort needs to be dedicated towards faculty involvement and support. When I initially thought of Graduate school, I thought of pain-in-the-ass work, but studies that were positively fostered through the experience and guidance of faculty. |
| Overall, I am very satisfied with the program. It has been challenging and rigorous. But I have learned a lot. We've all learned more than we realize. We'll find that out when we enter careers and are a bit ahead on the learning curve. I |

| |
|---|
| think the whole philosophy mirrors that of the military. It is to put so much pressure on us just to see if we'll crack. If we can handle it now, we'll know how to handle it when the deadline time for a project is a day away and we have to put together a killer presentation that will "wow" everyone in the room. We've had to do that about once a month for the past 9 months in addition to juggling coursework with a 30-40 hour work week. I think we're all going to be fine. |
| The faculty and staff need to meet as a group more often so they are all on the same page. |
| Moree involvement of the professors with course direction. Better advisement, and research workshops. |
| The point of the Information Architecture class was...???I thought a couple of the core courses were extremely useless, and that certain faculty were less than skilled. I wish I could have walked away from the program having learned a lot more than I did. |
| This is a very important field. Although there are some aspects we need to improve, it goes very well till now. I like this department and this school, as well as our faculties and students. |
| There is much redundancy in course material between different classes. Much of the information taught one semester is covered again the second in a different class. This is annoying. |
| gary was the best faculty we had. His expirence and style of teaching was good. I think our department needs more faculty like Gary to make this program a great sucess. |
| No other comments. |
| 1.5 year program plz. |
| no comment. I think your previous questions about summed it up. |

**B) Faculty Survey (3/6 Respondents)**

**i.** For how many years have you been an instructor within your current department? (1-11 o more)

| |
|---|
| 2 |
| 11 or more |
| 11 or more |

**ii.** In what field have you achieved your Ph.D? (Open)

| |
|---|
| Communication: new media |
| Communication |
| Communication |

**iii.** Please list the core MAI courses that you have instructed in the past two years. (Open)

| |
|---|
| Capstone Seminar |
| ICO 565 |
| Telecommunications Policy |

**iv.** How much of your course's content is cross-divisional(COM and LIS)? How much is solely related to the MAI program? (Open)

| |
|---|
| I designed the original capstone seminar, and have made the second seminar a more open ended collaborative effort. |
| Created from scratch |
| Co-leader of interdepartmental team. |

**v.** Do you feel that you have deviated from the original roadmap for the courses contents? If so, how and why? (Open)

| |
|---|
| The capstone necessarily deviated from the original conception somewhat. Originally, it was seen as a venue for students to demonstrate their capabilities by applying them to current issues in the field. I tried to do a bit of this in the first capstone. However, in the time leading up to state certification, it was made clear that a thesis/project was required in order to award the MA. Since this was not part of the original conception, there was quite a bit of scrambling. Students were made aware of this requirement, but were not adequately prepared to meet it. A lot of this fell to the capstone seminar. |
| No |
| Hard to tell. I think we're still ironing out some kinks, but overall I'm pleased. |

**vi.** Do you plan to change the contents of this course significantly for the next time it is taught? ("Yes, A Complete Revision", Somewhat, "Slightly, Normal Annual Updates", Not At All)

| |
|---|
| Somewhat |
| Yes, A Complete Revision |
| Not At All |

**vii.** How much of your core course's content is related to organizational communication? (Open)

| |
|---|
| Underlying Theme |
| Occaisionally Integrated |
| Occaisionally Integrated |

viii. What role, if any, did you have in the creation of the original curriculum for the core MAI course that you instructed? (Primary Content Topic ,Underlying Theme, Occasionally Integrated, Unrelated Topic)

| |
|---|
| Really, that would be cross-departmental, since we are in the same department. The long-term aim remains integration of the two departments, I think, though this would probably be *very* long-term. In answer to your question, I don't know. I don't do anything *directly* related to library science in my courses. On the other had, communication is such a broad field that it would be difficult to imagine what wasn't covered. In some ways I see the MI as another facet of the communication field. |
| Not cross divisional but similar to LIS 561 Systems Analysis |
| COM and LIS concerns overlap considerably in areas such as intellectual property, privacy, internet structures, and so on. |

**ix.** Do you see any impact on your core MAI course's content due to cross-divisional course design? Please explain. (Open)

| |
|---|
| Not really. |
| No |
| Not sure what you mean. In reference to above, the overall program design process was aware of such overlaps. So, yes, I guess. |

