

Gerry Stahl's Teaching Portfolio

Executive Summary

I have been teaching in the College of Information Science and Technology (IST) at Drexel University since September 2002. My approach to teaching is based on my theory of Computer-Supported Collaborative Learning (CSCL), which is my research specialty.

Using a CSCL approach to teaching builds on a long and respected tradition at Drexel and IST of leadership in taking advantage of the latest in appropriate technology: requiring personal computers for students, a fully wireless campus, the use of Blackboard for both online and presence classes, well-equipped computer lab classrooms.

I teach courses about human-computer interaction (HCI), CSCL, computer-mediated group work, social informatics. My courses self-apply the subject matter of designing computer support to the delivery of the course itself, designing, using and evaluating rich and effective computer-supported learning environments.

I have found that this approach works well for IST courses in my subjects at Drexel. The approach displays the following characteristics:

- **The teaching approach is innovative, evolving, engaging and successful.**
- **It works for underclassmen, upperclassmen, masters students and doctoral students.**
- **It works in classroom-based, on-line and blended contexts.**
- **It is research-based, implementing the best practices from the field of CSCL.**
- **Small-group collaboration supports diverse backgrounds and learning styles of students by providing a variety of activities and extensive peer support.**
- **It takes advantage of leading-edge technologies and introduces students to them.**
- **It involves students in authentic research experiences in a problem-based curriculum addressing real-world design issues.**
- **It involves students in taking responsibility for their own learning and that of their peers.**
- **It prepares students for teamwork, lifelong learning and problem-solving careers.**
- **It integrates my teaching with my research and my service.**

The following Teaching Portfolio explains these characteristics and documents how I have implemented them in my courses.

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Section 1. Teaching Responsibilities

In my life and in my academic career, learning, teaching and research are inseparable. As a Research Professor at the University of Colorado before coming to Drexel, I voluntarily taught courses—primarily about how to become a researcher and on topics closely related to my own funded research. As a teaching faculty member at Drexel, I lead an active research effort. I am currently PI on three NSF grants totaling almost 3 million dollars and supporting four graduate research assistants who are learning to be researchers and are writing dissertations on our joint research. Due to heavy research responsibilities, I teach approximately half-time at Drexel.

I teach courses in my general research area: human-computer interaction (HCI) and computer-supported collaborative learning (CSCL). I have taught at all levels: undergraduates (INFO 110: HCI I), upperclassmen (INFO 310: HCI II), masters (INFO 608: HCI, INFO 610: Evaluation of Interactive Systems) and doctoral (INFO 780: CSCL). To date, I taught twelve (14) courses and 34 Independent Studies (*see Appendix A for listing*).

I developed the CSCL course from scratch. After two successful offerings, it has now been approved by the faculty and regularized. I have substantially revised the HCI courses (110, 301, 608, 610) along the lines detailed in this Teaching Portfolio.

Since Fall 2004, I have organized a continuous weekly seminar on analysis of online interaction that usually attracts about ten graduate students and researchers each quarter, including the summers (*see Appendix B for a list of seminar attendees*).

I have supervised sixty-two (62) Research Experiences for IST graduate students (*see Appendix C for a list of research experiences supervised*).

In addition, I have advised and served on dissertation committees of PhD students at Drexel and internationally (Germany, Chile, the Netherlands and Norway). (*See Appendix D for a list of PhD students advised.*) I have supervised four Research Assistants for the past four years, and involved them in the teaching of a number of my courses, providing mentored teaching opportunities for them and familiarizing them with course design issues. I have also involved them in the management and proposal of funded research grants, including IRB applications.

I consider both classroom teaching and research to be forms of collaborative knowledge building and see my role in the international CSCL research community to be a facilitator of knowledge building through my conference talks, participation in doctoral consortia, organization of workshops and publication of proceedings, books and journals. In my writings and presentations, I explicitly try to bring to the audience ideas from other disciplines (like philosophy, social theory, communication science) and other parts of the world.

Section 2. Philosophy of Teaching

I take philosophic reflection of teaching seriously: Before earning a PhD in computer science as part of my current academic career, I earned a PhD in philosophy. My work in my current research area, computer-supported collaborative learning (CSCL), merges my interests in philosophy and computer science. But even more, CSCL is itself intimately concerned with issues of learning and teaching. My new book (Stahl, 2006) and my new journal (Stahl & Hesse, 2006), for instance, explore the potential of networked computer technology to open new opportunities for collaborative learning—and accordingly to develop new forms of instruction.

