International Society of the Learning Sciences

www.isls.org

Newsletter #7 November 2007

NEW ISLS PRESIDENT

Upcoming ICLS

Conference deadline:

- **ICLS 2008, June 24-28, Utrecht, the Netherlands**

  Submission deadline November 19, 2007, **11:59 p.m. Amsterdam time (UTC/GMT +1 hour)**

  http://www.isls.org/icls2008/

Conference watch:

Kaleidoscope 2007 Symposium

26-27 November, 2007

Berlin, Germany

http://www.noe-kaleidoscope.org/group/symposium/

ISLS welcomes Naomi Miyake as the new President of the Society, replacing past President Yasmin Kafai. Here's a brief biography of Naomi, in her own voice:

"I was born and raised in Japan, and started my graduate work at the University of California San Diego rather late in my life, after having finished graduate courses in Japan. At UCSD, a new discipline called cognitive science was taking its shape. In the last ten years or so, I would say we have been witnessing the birth and the very rapid growth of yet another new discipline, the learning sciences. What is conspicuously different in the infant days between these two sciences is its scope of internationalization. In the groundwork of the learning sciences, from its birth, or even before that, there had been various hopes and needs felt worldwide, all culturally supported as well as laden, to study the process of human learning, to make it better, far better than what we have succeeded to materialize so far. We are fortunate, I think, in two senses. For one we are lucky because the early days of any science could be exciting, and we are able to enjoy that excitement in this yet new field. We are also quite lucky, because, thanks to the international characteristics of this field, we could learn from each different culture collaboratively.

In my graduate days in Japan, I was involved in a bi-national, cross-cultural study on the effects of mother-child relationship on the children's intellectual success in school. It tried to compare rural vs. urban, by U.S. vs. Japan, started with children at around 3 years and 8 months and lasted till they became around 6 year olds. We interviewed the mothers, tested the kids on various psychological measures, video-taped and analyzed how the mothers taught their kids to play some educational games, as well as how they spontaneously interacted with each other while they waited for their next tasks. Both teams from the U.S. and Japan contributed their thoughts on creating something new in the test battery and the methods to analyze the data, trying to be equal partners. We found many interesting cultural differences, including some stereotypic results also, but one thing particularly struck me as a young researcher. The tasks created by the U.S. team tended to produce easier-to-understand data from the U.S. participants, while our contributions showed clearer patterns with Japanese participants. There was a clear "culture-task" and "culture-analysis" interaction. This was my first experience of realizing the complex, intricate, yet profoundly intriguing nature of the interaction between the workings of the human mind and its culture, history and current, dynamic situation. Among the research topics related to this interaction, understanding and supporting the mind's learning process is one of the most difficult and satisfying challenges. I would say I am lucky here also, to be able to share this challenging task with all of you."

ISLS Newsletter

New ISLS President-Elect

The new President-Elect, **Marcia C. Linn,** is professor of development and cognition specializing in education in mathematics, science, and technology in the Graduate School of Education at the University of California, Berkeley. She directs the NSF-funded Technology-enhanced Learning in Science (TELS) center. Board service includes the American Association for the Advancement of Science board, the Graduate Record Examination Board of the Educational Testing Service, the McDonnell Foundation Cognitive Studies in Education Practice board, and the Education and Human Resources Directorate at the National Science Foundation. She is a member of the National Academy of Education. She is a Fellow of the American Association for the Advancement of Science, the American Psychological Association, and the Center for Advanced Study in Behavioral Sciences. Her books include Computers, Teachers, Peers (2000), and Internet Environments for Science Education (2004). Awards include the National Association for Research in Science Teaching Award for Lifelong Distinguished Contributions to Science Education and the Council of Scientific Society Presidents first award for Excellence in Educational Research.

New ISLS Board: Four new ISLS Board members have also been elected: Cindy Hmelo-Silver, Paul Kirschner, Deborah Tartar, and Nancy Law are replacing Rogers Hall, Philip Bell, Danny Edelson, and Kai Hakkarainen who are rotating off.

Cindy Hmelo-Silver is an Associate Professor of Educational Psychology at Rutgers University. She received an M.S. in Educational Technology from SUNY at Stony Brook and a Ph.D. in Cognitive Studies from Vanderbilt University and served postdoctoral fellowships at Georgia Institute of Technology and the University of Pittsburgh's Learning Research and Development Center. Her research interests include problem-based learning, collaborative knowledge construction, particularly in the area of complex systems, computer-supported collaborative learning, and software-based scaffolding. Her recent projects have created conceptual frameworks and learning environments that are grounded in the learning sciences and have involved both adult learners and children in a variety of contexts ranging from medical education and teacher education to middle school science and math. She is associate editor of the *Journal of Research in Science Teaching* and serves on the editorial boards of *Journal of the Learning Sciences, international journal of Computer-Supported Collaborative Learning,* and the *Interdisciplinary Journal of Problem-based Learning.* She has written numerous articles and has co-edited books entitled *Problem-based learning: A research perspective on learning interactions* (2000*)* with Dorothy Evensen and *Collaborative Learning, Reasoning, and Technology* (2006) with Angela O'Donnell and Gijsbert Erkens. She received awards for "Best Paper by a New Investigator" from the AERA Division I for her dissertation research, an NSF Early CAREER award for her work on complex systems, and a National Academy of Education Postdoctoral fellowship for studying collaborative knowledge building in problem-based learning and how that is facilitated. She recently co-chaired the international *Computer-Supported Collaborative Learning 2007* conference.