**x.** Do you feel that teamwork is emphasized properly within your course and other core MAI courses? Please explain. (Open)

| |
|---|
| This is something we provide some experience in, but we don't train in. It's really too bad in some respect, since many of us have practical and theoretical experience in team-building. It may be that Dr. Goldhaber worked on this a bit, but I don't know where else formal instruction on effective leadership might have been made available. |
| Yes, we worked closely with other faculty. No set of courses are ever completely coordinated--may not be possible. |
| Don't know about other core courses. In my course, there is a very little teamwork |

| |
|---|
| in terms of joint student presentations. |

**xi.** Do you feel that the students you have instructed within the MAI program have the technical skills required for your course, if any? Please explain. (Open)

| |
|---|
| Nope. This is an ongoing thing for me. I want students to come in with some core competencies, and some further experience in IT. We know that most employers are looking specifically for organizational and communication skills: they say this. But most of them are taking for granted a basic level of technical proficiency. Even if I am not working on technical issues, some of the basics of designing information require the ability to build a web page, etc.. |
| Yes |
| Yes. Understanding of telecomm. infrastructure seems more than adequate. |

**xii.** Have you had to do any extra instruction on technical skills to put everyone on the same page so that you could continue teaching your course materials? Please elaborate. (Open)

| |
|---|
| Not especially. |
| No |
| No. |

**xiii.** If so, do you feel that this detracted from your ability to effectively deliver the course materials that you intended to? Please elaborate. (Open)

| |
|---|
| No: generally I enjoy teaching tech, when I can. |
| It didn't apply |
| No. |

**xiv.** On average how do rate the students in your core MAI classes (Excellent, Above Average, Average, Below Average, Poor):

- Ability work within teams?

| |
|---|
| Above Average |
| Above Average |
| Above Average |

- Ability to lead a team?

| |
|---|
| Below Average |
| Above Average |
| Poor |

- Ability to take instruction?

| |
|---|
| Above Average |
| Below Average |
| Poor |

- Presentation skills?

| |
|---|
| Below Average |
| Excellent |
| Above Average |

- Interpersonal communication skills?

| |
|---|
| Below Average |
| Above Average |
| Above Average |

- Ability to implement deliverables?

| |
|---|
| Below Average |
| Above Average |
| Above Average |

**xv.** Do you feel that the students have sufficient resources at their disposal for the practical side of their coursework? Please elaborate. (Open)

| |
|---|
| There are a few things I think would be helpful: e.g. a server farm. However, I don't think this is an area that is particularly lacking in the program. |
| Yes |
| Don't know. |

**xvi.** Please list any additional resources that are not currently provided to students that you feel would be beneficial to their MAI instruction. (Open)

| |
|---|
| At a very basic level, we need to work out our expectations of students, in terms of the time they have to pursue a degree. Many are working, some are not. When students are working and completing a degree in a year, they do not have the experience to grow as much as they might. As it is, it needs to be truly full-time for a year or it needs to be extended to two years.I think a limited number of competitive scholarships would help.I think better utilization of local professionals--as liaisons and possibly as instructors--would help. I also think they should work with students toward their capstones whenever possible. |
| Revising ICO 565 to make two courses, one with the goal of preparing for capstone. Should help.Also, a technology "boot camp" or other remedial program |
| Don't know. As you know. I've been on academic leave. And this course assignment was late, and sudden, for me. I'm not really up on the state of things. |

**xvii.** Please provide any other comments about the MAI curriculum, program, students and resources. (Open)

| |
|---|
| Needs some work. Need to think more seriously about whether market conditions have changed significantly. Need to switch to a scenario or case-based research process. The capstone needs to be better focussed on a set of possibilities, rather than wide open (though not nec. restrictive).[And the survey is a bit confusing. I won't be teaching in the MI next year and only have a couple weeks experience this year, which makes some of the questions a bit wonky.] |
| None |
| I have been pleased with the group of students in my class. There seems to have developed a kind of cohort experience that is both enjoyable and productive. I hope to learn more about the current state of affairs in the program and help contribute to a process of continual refinement. |

## C) Interview Transcripts

### 1. W. David Penniman, Dean, UB School of Informatics

**Q.** Overall, how do you feel the MAI program is living up to its proposal?

**A.** Definitely a work in progress. We will strive to get closer to the objectives. At this stage, it has done remarkably well.
One concern is that the environment has changed some (dotcom burst, 9-11, economic downturn.)

**Q.** Have the customers changed their view in the past couple of views?

**A.** We just received an AT&T grant to re-investigate and create an undergrad degree.
I also collected comparable data a few years prior within the state of TN, with similar results. Hiring organizations were even then interested in the softer skills as well as the tech skills

**Q.** The draft of the MAI program suggests that students coming into the program have a high level of technical competencies that will allow them to better understand some of the course materials. In addition, the SOI has added technical course requirements at the undergraduate level to help gear students for such requirements. There has, however, been an overall concern amongst the students, and possibly the faculty, that these competencies do not, on average, exist within the MAI student class. What you see as a potential solution to this problem?

**A.** We will be doing something immediately for incoming students. A Technology Boot Camp will exist for students not meeting a certain level of proficiency during the first semester.

