Tenure Dossier for Gerry Stahl

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Executive Summary

Scholarship while at Drexel

- Established, pursued and published a research agenda setting a new direction within the field of Computer-Supported Collaborative Learning (CSCL).
- Built a lively, productive research lab with: IST students; impact at Math Forum; collaborators locally, nationally and internationally; international visiting researchers; and an international reputation.
- Published a seminal book on theory, methodology and empirical findings at MIT Press.
- Edited 3 volumes (international conference proceeding and 2 special journal issues).
- Published 12 book chapters (9 as sole author)
- Published 11 peer-reviewed journal articles (7 as sole author).
- Presented 2 conference keynotes (in Germany and Brazil).
- Published 44 peer-reviewed conference papers.
- Gave 10 other peer-reviewed workshops and presentations, for a career total of about 140 professional publications.
- Represented Drexel/IST at 32 international conferences (including in Chile, Norway, Netherlands, Germany, Switzerland, Taiwan, Sweden, Brazil, Cyprus, Singapore, Finland) & 8 other professional meetings.
- Brought in 7 visiting researchers (from Netherlands, Spain, Romania, Germany, Canada, Norway) for a total of 41 months and a post-doc for 2 years. They worked with PhD students, gave talks at IST, worked on the research project and co-authored publications.
- Served as PI on 3 major NSF grants totaling $2,930,762 for innovative technology, digital library services and science of learning. Of 4 proposals submitted to NSF with me as PI while at IST, 3 were fully funded.
- Submitted collaborative proposals with CMU, Hawaii, Rutgers currently pending at NSF totaling $2,351,875.
- Was the first IST member of Drexel's "Million Dollar Club" (earned during first year at Drexel).
- Won first prize in Drexel/IST Research Day posters 2005, 2006, 2007 with student co-authors.

Teaching while at Drexel

- Dissertation supervision: Dissertation chair for 4 IST students (who will graduate in 1-2 years); serve on other dissertation committees (including in Chile, Norway, Germany); and advise others informally.
- Research experiences: Provided 62 student-quarters of guided research experience in 4 years.
- Independent studies: Provided 34 student-quarters of independent studies.
- Data analysis sessions: Organized and ran 12 quarters of weekly data analysis sessions for PhD students and other researchers.
- Developed problem-based, student-centered, collaborative-learning, computer-supported approach to teaching CSCL and HCI (INFO 110, 310, 608, 610, 780) in-class, online and blended (see Teaching Portfolio).
- Taught 14 courses at freshman/sophomore, junior/senior, master & PhD levels and bought out of 14 courses in order to direct research project.

Service while at Drexel

- Founded the *International Journal of Computer-Supported Collaborative Learning*, published by Springer, now in second year. Executive Editor, primary review supervisor and main author of introduction to each issue.
- Serve on Board and Reviewers of other journals and book series.
- Was Program Chair of CSCL 2002. Serve on Program Committee of international conferences; organize workshop series and/or a major workshop each year.
- Helped found and serve on Board of International Society for the Learning Sciences.
- On Scientific Advisory Boards of major research labs in Germany, Scandinavia and Singapore.
- Served on IST committees for: Doctoral Program, Research Talks, Strategic Futures (two years), Curriculum (two years).

Narrative

Professional Career

Philosophy

I pursued a broad education as an undergraduate at MIT, graduating with a joint degree in humanities and science. I took heavy doses of mathematics, physics and computers as well as literature and philosophy. I then went to graduate school in philosophy at Northwestern, conducting dissertation research on phenomenology and hermeneutics at Heidelberg and critical social theory at Frankfurt. This prepared me to think clearly and write lucidly.

I worked as a software developer and computer consultant, helping non-profit organizations in the neighborhoods of Philadelphia to computerize in the early days of PCs. I also raised millions of dollars for neighborhood development, learning to write effective grant proposals and budgets.