Ever since Hegel's (1807/1967) dynamic and developmental philosophy was propounded, the principle that to know something is to know how it developed has spread throughout science (e.g., with Freud, Marx and Darwin working it out for the mind, society and life). In learning theory, Piaget, Dewey and Vygotsky explicated developmental views of human understanding. Constructivism, now almost universally accepted in the learning sciences, can be traced back to Piaget (1990), who showed how learning involves the active developmental construction of understanding by the learner, rather than simply the memorization of conditioned responses. Dewey (1938/1991) elaborated that perspective into a pedagogy of active engagement in processes of inquiry about issues of authentic interest to the learner. As Vygotsky's (1930/1978) thought became known in the West, his view that learning is a socio-cultural process became widely accepted. This principle suggests that most learning begins in social interaction and then gradually becomes internalized in the minds of individual learners.

The fact that learning is a social activity means that learning involves one's participation in communities (Lave & Wenger, 1991). As I have argued, more specifically, this generally involves participation in small-group discourse (Stahl, 2006). The practical consequence that I draw is that courses should provide opportunities for learning to take place at three major social levels: the individual, small-group and classroom levels. Beyond that, it should be explicitly situated in cultural and even global contexts.

University educators have always had to ask what they could offer learners uniquely. In the days before the printing press, academics could offer the life of refinement and reflection over the "school of hard knocks." In the age of books, universities offered libraries and personal guidance into the complexities of specialized literatures. With today's easy access to information and texts available on the Internet, modern technology, distance education and quick training programs, institutions like Drexel must reconsider what they have to offer uniquely. I believe that the most valuable thing that a research institution can offer its students is a variety of forms of apprenticeship in research as the ultimate form of leading-edge knowledge building.

I think that university courses should respond to the different learning styles, interests and skills of today's students by offering a wealth of resources and opportunities, exploiting the potentials of new and old media, and incorporating research experiences. They should involve the active participation of students individually, in carefully nurtured small-group projects and in skillfully guided classroom processes. Students should experience what it means to construct knowledge in their own minds, in discourse with peers and (in ways for which they are prepared) in a world-class professional manner. They should learn to work together and keep evolving.

Section 3. Course Structure

Based on the above philosophy of teaching, I have gradually developed a course structure that incorporates the following elements, among others:

Individual work

Students by themselves take on tasks that require deep, personal reflection and that build heavily on their unique background understandings and learning skills. Reading, writing, public speaking, critical thinking and scientific argumentation are skills that should be practiced individually by students in almost every course.

Small-group work

In my recent book on group cognition I stress the centrality of small-group interaction for learning:

Small groups are the engines of knowledge building. The knowing that groups build up in manifold forms is what becomes internalized by their members as individual learning and externalized in their communities as certifiable knowledge. At least, that is a central premise of this book. (Stahl, 2006, p. 16)

In my courses, the real learning—both tacit and explicit—takes place through small-group work. It is in the group projects that students put into practice and thereby really come to understand the concepts, issues and techniques described in the course readings. The groups engage in the design and evaluation of HCI artifacts, which is the core subject of the course. The group projects are apprenticeship activities in research.

Classroom work

Although a variety of activities occur during class meetings, the primary activity is group presentations from the work groups. The main purpose of this is for each group to share what they have accomplished with the rest of the class. Secondly, this gives the group an opportunity to garner feedback from other students and the instructor. The classroom presentations integrate all the work that has taken place and makes it visible to everyone. For in-class and blended courses, this usually involves group PowerPoint presentations; for on-line courses, this involves web-based presentations such as wiki or group website pages.

Global work

The group projects address leading-edge research issues in HCI. The software designs are to support computer-mediated group interaction, a hot area of current HCI research. The connection between the group assignments and professional research efforts is established in multiple ways, including through readings, guest presentations and literature searches. Of course, the group projects are narrowly defined, broken into weekly assignments and scaffolded to make them doable by inexperienced students within a one-week framework.

Group presentation

The group presentations to the whole class play a number of instructional roles. First, they provide a strict deadline and goal for bringing the week's work of the group together in a coherent form. Second, they require the coordination and integration of each student's individual

contribution into a group product. Third they occasion an interaction between the group and the rest of the class. Fourth, they subject the group work to an open, constructive and friendly assessment process. In addition, they give students valuable communication skills—preparing web-based, PowerPoint and/or verbal presentations; student poise or web presence and confidence in front of the class rapidly improves during the quarter.

Online interaction

Even in classroom-based sections, students interact extensively online, both at the small-group and the class level. Most groups conduct a lot of their business online, using a variety of media. The class discussions of the readings are conducted in Blackboard's discussion forums or VMT chat rooms. This provides first-hand experience in human-computer interaction (HCI).