**Q.** What services would you like to be able to offer to the MAI students in the future that either are or are not possible now?

**A.** We would offer more assistantships.

Financial support - We are actively trying to raise funds from donors for that.
The Technology Boot camp will be helpful
Internships
Assignments (Practical project work for a corporation from within coursework)

**Q.** What changes would you like to see take place in the next 1, 3, 5 years

**A.** Underlying theme will be consistent. Speculating other changes further than a year or two would be a bit foolish.

**Q.** If reasonable suggestions were made with regard to the MAI curriculum, how likely is it that a solution would be able to be implemented by the fall?

**A.** I'm looking forward to hearing these results.

**Q.** What is the plan for the Capstone project in the future? Will it remain in its current state?

**A.** The first time around, it was done really quickly.
This time around, the range of projects is rather impressive.
Next time, projects will likely be more varied. Documenting the process in a more formal way would be nice. Perhaps in the future we will have some joint projects.

**Q.** The 6-credit course taken in the spring semester seems to be an item of dispute. Can you comment on its future plans? (Re. yerkey comments)

**A.** It will be split - continuous improvement.

**Q.** The draft also suggests internships as a practical supplement to the theoretical nature of much of the MAI coursework. What is the current state of internship offerings for MAI students?

**A.** Nothing solid. I am working on ruffling up sponsors.
The school is also working on raising money to retain talented faculty.

**Q.** The original draft also mentions that 'Organizational Communication' be the underlying theme for all of the classes. So far, much of the student survey responses seem to indicate that the COM classes do a good job of living up to this standard. On the other hand, the LIS classes seem a bit deficient. It's understandable that there be some disparity, but is there something that can be done to reinforce this theme within those courses?

**A.** That's very good feedback to have! Yes, certainly. First by informing the faculty Second, new faculty that are comfortable with both of those areas generally have backgrounds that are more varied. As these faculty develop courses, that will definitely improve.

**2. Thomas Froehlich, Director, Kent State MS in Information Architecture and Knowledge Management**

**Q.** What year was your program founded?

**A.** 2001

**Q.** Is your program in interdisciplinary degree program?

**A.** Yes

**Q.** Approx. how many students graduate from your program each year?

**A.** The first one will graduate this August.

**Q.** Does the program have a high conferral rate?

**A.** 45 current students

**Q.** How many semesters does the typical student in your program take to complete that program?

**A.** 4 (48 credits)

**Q.** Is there an underlying theme throughout all of the required courses in your program? If so, what?

**A.** The common core is Information Architecture, Information Use, Knowledge Management.

**Q.** Is there a practical component to the program, or is it substantially theory?

**A.** There is a mandated master's project or thesis.

**Q.** How is advising done for students?

**A.** Each student is advised by an academic program officer and, later on, me.

**Q.** Is there a final, overall project?

**A.** Yes.

**Q.** How is advising done for that project?

**A.** Same as above

**Q.** Resources available:

**A.** Internships - Still working on the list of opportunities. Internships are not mandated, but are available for credit.

Technology Lab

**Q.** What improvements have you made to the program that you feel have kept it alive?

**A.** Developing curriculum particularly for the program and trying to expand those for the concentrations.

Resources - money was a problem, though it's less of a problem now.

**3. Michael Dunn, Dean, University of Indiana School of Informatics**

**Q.** What year was your program founded?

**A.** September 2000 (Graduate Program started in 2001)

The new media program started in 1998

**Q.** Is your program in interdisciplinary degree program?

**A.** Standalone, not grown out of previous schools (multidisciplinary)
All degrees require courses from outside programs
I.e. Bioinformatics is partnered with Biology & the School of Medicine as well as Informatics
Undergrad degrees all require a cognate (20 possible cognates)

**Q.** Approx. how many students graduate from your program each year?

**A.** Just graduated first Master's class this May.

**Q.** Does the program have a high conferral rate?

**A.** Yes.

**Q.** How many semesters does the typical student in your program take to complete that program?

**A.** MSIS – ideal is 4 semesters (36 hour program)

**Q.** Is there an underlying theme throughout all of the required courses in your program? If so, what?

**A.** No generic Masters in Informatics. (2 general courses – Informatics and Information Systems [Health, Chemical, Biology, Human Computer Interaction])

**Q.** Is there a practical component to the program, or is it substantially theory?

**A.** Every student has to do a Capstone Project.

**Q.** How is advising done for students?

**A.** Faculty Advisors, same for capstone project.

**Q.** Resources available:

**A.** Internships and Technology (Lab, eResources, etc.)

Job Placement – We just hired a placement director. It is very difficult to find the right person.

**Q.** What improvements have you made to the program that you feel have kept it alive?

**A.** Wish that we'd made more!

Hiring the placement director. Reaches out for jobs, corp. relations.