Computer Science

Deciding to fill in my theoretical understanding of computers, I went to the University of Colorado for technical graduate study. I joined Gerhard Fischer's research lab for human-computer interaction and knowledge-based systems and I worked with design theoreticians. I taught and coordinated the major programming course. I also learned to plan, implement and test relatively large software systems for group usage.

Cognitive Science

After graduating with a PhD in artificial intelligence and a certificate in cognitive science, I helped to found a small research lab that worked primarily on NASA grants. I pursued a project in educational software, anticipating by 10 years the concept of a web 2.0 online digital library for teachers to share constructivist curriculum. I returned to the university, first as a post-doc and then as a Research Professor in the Department of Computer Science and the Institute of Cognitive Science, raising my salary from grants.

Learning Sciences

As a research professor, I began to define my own research agenda. I had worked with Tim Koschmann and attended the first CSCL conferences, so I became increasingly interested in providing computer support for education, which I saw as an exciting opportunity. I started studying and teaching about the major theories from Vygotsky, Lave, Scardamalia, Barrows and others as well as studying communication theory and conversation analysis. My background in philosophy gave me insight into the theories, and my training in computer science allowed me to critically evaluate technological proposals.

Computer-Supported Collaborative Learning (CSCL)

By 1999, I was becoming active in research conferences and was asked to be Program Chair for CSCL 2002 in Boulder. This provided an opportunity for me to refine my agenda as more focused on encouraging the development of a theoretical framework for CSCL. It was noted, for instance that my paper at ICLS 2001 (the International Conference of the Learning Sciences, sister conference to CSCL) was the first theoretically-oriented paper ever at that conference series. Under my leadership, CSCL 2002 featured an unusual emphasis on theory, that has continued at subsequent conferences. At CSCL 2002, we also launched ISLS (the International Society for the Learning Sciences) to support the ICLS and CSCL conference series. By the CSCL 2003 conference, I was considered a leader of the CSCL research community. In the meantime, I had accepted an offer to go to Drexel and had first spent a year at a major CSCW research lab in Germany. So the Europeans—who were the most active segment of CSCL—saw me as an American who was particularly friendly to Europe and sympathetic to the European perspective.

I was asked to be Executive Editor of a new ISLS-sponsored journal, but I insisted on sharing the title with a European to make clear its international outlook. I explored the many options for starting a journal and eventually negotiated an arrangement with Springer to print the journal and make it available electronically to subscribers, but to also allow us to make pre-prints freely available on the web. IST agreed to support a half-time editor for the journal to help non-native-English-speakers to publish with less disadvantage, and I hired David Tietjen.

Group Cognition

When I first arrived at Drexel, I was introduced to the Math Forum @ Drexel. They had a solid track-record at developing online resources for education. They also had a long-standing interest in research and a commitment to collaborative learning. We soon saw that by working together we could conduct a project that would add a strong collaborative element to the Math Forum and provide a laboratory for my CSCL research. We developed a number of proposals, and all but one of them were funded.

The funded proposals had a common aim, to establish an effective online environment for students to engage in collaborative discussion of mathematics. We founded the Virtual Math Teams (VMT) project. VMT soon attracted IST doctoral students and foreign researchers. A workshop on VMT at Drexel at the end of the project's first year brought an international gathering of experts in CSCL and related fields to reflect on the work of the project. Leading researchers gathered from 15 countries. During four intensive days of the workshop, the 36 participants engaged in hands-on experience with collaborative math problem-solving and analysis of project data. A number of these researchers or their colleagues came back later to work on the project at Drexel for 3-6 months.

While at Drexel, I decided to collect my most important publications and consolidate them into a book. I signed a contract with MIT Press and began to analyze my research path. It became clear that I was heading in a certain direction and that the reasons for my personal odyssey were shared by the field as a whole. There was a need to move away from the computer as intelligent agent and toward designing digital media to support intelligent human communication and collaboration. Relatedly, analysis should move away from an exclusive concern with individual

cognition and take into account group interactions. Gradually, the theme of "group cognition" emerged in my manuscript and I wrote several more chapters to explore this concept. I then drafted an introductory and a concluding chapter. The book now defines my work for the decade through my first years at Drexel and the beginning of the VMT project. It presents rather thoroughly the theoretical and methodological reflections behind my current research, as well as the empirical investigations that led me to my current agenda.