Web-based presentation

Each group must prepare a website or set of wiki pages documenting their work and findings. This ensures that everyone is comfortable in creating web presentations. It gives the groups an informal opportunity to develop creative web designs.

First-hand experience for the user perspective

The course begins with a session in which all students use the collaboration software that they will be redesigning. They work in their groups as users. Thus, they get the subjective experience of being users of the software. A log of their work is saved and subsequently made available to them so they can study what took place more objectively—and reflect on the relationship of these experiences.

Engagement in authentic research

The first-hand experience is intended to pique student interest in issues of the software's design. In addition, it is explained to the students how the design of this software fits into on-going research issues. In some cases, the software is part of my own funded research and I bring some of my research collaborators into the class to discuss research issues with the students.

Apprenticeship in professional methods

The course steps through a logical sequence of basic HCI design and evaluation techniques, as described in the textbooks read in the class. These represent the methods of HCI professionals. For purposes of the group projects, they are restricted or practiced in a simplified way. However, I always structure the overall course context as a realistic research inquiry. The work of the students is actually an apprenticeship with me (and sometimes my colleagues) in conducting serious research into the design of some non-trivial human-computer interaction problem.

Creativity in design and inquiry

Students are encouraged to use their own creativity in all aspects of the course, as long as they produce the required products by the set deadlines. There are no right and wrong answers for any component of the course. Creativity is noted and praised.

Make learning visible

The course is designed to make learning visible to everyone. Every week during the group presentations, it is clear to everyone what progress has been made by each group. The HCI evaluation techniques practiced in the final weeks of the course also serve to make visible the quality of the designs that have been developed by the groups, using objective measures applied by the students themselves and shared with the class.

Responsibility for own learning and evaluation

Because the work and learning is made visible and shared, students can evaluate the work of their group and their own learning as compared to that of the others in the course. Because most of the learning takes place through peer collaboration and discussion, and because the instructor's role is primarily one of structuring and facilitating the course, individuals feel responsible for their own learning and for that of their classmates and group members.

Reflection and meta-cognition

Reflection on the work and learning in the course takes place on the individual, group and class level. The midterm and final reflection papers are individual activities. Group reflections on progress, problems and accomplishments tend to be intense. The group presentations prompt reflections by the class as a whole.

Collaborative learning

Learning takes place primarily through inter-personal interactions among students: in online discussion forums, in group meetings (online and face-to-face) and in classroom discussions.

A structured, but flexible learning environment

I view my role as primarily to create a rich setting for collaborative learning related to the course topic. As I have learned over the years, this is a complex undertaking. It involves designing a complexly structured mix of resources and activities. This must be presented to the students clearly in the course syllabus and explained in class. Students must be motivated, guided, re-oriented, kept on track, and so on. The course must satisfy requirements and expectations by the University and the students, while adopting an innovative approach.

Section 4. Representative Course Syllabus

Section 3 described the course structure that I have developed. I have found that it can be effective at every level of university teaching, with appropriate adaptation of content materials. In Winter 2005/06, I used this approach in INFO 110. This is a course taken primarily by Freshman Digital Design students at COMED and a minority of IST Freshman. Their introductory experience was to use a sophisticated electronic music interface. Class discussions stressed the importance of design considerations in the creation of video games. Since the course was scheduled for two days a week, I took the opportunity (with unanimous student consent) to teach it as a blended course, with most Thursdays used for online meetings of the workgroups. This solved the scheduling problem of groups meetings, since all students had this time-slot blocked out and since I could also be available to answer questions and join the groups online. The experiment worked smoothly. One of the INFO 110 students subsequently took an Independent Study related to VMT with me and two students from the course went on to take my section of INFO 310 (second quarter course on HCI), where they played leadership roles in organizing workgroups because they already understood collaborative learning practices.

My most recent teaching experience was with INFO 608, the graduate-level HCI course. This was my first online course in several years, and gave me a chance to try out what I had learned in the interim. I also used the opportunity to adapt my VMT chat/whiteboard/wiki environment to a graduate online course. I set up the entire course in a wiki, with clear instructions for the students. Each week, the students held several online meetings with their workgroups in VMT chat rooms, where they discussed the readings and their design project assignments. They summarized their discussions in their shared whiteboards and then posted their summaries to the course wiki every week. I provided general feedback and guidance in the wiki as well.

The wiki and the chat rooms with whiteboards are persistent and serve as permanent documentation of the course and all its interactions and details. It is still available online at: http://vmt.mathforum.org/vmtwiki/index.php/Designing_Social_Interaction_Software

The course home page of the wiki includes the following sections:

INFO 608 Welcome Page

This section welcomes students to the course and provides detailed instructions to the students on how to get started for the first weeks.