Website: http://www.gse.rutgers.edu/cindy_hmelo-silver

New ISLS Board Members' Bios

Paul A. Kirschner is professor of Educational Sciences at the Department of Pedagogical and Educational Sciences at Utrecht University (as well as head of the *Research Centre Interaction and Learning* and dean of the Research Master program *Educational Sciences: Learning in Interaction*) and professor of Educational Technology at the Educational Technology Expertise Center at the Open Universiteit Nederland with a chair in Computer Supported Collaborative Learning Environments.

He is an internationally recognized expert in his field as can be seen from his C.V. A few notable examples of this is his election to the CSCL Board (within the International Society for the Learning Sciences), his associate editorship of the highly ranked journal Computers in Human Behavior and his editorship of two recent and very successful books (*Visualizing Argumentation* and *What we know about CSCL).* His areas of expertise include computer supported collaborative learning, designing electronic and other innovative learning environments, media-use in education, development of teacher extensive (distance) learning materials, use of practicals for the acquisition of cognitive skills and competencies, design and development of electronic learning and working environments, and innovation and the use of information technology educational systems. He has developed more than 50 courses for the Open University of the Netherlands, primarily in the field of science and technology.

Deborah Tatar (Ph.D. Stanford, 1998; BA Harvard, 1981) is an Associate Professor of Computer Science and, by courtesy, Psychology, at Virginia Tech and a member of the Center for Human-Computer Interaction. Previously, she was a Cognitive Scientist at the Center for Technology in Learning at SRI International, conducted post-doctoral research at CSLI at Stanford, was a researcher at Xerox PARC and a Senior Software Engineer in Educational Services at DEC. Her first employment out of college was as an administrative assistant at the Logo Lab at MIT. She is concerned with designing technologies and settings that can promote deep learning and then taking on the raft of challenges to make sure that they do promote deep learning. The bulk of her work focuses on understanding and augmenting face-to-face interaction in classroom environments, with a focus on the factors that affect attention and participation. Most recently, she has been developing, using and studying wirelessly connected, mobile technologies for mathematics, formative assessment and coordinated game playing. She has also been conducting a large-scale study of mathematics learning with SimCalc. She brings to ISLS a long history of service with a multiplicity of organizations, including editing the first two proceedings of the CSCW conference, and most recently chairing the doctoral consortium for CHI 2007 as well as serving as an Associate Chair for Papers.

She has participated in and reviewed for CSCL and JLS.

Webpage:

http://people.cs.vt.edu/~tatar

ISLS Newsletter
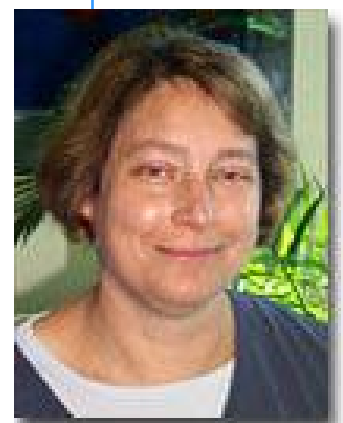
New ISLS Board Members' Bios

Nancy Law is Professor and Head of the Division of Information and Technology Studies in the Faculty of Education and the Director of the Centre for Information Technology in Education at the University of Hong Kong. She obtained her B.Sc. and M.Phil. in Physics as well as her teaching qualification from the University of Hong Kong, and received her Ph.D. in Science Education from the Institute of Education, University of London. Prof. Law has served on various advisory committees on IT in education within and outside of the University of Hong Kong, and is currently a member of the Steering Committee on Strategic Development of Information Technology in Education of the Hong Kong SAR government and a member of the Advisory Panel of the Microsoft Partners in Learning program in Hong Kong. She has served on the International Steering Committee of the Second International Information Technology in Education Study (SITES) and the Steering Committee of the APEC Cyber Education Consortium. She has conducted numerous evaluative studies as well as research and development projects related to information technology in schools. She is currently leading the research design and reporting of the Second Information Technology in Education Study (SITES) 2006, a Study conducted under the International Association for the Evaluation of Student Achievement (IEA) as a member of the International Study Consortium. Her research interests include international comparative studies of pedagogical innovations and information technology, models of ICT integration in schools and change leadership, computer supported collaborative learning and the use of expressive and exploratory computer-based learning environments. She led the development of the iconic modeling tool, Worldmaker, which has been used in science classrooms in a number of countries for supporting the exploration and better understanding of complex phenomena, including ecology and conservation.