By "group cognition" I mean the fact that small groups of people can engage in activities such as mathematical problem solving and can accomplish intellectual achievements that would be considered cognitive if done by an individual. These accomplishments often proceed by means of interactions in which ideas emerge from the discourse between multiple perspectives and cannot be credited to any one person. An utterance by one person responds to the previous discussion and group context in ways that would otherwise not have arisen, and the utterance is structured so as to elicit specific kinds of responses from other participants. Through a sequence of complexly and subtly interwoven interactions, cognitive results are achieved. The meaning of what was said is determined at the group level of the interactions, and not attributable to pre-existing mental representations of the individual participants.

Of course, group cognition relies on the ability of the participating individuals to interpret and understand the group meaning. But even this individual understanding is fundamentally situated in, and emerges out of, the interactions of the group, which are structured so as to coordinate these understandings. The philosophy of group cognition does not deny individual cognition, but calls for a re-thinking of the ontology, epistemology and methodology for exploring mind.

Chat Analysis

The VMT project provides ideal data for my research and for that of my students and colleagues. Over the past four years, we have refined the technology and the presentation of the VMT service so that we can preserve an excellent detailed record of virtually everything that takes place in the online interactions. Thus, we can analyze everything that is available to the students participating in the service. In general, students know nothing about each other except what is displayed during the chat, and everything displayed during the chat—including social awareness notices—can be reviewed in detail by the researchers. There is no need to worry about camera angles, lighting, transcriptions, interview protocols, coding reliability, etc. to produce an accurate and useful record.

The VMT data can be analyzed for evidence of the accomplishment of problem solving and other tasks through collaborative interaction within the online small group (group cognition). This can be achieved through close analysis of how small groups of participants co-construct shared meanings and sustain joint activities through the sequentiality and relatedness of their situated contributions and their social participation. Of course, there are many questions that we cannot address this way, such as what goes on in individual heads and what is remembered by specific participants years later. But these issues are beyond the scope of my group cognition research agenda. I am interested in the group accomplishments, which have been largely ignored in previous research, but which constitute what is unique to CSCL and most promising for the future of computer support for collaborative knowledge building.

The VMT research group that I direct has developed a methodology for chat analysis that is tuned to the exploration of group cognition in a chat environment. This approach is inspired by ethnomethodologically-informed conversation analysis, but our domain differs in multiple significant ways from that of talk: Chat is online so neither the participants nor their production of utterances is visible; interactions are text-based so they lack intonation, personality, accent; the topics are math problem solving, rather than socializing; the participants are primarily teenage students engaged in learning, not adult domain experts; the groups are usually 3 to 5 instead of dyads; the participants generally do not know each other or know much about each other; etc. The chat analysis looks closely, line-by-line, at how postings build upon each other sequentially; how they respond to previous postings and elicit future ones; how they establish the social order of the group interaction; how they repair problems of co-construction of shared group meanings; how they construct, reference, remember and name resources that they use in their meaning making.

Research Agenda

I want to understand how students interact in an environment like VMT. How do they approach a given problem and make use of the affordances of their technology? How do different technical details change or mediate the interactions and the methods that students develop? Such understanding can guide the design of CSCL systems and help to attain the frustratingly elusive vision of globally-networked collaborative learning.

I have begun my analysis by looking at details of how interaction moves are accomplished in brief episodes of case studies. Interaction is tightly embedded in its unique circumstances, which cannot be experimentally manipulated or simplistically generalized. Collections of case studies of a particular kind of interaction can deepen one's sense of how people engage in such interactions. This may lead to targeted hypotheses that can be explored by quasi-experimental investigations, ethnographic observation or structured interviews. As CSCL researchers share their analyses, the community will gradually develop the expertise and conceptualizations needed to guide system design and pedagogical intervention.