Course Overview

This page provides general information about the course. It is a detailed syllabus. The syllabus was also emailed to students before the quarter started so they would be aware of the innovative approach of the course.

Textbook Journal

This page discusses student weekly journal entries they must maintain on the textbook chapters. The standard textbook for the course was just revised. Students are required to read it cover to cover and take notes on each chapter.

Group Reading Projects

This page points to the group postings on the weekly readings. In addition to the textbook, there were 18 readings from the research literature. A number of the readings were by me and were directly related to the design and human-centered analysis of the software that the student design projects were extending. The readings by me served as online lectures presenting my perspective—with opportunity for the students to raise questions and critiques as part of their weekly postings. The reviews of these papers by student groups are attached to this wiki page.

Group Design Projects

This page points to the group postings on the design projects. The hands-on course design project was to design extensions to the software used in the course in order to better support social networking. The ten-week project was divided into weekly assignments, which paralleled the stages of the textbook’s design model and matched the chapters and papers read each week, as coordinated in the following table:

Wk	Due date	Textbook	Reading	Project
1	April 10	Ch. 1 & 2	“Computer support for knowledge-building communities”	Design of Koi Resort social networking
2	April 17	Ch. 3 & 4	“Share globally, adapt locally”	Literature search on social networking and Web 2.0
3	April 24	Ch. 5, 6 & 7	“The Virtual Math Teams project: A global math discourse community,” “Groupware goes to school”	Analysis and statement of problems in social networking
4	May 1	Ch. 8 & 9	“Computer-supported collaborative learning: An historical perspective,” “The integration of synchronous communication across dual interaction spaces”	Establish requirements with use cases
5	May 8	Ch. 10 & 11	“Five reasons for scenario-based design,” “Social practices of group cognition in virtual math teams”	[<i>Individual assignment</i>] Conceptual design paper
6	May 15	Ch. 12 & 13	Heuristic evaluation readings, “Analyzing and designing the group cognitive experience”	Interactive prototype and scenario
7	May 22	Ch. 14	Cognitive walkthrough readings; “Supporting group cognition in an online math community: A cognitive tool for small-group referencing in text chat”	Heuristic evaluation of prototype
8	May 29	Ch. 15	“Sustaining group cognition in a math chat environment”	Cognitive walkthrough of scenario
9	June 5		“Meaning making in CSCL: Conditions and preconditions for cognitive processes by groups”	Final design for social network support
10	June 12			[<i>Individual assignments</i>] Textbook Journal; Reflection Paper

Midterm Conceptual Design Paper

This page contains instructions for the individual midterm conceptual design paper. While most of the weekly assignments were done by collaborative small groups of 3 to 5 students, the midterm conceptual design is submitted individually.

Final Reflection Paper

This page contains instructions for the individual final reflection paper. This provided a chance for the students to think about what they had learned and experienced in the course. It

also provides excellent, detailed and meaningful feedback to the instructor. These reflection papers are always very personal and rich.

Final Textbook Journal

This page contains instructions for the individual final textbook journal. At the end of the course, each student has to submit their notes on the textbook.

Papers from last quarter

This page reproduces three papers by students from the previous quarter's HCI course. This provides rough models of how current students might approach their own papers.

Summary

The idea of collaborative peer learning through hands-on practice—which is fundamental to the course approach—is presented to the students through the syllabus document itself, some readings and instructor presentations. The grading system stated in the syllabus shows that collaborative learning is a combination of efforts at the individual, small-group and classroom level: the grade is based on a combination of these.

Classroom learning is contextualized within a global horizon by situating the knowledge that is built by the groups within current research issues. These are explicitly discussed. For instance, in each quarter, themes of designing software for group collaboration, for complex applications or for social networking are presented as leading-edge issues for HCI in the world today.

Section 5. Teaching Goals for the Future

I have now developed my approach to teaching an HCI course through 12 incarnations. The basic approach has always been close to what was described above. Each time, I have paid careful attention to the feedback from the students and to my own sense of what worked and what could be improved, and I have made significant changes in each new attempt.

In the future, I would like to “package” my approach as a problem-based learning curriculum that other instructors can make use of. Some of my colleagues have adopted some of my methods through informal mutual influences, but I would like to make my approach available to adjuncts and others who do not have regular contact with me as well.

My approach makes heavy use of online media, which I feel is essential for a course on HCI today. I believe—as supported heavily by the research literature—that blended in-class/online courses can be superior to either wholly in-class or wholly online classes. I hope to continue to explore possibilities for implementing blended courses at IST.