Web2.0@ISLS

Do you know that...

...the ISLS website features an **RSS news feed**? To find out more about this feature visit the ISLS website.

...there is a **flickr** site with photos from the CSCL2007 conference? See the photos and share yours at http://www.flickr.com/groups/cscl_2007/

...there is an ISLS **facebook** group, created by Turadg Aleahmad? The ISLS facebook space counted 102 members as of November 7, 2007. Join at http://www.facebook.com/group.php?gid=2421094217 (you need to have a facebook login to access it)

FlashThemes in ijCSCL
By Gerry Stahl & Friedrich Hesse, Executive Editors

A number of groups of CSCL researchers have proposed developing special issues for the *International Journal of CSCL*. These were not topics solicited by the *ijCSCL* Editorial Board, but arose out of the work and concerns of practitioners. They are themes which "flashed" up in the field through a kind of spontaneous combustion of hot topics, stirred up by experiences in the wild. Responding to these openly and welcoming such suggestions has been a way for *ijCSCL* to give voice to the concerns of the field in a timely and flexible way and to stay at the leading edge of a rapidly evolving discipline.

This year, *ijCSCL* began to publish papers on four such flash themes. Reviews of papers on these themes are being coordinated by Associate Editors of *ijCSCL* (as indicated in parentheses below) in a move to broaden editorial responsibilities as the journal becomes more established. The following flash themes are being initiated in the issues of volume 2 (2007) of *ijCSCL*:

- Issue 1: Community-Based Learning

- Issue 2: Scripting in CSCL (reviews coordinated by Barbara Wasson)

- Issue 3: Argumentation in CSCL (reviews coordinated by Dan Suthers)

- Issue 4: Activity Theory and Design Methods (reviews coordinated by Claire O'Malley)

Each flash theme will be featured in *ijCSCL* for about one year. So if you would like to report on significant work in one of these areas, please submit a manuscript and send a note to info@ijCSCL.org notifying the editors that a contribution is being submitted to a flash theme.

In addition, we are interested in submission of journal quality versions of successful papers from the CSCL 2007 and ICLS 2006 conferences. We are particularly interested in articles that report on a mature research agenda, perhaps covering the work of a research lab or project consortium. A journal article should make a significant innovative contribution to the field. It might propose a new direction for theory, socio-technical design, technological media, pedagogical practice or research methodology. Ideally, it should investigate the use of computer support in learning and should feature collaborative interaction as the mode of knowledge building or shared meaning making. While proposals should generally be supported with concrete evidence

based on some form of user experience, the evaluation of the evidence can take the form of any rigorous method: for instance, statistical significance of experimental results, ethnographic study, action research, case study. Please see our website at http://ijCSCL.org for details and examples of published papers if you are considering a submission.

All submissions to *ijCSCL* are carefully peer-reviewed through a blind review involving three experienced CSCL researchers. Papers that are part of a flash theme or expansions of conference papers are individually reviewed like any other submissions and are only published if and when they meet the standards of making a clear and significant contribution to the CSCL field. Language editing support is provided for all manuscripts prior to publication in order to avoid disadvantaging non-native English speakers. Please feel free to contact the editors if you have any questions concerning a possible submission.

Issues in 2007 will include papers on the following flash themes:

Community-Based Learning

Scripting in CSCL (reviews coordinated by Barbara Wasson)

Activity Theory and Design methods (reviews coordinated by Claire O'Malley)

Argumentation in CSCL (reviews coordinated by Daniel D. Suthers)

ISLS Newsletter

ICLS2008 Open for Proposals

Submissions

Another milestone has been reached on the road to ICLS2008 in Utrecht, The Netherlands. The website (www.isls.org/icls2008) is now open for submission of papers, symposia, posters and different types of inter-active sessions, all of which will be published in both the conference proceedings and the ACM Digital Li-brary.

A number of people have asked us what exactly the interactive sessions are. In a nutshell, they are full 90-minute sessions that use creative and innovative strategies for engaging the audience in dialogue and thus open the conference up to ways of interacting that move be-yond traditional presentations. Examples of interactive sessions might, but should not be limited to:

Interactive poster sessions **where a set of posters are provided, an introduction given, time for people to circulate, followed by open discussion.**

Interactive panels **that provide opportunities for participants to discuss a subject with each other and with members of the audience in an informal manner.**

Fire hose sessions **where conference attendees can optimally interact with as many (up to 10) presenters as possible in a short amount of time. Such a session begins with very short (3-minute) presentations by each presenter of her/his main points. The session then breaks with each presenter at a separate table where (s)he has 20 minutes (e.g. 10 min-utes to present and 10 minutes to interact) with attendees. After this attendees switch tables to interact with another presenter in the same way, et cetera. This session format has been very successful at both AERA and CSCL2007.**

Demonstrations **which have approximately the same set-up as the fire hose sessions.**

Thursday Gameday

The Thursday at ICLS2008 is dedicated, though not exclu-sively, to **games and gaming**. First of all, there will be a duo-keynote on Games in Education and Society. One key-note is *Marc Overmars*, director of GATE (Game Research for Training and Entertainment) at Utrecht University, a lead-ing edge research center in Europe (and world-wide) for advancing the state-of-the-art in gaming and simulation. He will unveil "The Game of the Future". The other keynote is *Constance Steinkuehler*, world renowned researcher at the University of Wisconsin-Madison, who will discuss "Pop Cosmopolitanism, Cogni-tion, and learning on the Virtual Frontier".