Under my leadership, the VMT research team is exploring through the use of chat analysis and other empirical methodologies such topics as: group cognition, group meaning making, the self-constitution of small groups, the nature of online co-presence, group agency, virtual deixis, the adoption of the VMT system, the virtual co-construction of math objects, bridging online discontinuities, negotiation of meaning and online group information behavior. We are developing our analyses collaboratively in weekly data sessions, as well as in international workshops where we share our findings with researchers who are using our VMT environment at other institutions.

I believe that my greatest professional contribution can be made in the theory of computer-supported collaborative learning, which I have recently been discussing under the trope of "group cognition." This theory building draws heavily upon my unique background in social philosophy. But I now approach the development of theory via empirical observation and rigorous analysis. The VMT project provides an appropriate source of data and our chat analysis provides an appropriate methodology. The theory of group cognition that is emerging from our studies is compatible with other current theories of distributed cognition, situated action and activity theory. Our chat analysis is modeled on current approaches such as conversation analysis

and design-based research. The VMT project itself has practical application at the Math Forum and even in online teaching at IST. I have tried to pursue what I see as my greatest potential contribution during my stay at Drexel, using it to guide my scholarship, teaching and service.

Annual Highlights

2001/02

I accepted a position at IST/Drexel, but delayed starting for a year in order to work at the Fraunhofer Institute FIT near Bonn, Germany. I worked in the well-known CSCW department that had developed BSCW, a groupware system widely used in Europe. I was the group's lead on a large collaborative European Union research project, adapting BSCW for use in European K-12 classrooms. I established many professional contacts, particularly in Germany, the Netherlands and Scandinavia. That year I was local organizer for the ACM GROUP Conference in Boulder, Colorado. I was also Program Chair for the international CSCL Conference in Boulder, and I edited its Proceedings.

2002/03

My first week officially at Drexel I spent at a conference in Chile. I presented a plenary paper and served on the Doctoral Consortium. I subsequently served on the dissertation committee of one of the students who I advised in that Doctoral Consortium, and we co-authored a series of papers. In collaboration with the Math Forum, I submitted grant proposals to NSF and received funding for an NSDL digital library services and an ITR/IERI innovative technologies project.

2003/04

We set up the Virtual Math Teams (VMT) project, housed at the Math Forum. I attracted students from IST as GRAs and interns. I hired a visiting researcher from the Netherlands, who worked with us to define and evaluate a comprehensive coding scheme. We ended the project's initial year with a workshop of 36 international researchers to reflect on future directions.

2004/05

In the second year of the VMT project, a visiting researcher from Spain joined us and worked on statistical analyses using our coding scheme. I also hired a post-doc with expertise in conversation analysis. We established weekly data analysis sessions that have been running continuously ever since. Together, the VMT team has evolved a methodology of chat analysis based on the approach of conversation analysis. We have designed the VMT online environment to produce a complete record of interactions adequate for analysis.

2005/06

This year, I published my book on *Group Cognition* and started to publish the quarterly *International Journal of Computer-Supported Collaborative Learning*. The VMT project established an annual VMT Spring Fest contest for middle school math students. Spring Fests were held in May 2005, 2006 and 2007. They provide some of our best data for analysis, including several PhD dissertations. We contracted with a German research lab to use their software for VMT. Two researchers from their each spent a summer at VMT revising the software with us. This software provides the chat system, shared whiteboard, referencing tools and Lobby. A visiting researcher from Canada joined us as well, bringing expertise in middle school science and math pedagogy. I was awarded a two-year grant from NSF to plan a major national research center for "Engaged Learning in Online Communities." The co-PIs on this project are from the Universities of Hawaii, Wisconsin, Colorado and Swarthmore College. We held a series of workshops around the country and at conferences, building a network of researchers interested in collaborative research efforts.