Over time, I have found that it is important to establish student expectations and understanding of the approach of my courses. I have developed a lengthy syllabus document, some readings on collaborative knowledge building and a slide presentation on collaborative learning. I repeatedly explain to students in class the reasons for my instructional approach and my grading policies. This has helped a lot. I no longer receive many complaints and questions in these areas. However, because my teaching philosophy is so different from what most students are used to, I want to continue to develop my presentation of this philosophy so that students can more fully understand and appreciate its value.

Finally, I respect the fact that different students have different learning styles, goals and skills. I try to incorporate a variety of educational activities into my courses and allow a certain amount of freedom for students to concentrate in the areas that are most appropriate and comfortable for them. At the same time, it is important for the success of the group and class work that much of the activity of the course is shared by all. I would like to explore different ways of forming the work groups and assigning activities to meet the needs and desires of diverse students within an organically functioning learning community classroom.

I feel that I have come a long way toward implementing my teaching philosophy during my time at Drexel. Many of the issues that I still struggle with are open research areas within the field of CSCL and are perennial questions for educators.

Appendices

Appendix A. Courses and Independent Studies Taught

- 2002 Fall: INFO 608, HCI online
- 2003 Winter: INFO 608, HCI
- 2003 Spring: ISYS 310, HCI II
- 2003 Spring: INFO 608, HCI online
- 2003 Spring: Independent Study: Kevin, Rajini
- 2004 Winter: ISYS 310, HCI II
- 2004 Winter: INFO 610, Interaction Analysis
- 2004 Winter: Independent Study: Terry Epperson
- 2004 Spring: INFO 780-14, CSCL
- 2005 Winter: ISYS 310, HCI II
- 2005 Winter: INFO 608, HCI
- 2005 Spring: INFO 780-14, CSCL
- 2005 Summer: Independent Study: Johann, Nan, Ramon
- 2005 Fall: Independent Study: Murat, Nan, Ramon
- 2006 Winter: INFO 110, HCI I
- 2006 Winter: Independent Study: Murat, Ramon
- 2006 Spring: INFO 310, HCI II
- 2006 Spring: Independent Study: Murat, Nan, Ramon
- 2006 Summer: Independent Study: Murat, Nan, Ramon, Johann
- 2006 Fall: Independent Study: Murat, Nan, Ramon, Johann, David Yoslov
- 2007 Winter: INFO 310, HCI II
- 2007 Winter: Independent Study: Murat, Ramon, Nan, Johann
- 2007 Spring: INFO 608, HCI
- 2007 Spring: Independent Study: Murat, Nan, Ramon, Johann
- 2007 Summer: Independent Study: Murat, Nan, Ramon

Appendix B. Communication Seminar Participants

- Continuous from Fall 2003 to present — 16 quarters.
- Regular attendees: Murat Cakir, Weiqin Chen, Johann Sarmiento, Wesley Shumar, Gerry Stahl, Ramon Toledo, Stephen Weimar, Alan Zemel, Nan Zhou
- Occasional attendees: Robert Allen, Elizabeth Charles, Joel Eden, Terry Epperson, Annie Fetter, Jim Goldman, Ilene Goldman, Lewis Hassell, Thomas Hewett, Sofia Jeon, Kevin Meagher, Pete Miller, Martin Mühlpfordt, Jung-Ran Park, Erik Poole, Rajini Rajendran, Henry Rodriguez, Jan-Willem Strijbos, Stefan Trausan-Matu, Ian Underwood, Jim Waters, Martin Wessner, Fatos Xhafa, David Yoslov.

Appendix C. Research Experiences Taught

- 2003/04 Fall: Murat, Ramon, Wanda
- 2003/04 Winter: Murat, Ramon, Wanda
- 2003/04 Spring: Murat, Ramon, Nan
- 2003/04 Summer: Murat, Ramon, Nan, Pete
- 2004/05 Fall: Murat, Ramon, Nan, Pete, Johann
- 2004/05 Winter: Murat, Ramon, Nan, Johann
- 2004/05 Spring: Murat, Ramon, Nan, Johann
- 2004/05 Summer: Murat, Ramon, Nan, Johann
- 2005/06 Fall: Murat, Ramon, Nan, Johann
- 2005/06 Winter: Murat, Ramon, Nan, Johann
- 2005/06 Spring: Murat, Ramon, Nan, Johann
- 2005/06 Summer: Murat, Ramon, Nan, Johann
- 2006/07 Fall: Murat, Ramon, Nan, Johann
- 2006/07 Winter: Murat, Ramon, Nan, Johann
- 2006/07 Spring: Murat, Ramon, Nan, Johann
- 2006/07 Summer: Murat, Ramon, Nan, Johann