In the afternoon there will be a number of **workshops** dedicated to games, gaming and simulation. Researchers, designers and developers of games and simulations are invited to submit proposals for papers (see above) and workshops (check the website for the **call for workshops**).

Visit the ICLS2008 website for more up-to-date information at www.isls.org/icls2008

ICLS2008 Submission deadline: November 19, 2007

Types of submissions	Deadlines	Submit to
Full Papers	November 19, 2007	<Review System PCS >
Symposia	November 19, 2007	<Review System PCS >
Interactive Sessions	November 19, 2007	<Review System PCS >
Posters	November 19, 2007	<Review System PCS >
(Pre)-conference Workshops	November 19, 2007	icls2008-workshops@isls.org
Doctoral Consortium	January 28, 2008	icls2008-workshops@isls.org

ISLS Newsletter

1. Learning Sciences at your institution

University of California, Berkeley

http://gse.berkeley.edu

In our last newsletter issue we solicited contributions from established Learning Sciences programs around the world. We asked contributors to comment on three main issues:

1. Learning Sciences at their own institution
2. The interdisciplinary preparation needed by future Learning Scientists
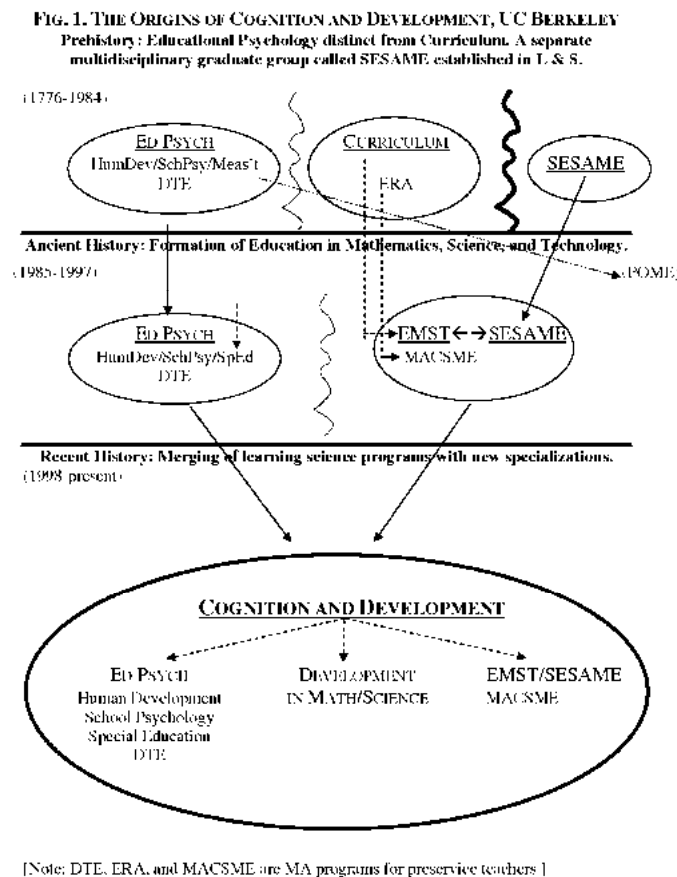3. The main challenges a Learning Scientist faces today.

The second series of contributions is presented here.

Learning Sciences at the Berkeley School of Education is provided in Fig 1. Starting with the traditional Psychology and Curriculum distinction, it has undergone two major reorganizations to result in a program called Cognition and Development that prepares students in the Learning Sciences. The current program has several definitive features:

Core course. Rather than providing a general overview, the core course engages students with some major educational issues, helps them come to grips with differing perspectives on those issues, and allows them to contrast varied investigative methods. Students practice recognizing the strengths, weaknesses, and range of applicability of the different perspectives and methods that can be brought to bear on educational issues.

Action oriented courses. Over half of the courses require students to conduct an empirical project of some significant scope. In such courses there is usually a heavy reading load "up front." In the middle of the term the reading load lightens as students design and implement projects that are related to the course content. At the end of the course, the projects are used as vehicles to reflect on that content.