2006/07

Six PhD students prepared dissertation proposals using VMT data. One had her dissertation approved (Litz at Nova University) and two had their proposals accepted (Sarmiento at IST, Mühlpfordt in Germany). Three others are currently refining their proposals with their committees (Cakir, Zhou, Toledo at IST).

This was a difficult year for me because of two life-threatening coronary blockages. I returned from a workshop in Norway to take care of the first and was in the hospital for the second of these during the first weeks of Winter Quarter, getting my INFO 310 course off to a bad start. I eliminated a planned heavy schedule of international travel and publication. I focused on managing the VMT project, guiding my PhD students, teaching a single course at a time, co-authoring papers and collaborating on joint funding proposals.

Interest in collaboration by researchers in other universities is increasing. The VMT system is being used at Carnegie-Mellon, Rutgers and Singapore. Researchers at Carnegie-Mellon, Rutgers Newark, Rutgers New Brunswick, Hawaii, Wisconsin and elsewhere are interested in seeking collaborative funding for VMT research. Earlier proposals in which I was listed as consultant had not been funded and we prepared several proposals with me as co-PI, which are now pending.

We engaged in significant software development, increasing the scalability and adding new features. A visiting professor from Norway joined us for the year on her sabbatical, and is helping with the Java programming. VMT team members, Math Forum staff and a German consultant all worked together on the system. We integrated a wiki component with the chat and multiple tabbed whiteboards, as well as a new Lobby with profiles and messaging.

The Future

During five years at Drexel, I have developed an agenda for scholarship, teaching and service that I would like to continue. There is much to be published about how students interact in the

VMT environment. The PhD dissertations—which will be completed in the next year or two—will make important contributions to that and I am committed to helping to make them as good as possible. The VMT software will continue to evolve and the service will become a regular program at the Math Forum.

I have proposed two books related to the VMT project. One is a monograph by me, developing the analyses, methodology and theory from *Group Cognition* based on subsequent findings of the VMT project (http://www.cis.drexel.edu/faculty/gerry/pub/explorations_proposal.pdf). This book has been accepted for publication in the CSCL book series at Springer. A second book is an edited volume of analyses and essays related to the VMT data from members of the VMT team and from other researchers using the VMT environment (http://vmt.mathforum.org/vmtwiki/index.php/Studying_Virtual_Math_Teams). I have already collected drafts of the chapters for an all-day workshop at CSCL 2007.

I will continue to serve as Executive Editor of ijCSCL. And I will continue my involvement in the international conference series: CSCL, ICLS (learning sciences), Kaleidoscope (European) and ICCE (Asia-Pacific).

There are currently several proposals pending for collaborative projects with researchers at other institutions who want to use the VMT environment. These are likely to lead to new explorations of the use of this environment—whether these specific proposals are funded or not. There are also possibilities for collaborations with other faculty at IST and other Drexel colleges.

Drexel has begun to manage the Internet Public Library (IPL). So far, there are no synchronous interactive or collaborative services associated with this digital library. When the IPL project is ready to explore options in these directions, I would like to be involved in that.

As a tenured faculty member, I will be ready to devote more time to institutional matters at IST and Drexel, such as helping to develop a lively research culture at IST and becoming involved in Drexel faculty affairs. I believe that a research culture can benefit students at every level, and I have always welcomed undergraduates and masters students as well as PhD students to intern at the VMT project. I have also brought my research into my classrooms, not only sharing my own experience, but providing as much first-hand experience as possible for the students with actual research issues. I have served in IST faculty committees for curriculum, the doctoral program and strategic futures, and could continue to do so in the future. I also plan to take a more active leadership role in faculty clusters for HCI, social informatics and teaching.