Appendix D. Doctoral Students Advised

- **Drexel University** (Philadelphia, PA): Murat Cakir, Joel Eden, Ilene Litz Goldman, Trish Grieb-Neff, Yolanda Jones, Wanda Kunkle, Deb LaBelle, Debra McGrath, Pete Miller, Johann Sarmiento, Ramon Toledo, Jim Waters, Nan Zhou
- **Fraunhofer Gesellschaft IPSI** (Germany): Martin Mühlpfordt
- **University of Bergen** (Norway): Frode Guribye
- **Open University of the Netherlands** (Netherlands): Jan-Willem Strijbos

- **University of Chile** (Chile): Cesar Alberto Collazos
- **University of Dortmund** (Germany): Andrea Kienle

Appendix E. Comments from Students

Email from Ilene Litz, Director of Web Communications, Drexel University

A couple years ago at the IST Christmas party Dean Fenske introduced me to Ilene Litz Goldman, Drexel's Director of Web Communications. She was in the PhD program at Nova University, an online program based in Florida. She was seeking a dissertation topic in education. She got involved in the VMT research project and took two of my graduate courses: HCI and CSCL. I suggested she explore the adoption issues of the VMT program as it begins to be used by students around the world on an experimental basis. Ilene attended the VMT weekly project meetings on her lunch hour for a long time as she developed her research agenda in interaction with the VMT team. In early May, 2007, Ilene wrote me that her dissertation had been accepted by her committee at Nova. In her email, she noted, "Ger.... words can not express my gratitude for helping me with this. What in the hell would I have done without you!? ... I can't even imagine!"

The dissertation is entitled, "Student Adoption of a Computer-Supported Collaborative Learning (CSCL) Mathematical Problem Solving Environment: The Case of The Math Forum's Virtual Math Teams (VMT) Chat Service." In the Acknowledgments of the dissertation, Ilene writes: "I count myself fortunate for having had the remarkable guidance of my mentor, Dr. Gerry Stahl and my dissertation advisor, Dr. Ling Wang. Dr. Stahl, who set me on the path of collaborative online learning and never wavered from my side, has provided excellent insight, advice and support, without which I would have been lost.... I am grateful to all of the members of the Virtual Math Team at Drexel University's The Math Forum."

Excerpts from Student Papers in INFO 310 Winter 2006/07 and INFO 608 Spring 2006/07

The following excerpts from student papers during the past year illustrate how many of the students recognized and appreciated the characteristics of my approach to teaching. They also reflect the fact that students generally encountered this approach as different from their other IST experiences, and therefore as something that took some time to come to terms with, even for those with adventurous minds. In the end, they felt they benefited from the collaborative, hands-on, multi-faceted and computer-supported approach—which was the stated course goal.

From an INFO 310 Reflection Paper by Bryan Aller

This course is completely different from what I had expected when I signed up for it. Having taken INFO 110 (HCI I) just last year and last year being my first year at Drexel University, I had expected INFO 310 to be much like the other courses that I have taken so far within IST. Granted, I haven't taken all that many INFO courses, but for the most part, they have all followed a similar theme of book-work and quizzes/tests. Having just read the TCA article for this week, I'd have to compare this course more to the constructivist approach: bringing a variety of methods together and using "alternative knowledge representations" (page 4 of TCA PDF). The result of this style upon my attitude toward the course has been unsurprisingly positive, as I

enjoy being able to learn in a variety of different ways at once. I feel that this helps me to understand the material better....

I came into the course thinking that it was going to be limited to simply a lot of diagrams and book study; to the contrary, I have been pleasantly surprised by the variety of materials used to reinforce the material: weekly presentations, utilizing the VMT collaborative sessions, maintaining a website, forum postings, class discussion, readings from the book and professional papers, and reflection papers such as this one. The materials are thought-provoking and I find that I spend a lot of time simply thinking about this course and the topics that come up. I can't say that I look at interfaces the same way any more. This was something that became especially clear at work. I am currently on co-op right now working in the IT department for a very large technical company....

Also, maintaining a website for the class is a neat idea and I enjoy web design; this is the first class that I have had to do this for. This is also the first class in which I have had the opportunity to do collaborative work in an online environment. It is a new and unique experience for me.

From an INFO 310 Readings Journal by Brent Bailey

I found the articles all to be relevant to concepts in HCI. At times the process applied in the classroom and the articles were difficult to apply to each other. This mainly was due to the teaching concepts. I do highly like the idea of having a class where the educational value is from community learning and discussion and not the teacher. I think the issue is that this type of teaching concept, unless introduced at a young age is radically different than the traditional teaching methods.

