

TEACHING STATEMENT

Amrit Tiwana

Last updated August 2006

“Give a man a fish and you feed him for a day. Teach him how to fish and you feed him for a lifetime.”

...Lao Tzu

I have taught MIS courses continuously since 1998 in three different universities—Iowa State University, Emory University, and Georgia State University—each with a different student profile. In this 1998-2006 time span, we saw the rise and bust of the Internet bubble, emergence of networked computing, and the ascent of ubiquitous digital networks. We also saw the emergence of false alarms such as the Y2K problem and the resurgence of fads such as Cobol programming. Yet, we also witnessed technology-driven changes that have forever transformed entire industries, traditional value chains, and the social fabric of our society. In reflecting over what I have learned from my experiences as an educator over this period of eight years, I believe that the essence of my teaching philosophy is best captured by the Chinese adage above; I try to instill analytical, problem-solving skills in my students that I hope will outlast the next iteration of technologies, the next boom, or the newest fad. The crux of my teaching philosophy is to nurture enduring problem-solving and critical thinking by intellectually challenging my students while providing them a discussion-friendly, collaborative learning environment. The ideal outcome is a well-rounded MIS student who is both technically proficient and has a good grasp of the business issues that can inform and guide technology design and implementation. In the following sections, I describe the core elements of my teaching philosophy, followed by a self-assessment of my teaching performance, and conclude with a brief discussion of my future plans.

2.1 Teaching Philosophy and Methodology

The need to balance enduring, fundamental problem-solving skills with somewhat-vocational marketplace realities is a constant challenge in my rapidly evolving field, and one that I believe keeps me on my toes and up new technological learning curves as an educator. Fortunately, this offers tremendous opportunities to experiment with new courses, emerging areas, and new technological and conceptual tools in my teaching. Being an effective MIS educator therefore requires constantly balancing emerging business and technology developments with fundamental MIS skills and theory. My teaching philosophy—which has evolved with my experience as an educator over the past eight years—is defined by the following salient characteristics. (Examples illustrating these eleven points appear in the sample syllabi and materials in Tab 6-B.)

1. Develop an ability to apply enduring analytical tools and problem-solving skills to address new MIS problems. Hal Varian, a leading economist, once commented that all “new economy” phenomenon could be explained by basic economics principles. His comment was a delayed reaction to industry pundits who proclaimed the end of conventional economics in the bullish “Internet economy.” This comment made an impression on me as an educator, encouraging me to think in terms of similar fundamental, enduring MIS skills that I would want to instill in teaching my own courses. By enduring skills, I refer to fundamental problem-solving skills that do not outlive their usefulness with a specific technology or platform. In telecommunications courses, these are principles underlying scalable network architecture choices; in programming

courses, these are principles of good architecture and systems design; in database courses, these are solid entity-relationship models and normalization; in IT management courses, these relate to aligning business strategy and IT portfolios. Therefore, in designing my courses, I attempt to modularly structure course content in a manner that first builds students' foundations in core principles that underlie the course and then challenges them to apply those skills to contemporary MIS problems involving new—and often poorly documented—technologies. For example, in a recent course on telecommunications at Iowa State University, I challenged my students to develop a voice-over-IP Web application in a course project, applying fundamental ideas of four network application architectures and packet transfer modalities covered earlier in that course. Similarly, in an electronic commerce course, I challenged my students to guide the implementation of an e-commerce Web site after applying ideas such as the Dynamic Resource Model (DRM) and information architecture theory.

2. *Expose students to new research developments in the field.* I firmly believe that research and teaching can be synergistic, and I have attempted to realize such synergy in my teaching. I also believe that awareness of new thinking in the field make students better equipped as valuable contributors to their future workplace. I therefore bring recent MIS research into the classroom, exposing my students to ideas that usually take several years to make it into textbooks. Examples of research that I have incorporated into my course content include a recent *California Management Review* paper on real options analysis of IT projects and a *Communications of the ACM* paper on peer-to-peer networks (both coauthored by me). When I use recent research authored by my peers in the field, I occasionally invite its author to participate in the ensuing class discussion about the research (typically through remote audio-visual/ Internet conferencing). Overall, I believe that this keeps my teaching current with innovations in my field, enhancing our students' marketability.