I have tried to assist other faculty in the complexities of grant proposals in an informal way, mainly responding to their inquiries, but also brainstorming some proposal concepts. I would like to provide more mentoring along these lines in the future. But I also think it is important to train PhD students in the skills of grantsmanship. This is just one example of the kind of skills that future researchers need to acquire. While IST's PhD program includes training in reading the research literature, in designing experiments and in conducting statistical analyses of results, there is little guidance in selecting a research topic, defining research questions and writing a dissertation—unless a student is lucky enough to find an interested faculty mentor. I am not sure how much support for these issues can be institutionalized and how much they should be supported by peer networks, but I would be interested in exploring how to help PhD students through the research and writing stages of their program at IST.

Given my professional involvement in online learning, it seems natural for me to assist in the development of IST's growing online program. One idea I had while teaching my recent online software design course—which seemed to be effective in giving students first-hand experience—would be to organize an online course for faculty and PhD students in designing online courses. The course would include research papers on online education and theory which small groups of participants would discuss online. The groups would also develop, week-by-week during the course a curriculum for an online IST course. Each group's proposed curriculum would be subject to evaluation by other groups.

In summary, I think I have established an effective approach to scholarship, teaching and service that I would like to continue and to enrich in the future.

Curriculum Vitae

The CV details my professional career to date. It includes links to my publications and grant proposals. http://www.cis.drexel.edu/faculty/gerry/tenure/3 cv.pdf

Scholarship Portfolio

Excerpts from "Group Cognition"

The book includes 21 essays covering my most important research up until the beginning of the VMT project. The introductory essay explains the approach and structure of the book. It gives a taste of the mixture of system design, empirical analysis and philosophical reflection. "Introduction: Essays on Technology, Interaction and Cognition." http://www.cis.drexel.edu/faculty/gerry/tenure/4 chapter00.pdf

The concluding chapter wraps up some central themes of my work from 1993 to 2004. It also provides a transition to my more recent research in the VMT project. It provides perhaps the best presentation so far of my concept of group cognition. Chapter 21, "Thinking at the small group unit of analysis." http://www.cis.drexel.edu/faculty/gerry/tenure/5 chapter21.pdf

A Research Proposal for CSCL

I wrote this chapter for the *Cambridge Handbook of the Learning Sciences* (a compendium of clear explanations of major ideas in contemporary learning sciences from the people who introduced or developed the idea) with two close colleagues, Tim Koschmann and Dan Suthers. Together, we have developed an approach to CSCL that focuses on the joint meaning-making processes that are foundational to collaborative learning. This chapter grounds that approach in a perspective on the history of the research field. http://www.cis.drexel.edu/faculty/gerry/tenure/6 chls.pdf

Description of the Virtual Math Teams Project

This overview of the VMT project was written for teachers and researchers interested in using the VMT environment with math students. It provides a clear introduction to the design and use of the VMT environment. It describes the work of the VMT project from a user perspective. http://www.cis.drexel.edu/faculty/gerry/tenure/7 vmt.pdf

Recent Analyses of Social Practices in the VMT Environment

The following three journal articles reflect my recent research at Drexel. They illustrate my analytic methodology, my philosophic concerns and practical design implications.

First, there is a book chapter that summarizes the findings of the three articles and situates them within the broader research agenda. http://www.cis.drexel.edu/faculty/gerry/tenure/8 cmc.pdf

The first journal article is based on my keynote address at CRIWG 2003 in Brazil. It looks at the relation of individual and group cognition in math problem solving. http://www.cis.drexel.edu/faculty/gerry/tenure/9 jecr.pdf

The second journal article is based on my paper at ICCE 2006 in Singapore, which won the "best Paper" award. It looks at the structure of math proposal adjacency pairs in collaborative problem solving. http://www.cis.drexel.edu/faculty/gerry/tenure/10 rptel.pdf

The third journal article was published as the lead article in a special issue on cognitive tools. It analyses a case study of pointing through the coordinated use of chat and whiteboard by multiple participants. It may be the best published example of my current research. http://www.cis.drexel.edu/faculty/gerry/tenure/11 ijcis.pdf

Reviews of "Group Cognition"

Review by Sten Ludvigsen, Professor & Director of InterMedia, University of Oslo

"In this bold and brilliant book, Stahl integrates three distinct fields of knowledge: computational design, communication studies, and the learning sciences. Such an interdisciplinary effort is both timely and necessary to foster innovations for human learning. This book shows how small-group cognition can be the underlying building block for individual and collective knowledge building."