That being said, I think a real interesting thing surfaces about teaching paradigms. Teaching and classroom edict to students in college are a similar concept like that of a consumer. Students measure school (perhaps inaccurately) on what they have been offered type of concept. It seems, even if students do not learn very much or do very well in a course, if a lot of hand outs are performed and lectures stick to the syllabus then although they may be disappointed they still "paid" for the class. This is definitely flawed because the real value should be what is retained, what makes it to long term memory. This is why I like this teaching style, and at the same time understand the general difficulty and disappointment that is shared upon those who have spent years being taught differently and in turn learning to judge the value of that method in a particular way.

From an INFO 310 Conceptual Design Paper by Stephen Gyarmati

Virtual Math Teams, a project that seeks to create a cohesive online community engaged in the building of mathematics knowledge, is about to embark in a revolutionary new direction in the field of social networks. Instead of creating a typical social network in which the focus is on building casual relationships, Virtual Math Teams is creating a knowledge network, a series of student peers, mentors, and teachers who are linked to one another in a web of communal knowledge generation. In such a community, the focus is not on the relationships between members per say, but on the products that such relationships foster. This revolutionary model brings new responsibilities for the designers of the portal that will give host to the community. VMT will not be best served by laying existing social networking tools on top of whiteboard chat, but by employing the ideas pioneered in existing social networks as an extensible framework upon which new, novel tools can be built. These tools should facilitate the knowledge

generation process, aiding in the creation, modification, retrieval, and evaluation of group knowledge artifacts. Ultimately, VMT social networking should be structured so that learning is not an orchestrated byproduct of interaction, but a natural consequence. To meet such an aim, VMT must establish a firm concept of user identity, an effective methodology for locating others to collaborate with, and a system that will link users to solutions.

From an INFO 608 Reflection Paper by Ben Meltzer

One of the major ways that the class provided a valuable learning experience in interaction design is that we, as students, actually went through many of the steps of the interaction design process. Some of these steps included prototyping, heuristic evaluation, and brainstorming about potential real-life sources for evaluation (in our individual midterm design project). The potential to actually experience first hand many of the things we were reading about in the text and in the separate articles that were assigned was very beneficial, both for aiding in remembering what we were learning, and so that we could see the way in which these theories had been applied in a real-world scenario.

Many of the concerns which were discussed in the text involving designing for collaborative functions were also explored as well, although in this case we were the users of the design result (although we did have a chance to reflect on and gain an understanding of why many of the features were present). Many of the class members lived in distant areas from each other, and yet through the whiteboard, chat, and email functions we were able to communicate. This was particularly valuable, because long-distance collaboration is something which will become more prominent as time continues, and the chance to explore the psychological and technical aspects of the field created a strong awareness of the issues involved.

I feel that I learned quite a bit about interaction design and the principles involved, and I think that I was able to better understand these ideas by being allowed to experience them first hand. The group work was richer and more rewarding than what I had previously experienced while using Blackboard, and in many ways I think it was truer to the idea of an online version of collaborative learning. While some of the information in the text was unfortunately off-limits to first hand experience in the class (such as in-depth requirement analysis and user evaluation), such detailed treatments were beyond the scope of this class. I believe that my future experiences interacting with systems and computers will always be somewhat more nuanced than it had been, because I no longer assume that all of the features are present by accident or divine inspiration; I now understand that these features are the result of testing, iterative design, and the pursuit of human-computer interaction design principles.

From an INFO 608 Reflection Paper by David Katjang

The INFO 608 class was a fun filled social adventure which greatly increased my knowledge and capabilities with not only interaction design but also group cognition and collaborative environments. Using the Internet's Web 2.0 philosophy of social interaction the VMT system has provided a deep interface from which I both used and learned from. Though I was critical at certain points on the different aspects of VMT I was overall impressed with the design and the thought behind it. It will be interesting to see what new changes will be made to the system and whether or not any of those changes incorporate the final designs by the teams. Our teams design in the end seemed to be much thought out and something felt missing from the interface. Working with the team members on the design was a rewarding and satisfying excursion. The

friendships gained through social interaction in VMT were wonderful. Being on the far end of the country it was hard to find a good group and since Fernando was on the west end his timing was more in line with mine so we shared groups through the whole class both out of necessity and because it was easy and fun working with him. I thoroughly enjoyed this quarter and will miss both the class and the fellow students that made it so rewarding.