3. *Encourage students to question taken-for-granted assumptions.* Research has consistently shown that much innovation in business often results from questioning taken-for-granted assumptions from different perspectives. I also believe that a class environment where debate is encouraged and rewarded makes students active participants in the learning process, leading to better assimilation of complex course material. I therefore strive to make my teaching highly interactive and encourage my students to debate and challenge my viewpoints and those of their peers. I also challenge my students to take a position on the issues discussed in class (e.g., why one would chose one network architecture over another for a specific application) and then be prepared to logically defend that choice. I extensively use case studies of companies as the starting point for systems design and development. I also extensively cold call throughout the semester, encourage divergent viewpoints, and attempt to foster a healthy classroom debate in an attempt to develop my students' critical thinking skills. To encourage fearless and open discussion, I also routinely: (1) use an anonymous Web-based feedback system where students' comments are publicly visible to all other students in my course and (2) prepare name tents for each student at the beginning of the semester. I further encourage in-class discussion by rewarding class participation through a relatively high participation grade component. (This has varied from as much as 45% of the total grade in some of my MBA courses and as little as 10% in others.) I believe that this form of active learning enhances students' know-why in addition to their know-how.

4. Intellectually challenge students. I believe that students must be intellectually challenged to perform to the best of their ability. I challenge my students to deal with novel technical and business problems in my teaching by incorporating highly unstructured problems into my coursework, often in the form of case studies that segway into the design and development of information systems that must solve the *students' interpretations* of the problems in the case. For example, in courses on telecommunications, knowledge management, and electronic commerce, I have used semester-long course projects whose intermediate deliverables coincide with course modules. This challenges my students to apply the conceptual ideas discussed in each course module to their group projects. I also set a high bar and rigorous expectations for both individual and group work. Some other techniques that I have used to challenge students include: (1) requiring that they position their group projects to compete in competitive venues (such as e-commerce projects in the Pappa John venture capital competition at Iowa State), (2) open book and “open Google” exams (at Emory), (3) peer evaluations of group projects, (4) testing using a mix of essay and objective exam questions, and (5) building essay-type exam questions around an unannounced recent trade press article (e.g., from *BusinessWeek* magazine), which they must analyze using concepts covered their course (in both MBA and undergraduate courses and at all three universities).

5 Foster teamwork and cross-functional collaboration skills. I believe that it is as important for MIS students to develop strong technical problem-solving skills as it is to be able to effectively collaborate with their colleagues, many of which might not be MIS specialists. I also believe that students can learn much from working with their peers in addition to traditional instruction in the classroom. To accomplish this goal, I include a variety of group projects in my courses. To foster an ability to work across diverse groups and teams, I often require that project groups and case study groups that each students belongs to have no overlaps in their membership. In courses such as electronic commerce at Iowa State, I also attempt to foster skills to collaborate across functional boundaries by requiring that project teams be composed of students from different majors (e.g., mixing marketing, accounting, and MIS majors in a given project team). I usually require students to do peer-evaluated group presentations at the end of each major project milestone. I believe that this instills the skills to both give and receive constructive feedback, which I encourage through a direct tie-in into a small percentage of the project grades. Overall, I believe that this better prepares our students to be valuable contributors in their future workplace.

6. Develop an international perspective. I believe that it is increasingly important for our students to be able to function effectively in a globalized business environment for two reasons. First, many technology adoption curves are much further along in countries such as Korea, Finland, and Japan vis-à-vis the United States. Such exposure raises students' awareness of cutting edge practices in the field that have not yet arrived in the US. Second, many IT activities are increasingly outsourced by US companies to specialized firms in countries such as India, Russia, Ireland, and Romania. A first-hand understanding of international practices will result in students who are better equipped for the contemporary workplace. I use a variety of pedagogical approaches to contribute to my students' appreciation for and exposure to MIS practices across international boundaries. To accomplish this objective, I: (1) incorporate an international component in course projects, (2) invite guest speakers from companies with a strong global foothold, (3) incorporate readings and cases spanning international boundaries in course materials. Some examples follow. I have invited an industry speaker from leading foreign