First and second year projects. In the summer following the first year of the program, and again in the summer following the second, students are required to conduct and write up more extensive studies. Typically, these first and second year projects are extensions of course projects: a course project may have yielded some tantalizing results, so the student goes back to gather more (or better) data to explore the issue in greater depth. These projects are written up as though for publication, and are judged accordingly. Each project report is read by two faculty, and the discussion of the student's project is a major component of our annual student evaluation.

FIG. 1. THE ORIGINS OF COGNITION AND DEVELOPMENT, UC BERKELEY
Prehistory: Educational Psychology distinct from Curriculum. A separate multidisciplinary graduate group called SESAME established in L & S.
(1776-1984)

Ancient History: Formation of Education in Mathematics, Science, and Technology.
(1985-1997)

Recent History: Merging of learning science programs with new specializations.
(1998-present)

[Note: DTE, ERA, and MACSME are MA programs for preservice teachers.]

Research groups. Every semester students participate in a research group led by a faculty member with the goal of gaining valuable investigation skills. Research groups enable students to engage with people who live and breathe research issues, participate (at least vicariously, sometimes actively) in the development of their ideas, and comprehend their successes and failures. Students frame their course projects and annual projects in collaboration with the members of the research group. These groups vary by topic and activities.

For current research group descriptions see: http://www-gse.berkeley.edu/program/CD/cdresearch.html.

1. Learning Sciences at your institution

Georgia Institute of Technology

http://www.gatech.edu

Georgia Tech's learning sciences program is novel in that it lives in our College of Computing. Georgia Tech has no education school, but the College of Computing, which focuses its education and research broadly across computing has been an excellent venue for carrying out research on technological issues in the learning sciences. Our learning sciences focus arose from Janet Kolodner's work in cognitive science and artificial intelligence. Her work on case-based reasoning suggested new ways of promoting learning. At about the same time (1993), Georgia Tech received a grant from the Woodruff Foundation to promote use of technology in education, and Janet became head of the EduTech Institute, created as the infrastructure for that endeavor. The purpose of EduTech was to use what we knew about cognition to inform design of educational environments and educational technologies. Between 1993 and 1997, many things happened that promoted the growth of learning sciences at Georgia Tech. Mark Guzdial was hired to the faculty, and he started his work in CSCL. New undergraduate and graduate classes in design, mechanical engineering, and sustainable technology and development were designed around what we knew about the cognition of learning, and collaboration technology was integrated into those classes. Working together with engineers and architects at Georgia Tech, Janet got the Learning by Design curriculum project started. Eight post-docs joined us at different times during those years and worked on designing and integrating technologies in support of learning into the learning venues we were designing.   Our post-docs were instrumental in organizing our first learning sciences courses in the College of Computing, first taught as graduate seminars. We hired Amy Bruckman in 1998, and she brought to us her interest and research projects in on-line learning communities and constructionist learning environments.

We have four LS programs students may enter -- two M.S. programs, and two Ph.D. programs. Our M.S. programs are in traditional computer science and in human-computer interaction. Our Ph.D. programs are in traditional computer science and in human-centered computing (HCC). The Ph.D. program in Human-Centered Computing focuses on human issues with respect to computing, including issues in designing technologies for particular cultural communities and integrating technologies into social and cultural environments. Projects and research students may become involved the same across the two programs, but our computer science programs provide background in traditional computer science areas, while our human-centered programs provide background in cognitive science and social and cultural sciences needed to imagine and design for seamless human-computer interactions. Doing learning sciences research in our College of Computing might mean creating new technology tools that are difficult to develop in a less technical environment, studying the use and integration of those tools, studying how people learn computing, or other things, grounded in imagination and a deep understanding of learning, pedagogy, and the ways people and computers can interact. These programs allow us to accept and educate students who have backgrounds outside of computing science. Students in those programs have undergraduate degrees in areas across the humanities, sciences, engineering, and social sciences. We offer a range of undergraduate and graduate courses in design of learning technologies, computer support for collaborative learning, on-line communities, and cognitive foundations, and students can take courses in areas such as game design, human-computer interaction, and visualization from other faculty at Georgia Tech and courses on methodological issues and in science education at Emory University and Georgia State University.

Our research focuses on middle-school and high-school science education, undergraduate computer science education, and graduate education in game design. The foundational perspectives we draw from include communities of practice, legitimate peripheral participation, case-based reasoning, constructionism, problem-based and project-based learning, and cognitive apprenticeship. We've designed curricula, stand-alone software environments for learning, software in support of on-line learning communities, and a variety of kinds of software for integration into constructivist and more traditional learning environments. We have relationships with a variety of schools in the Atlanta area, a variety of computer science departments in colleges and universities around the world, and a variety of after-school and summer programs for at-risk kids. A major focus of our research is making our innovations work in real environments and making and keeping them sustainable. Our aim for real-world success and sustainability has helped us recognize that design of learning environments requires taking into account the whole range of cognitive, social, and cultural issues and making use of foundational research from all of those perspectives. Our analyses of implementations in real-world environments is allowing us to enrich those foundations as well.