Review by Claire O'Malley, Professor of Learning Science, University of Nottingham

"This book, which synthesizes research by a leading thinker in computer-supported collaborative learning, offers a thought-provoking and challenging thesis on the relationship between collaboration, technology mediation, and learning. Its scope is broad, encompassing philosophy, AI, and social science, and it is bound to stimulate the kind of productive debate that Stahl argues is core to knowledge building."

Review by Roy Pea, Stanford University

"Gerry Stahl's new work targets a vitally important issue facing a 21st-century knowledge-based economy: How can *group cognition* be fostered as a new unit of analysis for research and design of computer systems crafted for building collaborative knowledge? There are many golden nuggets in this volume that will help advance the collective intelligence available on the planet for finding and tackling hard problems, from educational systems to informal workplace learning."

Review by Barbara Wasson, Department of Information Science & Media Studies, University of Bergen

"This groundbreaking book reflects on the decade of research that led Stahl to the timely notion of group cognition. Those interested in collaboration will find here a plethora of insights into the relationship between design, communication, and learning."

Review by Stefan Trausan-Matu, University of Belgrade

“This book is, I may say, one of the kind of books I always wanted to have, to read and revisit for getting its golden nuggets. It is unique because it provides, from several different perspectives (technical as well as philosophical), deep insights in what is going on in computer-based collaborative applications, with emphasis on Computer-Supported Collaborative Learning. The need of collaborative applications is justified and analyzed starting both from practice and theoretically. The text very well presents and analyses the valuable experience of the author in designing and implementing a wide range of applications in e-learning, groupware, artificial intelligence (expert systems and knowledge-based and text processing (Latent Semantic Indexing). This experience description may be better understood if we see the text almost as a saga ending with one of the main ideas of the book: knowledge building appears in verbal-mediated collaboration in small groups. The practical experiences are doubled by deep interdisciplinary theoretical considerations, including philosophy (integrating ideas from Heidegger, Vygotsky, Derrida, Bourdieu, Bakhtin, Adorno, etc.), learning sciences and sociology (e.g. Garfinkel's ethnomethodology, and Schegloff's and Sacks' conversation analysis). State of the art theories like activity theory, distributed cognition, situated learning, knowledge building, and group cognition are also integrated in the whole.”

Review in ACM Networker, March-May 2007

“Lately, Amazon CEO Jeff Bezos has been trumpeting something he calls the ‘two-pizza rule’: that is, no project team should be so big that it can eat more than two pizzas. The idea is to reduce the time spent on hierarchy and process. But author Gerry Stahl world argue that the real value of the small team is that it can lead to “collaborative knowing” through conversation and debate. Stahl makes an empirical and convincing case for the educational value of being part of a community of learners, and for how computer-supported collaborative learning tools can help create that community environment. Stahl makes a fascinating and tremendously relevant argument for the importance of understanding and supporting the small-group settings where, as

his research shows and anyone who's ever judged a school by its average class size can understand, most real learning takes place.

"The nook brings together essays Stahl has written over more than a decade, and as such, forms a sort of conversation with itself. The reader can trace the turn from academia's 1990s belief in AI solutions for computer-supported collaborative learning problems to the 21-century interest in community and social processes. Most interestingly, he shows that the so-called 'wisdom of crowds' may actually be trumped by the wisdom of small groups" Through discussion and collaboration, groups literally become greater than the sum of their parts. This insight leads Stahl away from trying to build intelligence into educational technology, and towards trying to design systems that make it easier for students to collaborate intelligently. But even readers who are long past math class (if they are comfortable with the book's academic prose) will find important lessons here about the value of collaboration and community."