companies such as Fujitsu Japan in a course on electronic commerce at Iowa State University. Similarly, I invited a director of the US Centers for Disease Control (CDC) who was responsible for an agency-wide knowledge management initiative on a global basis after the outbreak of the SARS epidemic. In an MBA course, I invited a manager from Hewlett Packard France to discuss the integration of legacy systems following the 2002 merger of HP and Compaq. My most novel experiment in internationalizing my teaching so far has been “The Tin Whistle Project” in a knowledge management course at Emory in 2002, where I divided my class into three groups that “adopted” a set of rival software companies in Ireland, Russia, and India to develop a knowledge management initiative to compete against each other in the US outsourcing market. My students interacted extensively with managers in these companies as they tried to apply the ideas discussed in class to a real life international business scenario. Similarly, in my telecommunications course at Iowa State, I use examples of novel network applications (e.g., video-over-IP and GPS-based location tagging) from Finland, Japan, and Korea, which are approximately three years ahead of the US. I also frequently include course readings with a global emphasis to further increase their awareness of the realities of being an MIS professional in today’s globalized economy.

7. Curriculum innovation. I am fortunate to be in a rapidly-evolving field where practice often trails research. This presents occasional opportunities for developing new courses in areas that other universities do not offer courses. I have developed new courses and/ or new course content in response to such opportunities, especially where research was ahead of practice but teaching was trailing practice. I also actively attempt to incorporate emerging developments in the field to my pedagogy in addition to course content. A noteworthy course that I developed and delivered from scratch was a knowledge management elective course at Georgia State University in 1999, which was among the first courses in the then-emerging field. I later offered it several times at Emory University from 2001 to 2003 and plan to offer it at Iowa State University in the future. On a smaller scale, I sensed a similar opportunity in the dramatic shift in telecommunications from when I taught a course on the topic in 1998 at Georgia State and when the next opportunity to teach the course arose at Iowa State in 2005. Given the unexpectedly tremendous development of the Internet Protocol (IP) layer in electronic networks and Internet-based alternatives to traditional telecommunications networks (e.g., Voice-over-IP), I was able to successfully revamp the course around the TCP/IP layer.

8. Application of emerging technology-based pedagogical tools. I actively attempt to incorporate emerging pedagogical technologies where I believe that they might enhance my students’ learning experience. Over the past eight years, I have actively experimented with Web-based technologies such as course Wikis, blogs, RSS feeds, Web-based collaborative project environments (such as BaseCamp and Groove), Podcasting, electronic discussion forums (such as Topica, FirstClass, and Google Groups), voice-over-IP (such as Skype), and video conferencing with remote guest speakers. I continually used my experience in using these tools to assess whether to adapt, repurpose, or abandon these tools in my teaching.

9. Challenge with empathy. While I challenge my students by setting and rewarding high performance expectations, I try to remain empathetic to my students. Any time I try a new teaching technique, technology, or assignment, I attempt to put myself in my students’ shoes to proactively assess how my students would benefit from it and whether they would learn any

better with than without it. I often get informal feedback on its perceived value both during and at the end of the semester in which I first try it. I also attempt to make myself readily accessible to my students beyond the classroom. I do this by maintaining a walk-in policy outside of office hours as well as allowing my students to contact me with course-related questions almost anytime of the day using email, Web forums, course blogs, and a class-specific voice-over-IP line (Skype).

10. Nurture ethical responsibility. MIS professionals' easy access to a diverse array of information can place them in unprecedented, ethically challenging scenarios. I attempt to nurture a sense of ethical responsibility in my teaching. For example, I currently use the iTunes case to foster a discussion about the ethics of downloading and sharing music over the Internet (which most college students can relate to) from the perspectives of a music artist, a publisher, and the end consumer. The potential conflict in perspectives quickly becomes apparent, forcing them to reevaluate their ethical standards.

11. Link theory with practice. I believe that demonstrating the real-world relevance of course content is one of the most powerful ways to increase student learning and appreciation for the theoretical facets of the course material. I therefore make a concerted effort to also relate my teaching to current happenings in the business world using recent articles from the business press, case studies, videos, and guest speakers. One strategy that I have found particularly effective is to bring in former students who have taken the course and are now applying what they learned in school to their current professional jobs. I also extensively use case studies, videos, and industry guest speakers in my teaching where appropriate. Overall, this pedagogical approach helps develop clear linkages between what I teach in class to its real world relevance, which I believe leads to a better appreciation for the utility of the conceptual domain of my courses.