ISLS Newsletter

1. Learning Sciences at your institution

Northwestern University

http://www.sesp.northwestern.edu/ls

The Learning Sciences program at Northwestern University was both the first in concept and the first in name. The brain child of Roger Schank, it started in 1989 as an R & D center with substantial funding both from Northwestern University and from (then) Arthur Anderson. This center, The Institute for the Learning Sciences (ILS), was dedicated to using AI (Artificial Intelligence) and inspired approaches to the design and implementation of innovative software for K-12 education and corporate training. The initial educational model was a Master's program for corporate interns which focused on providing hands on experience in building such software. Over the next several years, a more comprehensive graduate program emerged, offering both Master's and Ph.D. degrees. With the dissolution of ILS, these programs have maintained its focus on implementation and also sought to bring a broader range of technology and innovative design to curriculum and other artifacts that support the functions of schools and other organizations. The Ph.D. and masters programs have maintained and deepened the general emphasis on learning, both in and out of schools, that was at the core of their founding mission.

2. The interdisciplinary preparation needed by Learning Scientists

University of California, Berkeley

http://gse.berkeley.edu

The contexts learning scientists study, the knowledge base, and the available methods are all changing dramatically. Two decades ago, for example, studies of thinking and problem solving were usually done in the laboratory; studies of teaching typically focused on a limited number of variables, with researchers seeking correlations between teacher behaviors and student outcome variables. Increasingly, research studies take place in the midst of complex educational interventions. Much of the job in those studies consists of trying to make sense of what takes place amidst the chaos of classrooms. To deal with the rapid change and increasingly multidisciplinary field, we need to prepare students to:

(1) Guard against the dangers of compartmentalization. It is all too easy to focus narrowly and to ignore or dismiss perspectives from areas not clearly related to one's own. Educators need a sense of the "big picture" and of how things fit together. In the CD program the core course is designed to overcome compartmentalization.

(2) Guard against the dangers of being superficial. Superficial knowledge (of information or methods) is likely to yield trivial research. Generally speaking, high quality research comes when one has a deep and focused understanding of the area being examined, and extended experience mulling over the issues under question. Often researchers benefit from working in partnership with specialists in other domains to ensure that the complexities of the discipline, classroom learning, and curriculum design are jointly addressed in the research program. In the CD program, action oriented courses engage students in deep exploration of focused questions.

(3) Develop a deep understanding of what it means to make and justify claims about educational phenomena. Learning scientists need to ask themselves: What is a defensible claim? What is the scope of that claim? What kinds of evidence can be taken as a legitimate warrant for that claim? How will individuals with expertise in another aspect of the field view the evidence? In the CD program, research groups and reports of empirical projects give students extensive experience justifying their claims.

(4) Learn how to identify and frame problems on which legitimate progress can be made in a reasonable amount of time. A challenge of working in a complex field is to carve out a meaningful problem and to formulate a coherent intellectual frame for exploring the issues of interest. A coherent frame helps researchers identify important phenomena, formulate central questions about them, decide what appropriate evidence is, and provide coherent and defensible rationales for the claims one makes using that evidence appropriately. In the CD program students develop this skill by conducting class and annual projects.

In our last newsletter issue we solicited contributions from established Learning Sciences programs around the world. We asked contributors to comment on three main issues:

1. Learning Sciences at their own institution
2. The interdisciplinary preparation needed by future Learning Scientists
3. The main challenges a Learning Scientist faces today.

The second series of contributions is presented here.

2. The interdisciplinary preparation needed by Learning Scientists

Georgia Institute of Technology

http://www.gatech.edu

We want future learning scientists to deeply understand cognitive, socio-cognitive,and cultural-historical theories of learning and the whole variety of approaches to promoting learning that are out there (e.g., constructionism, goal-based scenarios, cognitive apprenticeship), as we believe that understanding learning in real- world situations and understanding how to promote better learning in real-world situations requires being able to analyze what is happening using a variety of lenses and being capable of designing learning environments that focus on the range of issues important for the environment and learners being designed for. At the same time, if we want to design excellent computing environments to help in promoting learning, it is important to have imagination about how computers might be used, to understand computing well, and to be able to implement experimental software.

Northwestern University

http://www.sesp.northwestern.edu/ls

The Learning Sciences program seeks to prepare scholars whose skills are deep in three areas. First, we seek to prepare learning scientists who can design artifacts that support schools and other organizations. We also aim to prepare researchers with a broad range of qualitative and quantitative skills to engaged in nuanced empirical analysis. Finally we strive to prepare scholars who can construct theory that productively bridges research and practice. Coupled to knowledge in content domains and the ability to work collaboratively with practitioners, we believe that this set of skills prepares learning scientists to analyze and solve teaching and learning problems that come from a large array of contexts. The Learning Sciences program offers courses in each of these areas. Research apprenticeships develop the facility to collaborative practitioners. Apprenticeships plus added courses deepen student content knowledge.