From an INFO 608 Reflection Paper by Elizabeth Veasey

When I signed up for this course I didn't really know what to expect. So I was a bit apprehensive, but it turned out not to be as scary as I'd originally thought it would be. Infact, it turned out not to be scary at all. I took this course with the very general goal of becoming more acquainted with the human + computer equation. I'm from the Library Science track and I don't have much of a background in computers. This course was one of the ways for me to bridge my knowledge gap....

Taking this course has been a real eye opener. Just learning about all the social networks was a big deal for me. I had no idea there were so many social networking sites available online. You've heard the saying, "you need to get out more," I guess I need to stay in a little more. I'd heard of MySpace and Instant Messaging, (most people have), but those apparently are just the tip of the iceberg. There are all kinds of people, talking about all kinds of things all around the world. Thanks to this class I am more aware of these online social environments and have gained more of an incentive to take part....

Although in the beginning I had my fears. For instance I was concerned that the class was going to be fraught with technical jargon. But it wasn't. Instead it was very hands on and interactive which allowed me to get a good feel and understanding of the concepts we were studying. I felt it represented a well rounded learning experience that really facilitated the learning process rather than simply having work thrown at me.

From an INFO 608 Reflection Paper by Eric Vlam

I was very happy with the course layout and many intricacies of working within the VMT forum. Initially I felt confused about navigation around the forum and the wiki. My previous experiences on forums, blogs and chat groups were called upon initially to begin working with the context of the VMT forum. I enjoyed the idea of working on a real life software interface design with other team members. When the practical nuts and bolts work came along I was forced to learn the dynamics of the course and to create a social network with the others in my groups....

I believe eventually once the thought of grading by participation became a non issue within the group that everyone wanted to participate in whatever way they could in order to achieve the group goals. This was in many ways an eye opening social experiment as well as a ground breaking attempt to redo the collaborative space for online MSIS students at Drexel....

I have learned quite a bit surrounding the iterative process of software design and this knowledge has already had dividends to me. My company along with three other operating companies that make up our parent company are switching to a new ERP software system. Much of the original needs analysis had be achieve through a lengthy process of over a year with KPMG.... I have taken the weekly reading and analysis we undertook for the VMT extension group project and immediately took the lessons learned from the various course work and put

them to practical use. I would expect the direction I can add in this process and the clarification I have experienced in the course work will save our companies at least three to four times the cost of the course in a few months. That to me is an impressive ROI and made the course come alive to me.

From an INFO 608 Reflection Paper by Kevin Urian

This course has been unique in comparison to all the other courses I have taken in my time at Drexel. There were three differences in the basic structure of the course that made this course different than other courses I have taken at Drexel. The first major difference was the group work for the course. The second difference was in the readings for the course. The third and perhaps the largest difference between this course and others I have taken at Drexel was the work we did in and on the VMT concert chat environment....

This course required group work done at structured times every week throughout the course. This was different than any other course I have taken at Drexel. While some of my previous courses did involve collaborative group work, this course required a larger amount of it. ...After having experienced group work in both small and larger online groups, I believe I have a much better appreciation of online academic group learning than I had before the course started.

In most courses I have taken in the program at Drexel, I found that the readings for the course were an addition to the textbook. By this I mean that the readings provided additional information that wasn't found inside the textbook. In this class, I felt that the readings complemented the textbook. I don't know if this was because of the way the textbook was structured or it could have been the topic of the class itself. I felt that the readings took the ideas of the textbook and then expanded on a specific aspect of the textbook to become more detailed. This detailed focus allowed me to develop a deeper understanding of the topic....

The third and largest difference between this course and other courses I have taken in the program at Drexel was how the course centered on the use and development of the VMT concert chat software. This provided a good real world example to compare both the readings and the textbook. The work on the VMT software also allowed me to experience true interface design as I had to help develop then evaluate different ideas to improve the VMT software. This practical application of the theories and practices from the textbook allowed me to develop a deeper understanding of the course. The work we did on the VMT software really helped bring the course into perspective for me in a way that a theoretical problem wouldn't have.

From an INFO 608 Reflection Paper by Seth Erickson

Info 608 (Human Computer Interaction) was a significant course for me. Using everything that I have accrued on my path to my MLIS, I found that this course fit perfectly into my knowledge base. I have never taken a social computing class, and was largely ignorant of the methodology. Yet after taking Info 608 and getting a solid introduction, I was astounded at the import of this field. In educational computing, social networking / computing is going to become increasingly more revolutionary in the future. I thought the class was delivered in an interesting format— VMT Wiki and chat. It was interesting to see the evolution of VMT chat over the course of the quarter.

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