2.2 Teaching Assignments

I have taught courses on telecommunications (undergraduate) and electronic commerce (undergraduate and MBA) at Iowa State. I have also served on four ISU graduate thesis committees. At Emory University, I taught courses on knowledge management (MBA elective), intelligent systems (undergraduate elective), and the core MIS undergraduate elective course. At Georgia State University, I taught undergraduate courses on telecommunications, one of the first courses on knowledge management in 1999, and the core information systems course (in both the regular semester format and in a compressed 3-week, 45 hour Maymester format). In addition to my regular teaching, I have taught two invited doctoral-level research seminars on knowledge management in university settings in Italy (2002) and Finland (2005).

2.3 Teaching Performance

Overall, my teaching evaluations compare favorably to those of my peers (see Table 2). They have often exceeded peer averages in each of the three universities that I have taught—both in absolute ratings and in terms of statistically-significant differences across all data points. Since joining Iowa State University in 2004, I have twice received perfect (1.00) evaluations. Furthermore, unsolicited feedback from former students on third-party forums such as RateMyProfessor.com has been unanimously positive. Fortunately, occasional exceptions have helped pinpoint areas for improvement. I have also been humbled and honored to be nominated

for the 2006 undergraduate teaching award by my colleagues at Iowa State University, who are themselves very talented and creative teachers.

Table 2: Summary of Teaching Performance at Iowa State University 2004-2006
(1 = Highest)

Year	Semester	Course Number	Title	Enrollment	Tiwana Evaluation	Peer Average
2006	Spring	MIS435A	Telecommunications	25	1.12	1.85
2006	Spring	MIS435D	Telecommunications	23	1.17	1.85
2005	Fall	MIS534	E-Commerce (MBA)	13	1.15	1.57
2005	Fall	MIS434	E-Commerce Strategy	20	1.00	1.85
2005	Spring	MIS435A	Telecommunications	18	1.00	1.89
2005	Spring	MIS435D	Telecommunications	19	1.21	1.89
2004	Fall	MIS434A	E-Commerce Strategy	23	1.04	1.87
2004	Fall	MIS434B	E-Commerce Strategy	19	1.21	1.87

Table 3: Teaching Effectiveness Ratings from 1998-2006 Averaged by Course across All Universities Where I've Taught

5 = highest and 1 = lowest for all ratings

Course	# Times taught	Years	Type	Average Teaching Effectiveness (better in bold)	
				Tiwana rating	Peer average
Iowa State University^a					
Business Telecommunications	MIS435	4	2005-2006	Required	4.88 4.13
Electronic Commerce Strategy (MBA)	MIS534	3	2004-2006	Elective	4.85 4.43
Electronic Commerce	MIS434	1	2005	Elective	4.92 4.14
Emory University^b					
Management Information Systems	BUS450	4	2002-2004	Elective	4.57 4.27
Knowledge Management (MBA)	BUS555	4 ^c	2002-2003	Elective	4.40 4.06
Information Systems in the Modern Enterprise	BUS457	1	2002	Elective	4.7 4.21
Intelligent Systems & the Knowledge Economy	BUS452	1	2001	Elective	4.82 4.26
Georgia State University^a					
Intro to Computer-based Information Systems	CIS2010	4	1998-2001	Required	4.18 3.95
Core IS Maymester version	CIS2010	3	1999-2001	Required	4.05 3.95
Telecommunications for Business	CIS3320	1	1999	Required	4.7 4.0
Intelligent Systems	CIS4420	1	1999	Elective	4.8 4.1
Universita de Lecce, Italy	June	1	2002	Invited	Ph.D. level KM
University of Oulu (INFWEST), Finland	August	1	2005	Invited	research seminar

Iowa State ratings are reverse scored for direct comparability.

^a peer averages are department averages; ^b peer averages are school averages;

^c Includes both full-time and part-time sections of the course; Co-taught with B. Konsynski in Fall 2002.