3. The main challenges a Learning Scientist faces today

University of California, Berkeley

http://gse.berkeley.edu

Today's learning scientists have the opportunity to work in a complex, systemic, rapidly changing field. Challenges we face include:

- Finding ways to communicate across many distinct fields and disciplines with varied methods, standards of evidence, and central concerns. Today varied stakeholders including policy makers, methodologists, anthropologists, technologists, discipline experts, and neuroscientists benefit from working together.

- Taking advantage of advances in technology such as open source environments, powerful visualizations, new ways to document learning as it occurs, and new sources of evidence for teachers and researchers. Today we can log student responses while they use a GIS system to solve a complex problem and summarize the varied strategies participants use for the teacher.

- Exploring increasingly complex phenomena using new forms of evidence such as argumentation, brain activity, videotapes of collaboration, or designs of problem solutions and new, more comprehensive methodologies.

- Interpreting and impacting policy decisions such as curricular standards, accountability systems, and affirmative action plans.

- Exploring ways to test and refine research findings in whole schools, districts, states, disciplinary topics, or learners of specific ages.

NOTE: These responses draw heavily on: SCHOENFELD, A. H. (1999). THE CORE, THE CANON, AND THE DEVELOPMENT OF RESEARCH SKILLS: ISSUES IN THE PREPARATION OF EDUCATION RESEARCHERS. IN E. LAGEMANN & L. SHULMAN (EDS.), ISSUES IN EDUCATION RESEARCH : PROBLEMS AND POSSIBILITIES, PP. 166-202. NEW YORK: JOSSEY-BASS.

ISLS Newsletter

3. The main challenges a Learning Scientist faces today

Georgia Institute of Technology

http://www.gatech.edu

The biggest intellectual challenge is gaining the breadth of understanding necessary to be a truly interdisciplinary learning scientist.

Northwestern University

http://www.sesp.northwestern.edu/ls

The biggest change facing Learning Sciences today is building a knowledge base in the cognitive, educational, social, and computational sciences that will allow the field to help improve schooling at scale. To address this problem we need to build better theory and develop more rigorous empirical analysis to guide design, development, and engineering to improve teaching and learning practice.

4. Other thoughts about training the future Learning Scientists

Georgia Institute of Technology

http://www.gatech.edu

Our program at Georgia Tech continues to be novel in being part of a College of Computing. But you don't have to be a computer geek or hard-core computer hacker to be successful in our M.S. and Ph.D. programs. We want you to understand computing well and bring a computational and scientific approach to your research with us, but we don't require you to go through the full range of technical computer science courses. Rather, we seek to help you get a good grounding in cognitive and social aspects of computing, the kind of grounding that will allow you to make contributions to the science of human-centered computing in addition to making contributions to the learning sciences. Human-centered computing is rather ill-defined at the moment, but it has to do with designing human-machine systems and understanding what needs to be understood about people, communities, and roles computers can play in interacting with human environments and human communities.

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Contributors:

University of California, Berkeley: Alan H. Schoenfeld & Marcia C. Linn

Georgia Institute of Technology: Janet L. Kolodner, Mark Guzdial, Amy Bruckman

Northwestern University: Louis Gomez & Andrew Ortony

Thanks to Nora Sabelli for suggesting the original idea.

Announcement

A new Ph.D. Program in Engineering Education @ Virginia Tech

The Engineering Education department at Virginia Tech announces the start of a new Ph.D. program, Doctor of Philosophy in Engineering Education. Students will be admitted to the program beginning January 2008. This new program is only the second such Ph.D. program in the United States offered by a dedicated department of engineering education housed within the College of Engineering. The Virginia Tech Department of Engineering Education, created in 2004, offers one of the premiere first-year engineering programs in the nation and offers graduate courses and programs in the area of engineering pedagogy and engineering education research. Collectively, the 15 faculty members of the department hold degrees in English; Information Design; Learning Sciences; Linguistics; Communication; Mathematics; and 11 different engineering disciplines, making it one of the most diverse engineering departments in existence. An existing Graduate Certificate in Engineering Education has quickly become very popular with graduate students from across the College of Engineering, as have an array of graduate courses on engineering education.

The new cross-disciplinary doctoral program responds to the need for rigorous theoretical and methodological advances in our understanding of engineering education, improved teaching of engineering at all levels, and design of responsive learning environments for engineering education. Engineering researchers and educators must be better prepared to address a more diverse group of students, from levels in middle school through doctoral study and to generate new knowledge in the field of learning in an engineering context. The curriculum will provide students with the knowledge to: 1) conduct and direct research in engineering education; 2) develop, review, and critique effective research designs; 3) effectively teach engineering subjects; 4) design and assess engineering courses; and 5) address critical issues facing engineering education. Graduates will understand how to apply research to the development and assessment of engineering curricula and educational policies that promote curriculum integration and social relevance.