Teaching Portfolio

My Latest Course: INFO 608, HCI, Masters Level, Online

My online HCI course in Spring 2007 on the design of social networking software was entirely wiki-based. Most of the student work was done in small groups, meeting synchronously in VMT chat rooms. The content of the wiki and the chat rooms is persistent and provides a complete record of the course. The main page of the wiki is available at: (http://vmt.mathforum.org/vmtwiki/index.php/Designing_Social_Interaction_Software)

It provides access to an introductory Welcome Page, the Course Overview, and the various assignments. The students read the newly revised textbook on *Interaction Design* by Preese, et al. in its entirety and maintain a chapter-by-chapter journal on it, which they submit at the end of the course. There are additional readings from the research literature (available from the wiki), which the groups discuss online in the VMT environment and then comment on in the wiki. There are also weekly group assignments—part of a course-long hands on design and evaluation project— which the groups discuss online and then comment on in the wiki. Finally, there is a midterm conceptual design paper and a final reflection paper which individual students write and submit.

This course illustrates my approach to computer-supported collaborative learning in practice. Many of the readings are from my publications studying the details of online collaborative learning and group cognition. The students reflected extensively on the issues raised in these papers as they worked together to design new functionalities to support collaborative learning.

Service Portfolio

Introduction to the Second Year of ijCSCL

The introduction to volume two of the *International Journal of Computer-Supported Collaborative Learning* gives my perspective on the role of this journal in facilitating the

knowledge building process of the research community. http://www.cis.drexel.edu/faculty/gerry/tenure/12 ijCSCL.pdf

Websites, Wikis and Blogs Created

I have tried to take advantage of the latest technologies to promote communication in the research community. My own website (http://www.cis.drexel.edu/faculty/gerry/) was one of the first extensive personal websites and has long received a lot of traffic. It includes a CSCL page (http://www.cis.drexel.edu/faculty/gerry/cscl/) with many resources and is the only site containing a large collection of videos from CSCL conferences — many of which I had produced. I personally created the original websites for ISLS (http://isls.org/) and ijCSCL (http://ijcscl.org/). I started a CSCL-Community blog (http://cscl-community.blogspot.com/). I set up wikis for my recent course, for the recent VMT Spring Fest and for my workshop at CSCL 2007 (http://vmt.mathforum.org/vmtwiki/).

Role in the International CSCL Community

Particularly since 2001/02 when I worked on the European Union project, I have been interested in promoting global collaboration within the CSCL community. Helping to found ISLS, I have consistently pushed to emphasize its international aspects. As Executive Editor of *ijCSCL*, I have emphasized its international character, hiring a language editor to help non-native English speakers and to encourage submissions from around the world. I have attended conferences on multiple continents and have maintained networks of contacts. I am one of only three people who participated in every CSCL conference as an author (the other two are my close collaborators, Tim Koschmann and Dan Suthers).

I attended the ICCE 2005 conference in Singapore, where I received the best paper award. I stayed after the conference to serve on the Scientific Advisory Conference of the Learning Sciences Institute in Singapore, which is carrying out an important national mission. My contacts there led to on-going experiments with VMT at schools in Singapore. The next year, I organized two workshops at ICCE in Beijing: on CSCL and on involving Asians more in the CSCL community.

The center of most CSCL activity is in Europe, particularly in the large Kaleidoscope network. The CSCL SIG of Kaleidoscope has 350 researchers in 100 labs. I was the only non-European to present at their first conference in Switzerland. I was invited to be a guest and plenary speaker at their recent workshop series in recognition of my "permanent support of the European folks." I was the only non-European to participate in their leadership meeting on sustainability. I was subsequently instrumental in starting a European chapter within ISLS and recruiting many Kaleidoscope members into ISLS and as subscribers to *ijCSCL*.