Currently, several funded projects are housed in the department in areas such as Technical Communication, Interdisciplinary and Global Teamwork, Evaluation and Assessment, Use of Technology in Classrooms, and e-Design. Virginia Tech and the department are at the forefront of technology use in classrooms and in informal settings. The faculty collaborates closely with other departments within the College of Engineering and with the School of Education, Center for Human-Computer Interaction Lab and the Science and Technology Studies program. In addition, there are several inter-institutional and international collaborations.

The research-based degree program is designed for students with either a bachelor's or master's degree in engineering and requires a minimum of 90 credits beyond the bachelor's degree. Course requirements include a concentration in a traditional field of engineering, a concentration in education, a concentration in engineering education, a sequence in research methods, several teaching practicum at different levels of responsibility, and courses selected specifically to support the student's research. Graduates of the program will take positions as faculty, research scientists in academia and industry, designers and evaluators of learning environments, and in policy-making.

Interested persons can find more information on the department's website, www.enge.vt.edu, or by e-mailing enge_graduate@vt.edu. Feel free to contact the faculty of your area of interest.

CSCL Early Career Workshop Feedback

The CSCL 2007 conference at Rutgers included an Early Career Workshop (http://cscl2007.rutgers.edu/Early_Career.html). The Workshop took place on Tuesday and Wednesday prior to the CSCL conference and offered several opportunities for formal and informal interaction with experienced ISLS members.   The 2007 CSCL Early-Career Workshop Committee included Marcia Lin, Janet L. Kolodner, Yael Kali, Cynthia Carter Ching, Brigid Barron, Jerry Andriessen, and Chrystalla Mouza. Participants came from North America and Asia.

The organizers of the Workshop solicited written evaluations from the participants. The newsletter editor also interviewed many of the Workshop participants, asking them to share what they perceived as the Workshop's highlights and to reflect on the additional topics they would like to see addressed in future Early Career Workshops. Here are the comments we received back:

Why did you apply for the CSCL Early Career Workshop?

Thanks to all CSCL Early Career Workshop participants who volunteered their feedback presented here!

An NSF-sponsored Junior Faculty / Early Career workshop and a Doctoral Consortium will be part of the ICLS 2008 conference. Visit the conference website for more information.

I am early career, I have a little idea of what I want to do next, but I want to meet with senior mentors outside of my approximate area. I need to see someone else's perspective about my research, especially from someone senior in the field. Also there are a lot of things I am supposed to know and I don't know, and they can tell me that: e.g. how to get tenure, balancing your professional and personal life, advising students and teaching courses, grant writing, publication writing. The subsidy of the conference, to cover some of my travel expenses was also important.

My research focus is CSCL and I always wanted to attend the CSCL conference. I thought this was a great opportunity for me to learn how to plan the first 3 or 6 years. And I thought I would be great to be able to meet people who are doing seminal research in the field and perhaps find possible collaborators...Meeting people is the biggest factor.

I attended the workshop for two reasons. First, I have been attempting to gather as many perspectives as possible on how to manage an academic career. I have been fortunate to have had good mentors up until this point, however I do not want to limit myself to only those that I have worked with in the past. Second, I wanted to meet in a more conversational kind of format scholars (both new and experienced) that do work similar to my own.

I have just finished my first year as an assistant professor. There is only one other person at my college that I have discovered who is interested in these topics so I was interested in attending this workshop to get mentoring on developing a research agenda in this area as well as to begin creating a research community.

I wanted to connect to my peers in the field. I also wanted to interact with more experienced researchers and hear their feedback about careers.

CSCL Early Career Workshop Feedback

What were the highlights of the Early Career Workshop for you?

We got to meet and consult with different senior faculty members. We divided into groups and each group got a different consultant in the morning, afternoon (senior, just past the mid-point review). We had three consulting experiences. Daniel Suthers shared his experiences with getting grants (e.g. how to find and submit big applications to NSF and the US Department of Education, selecting a research topic). Paul Kirschner gave us suggestions about collaborations with European researchers. Nikol Rummel and Marcia Linn also joined us and both of them gave us tips about publication and what we need to pay attention to, and finding a balance between service, teaching and research.

Paul Kirschner gave me information on the micro scale theory to guide my research and the need to have a big theory to guide these small studies. And also lots of small but important things. Like how do you build your career, awards, meeting with the editors (Gerry Stahl and Janet Kolodner). Their way of looking at the journals is very important.

I think the small group consultancies with the experienced mentors was the highlight for me. It was really great to talk one on one about both research and careers.

To get good advice from the organizers, panels, etc. The fact that they were all eager to help out.

I was happy to get to know people as it can get lonely as an only assistant professor. Feel far away…

The small group consultancies were the most valuable part of the workshop. While I did not get to know everyone's work well, I did get to know some people's work well, and it allowed us to build a real sense of connection between research interests. Usually when there is more of a presentation focus to a meeting, there is little time to really make connections, you are just listening. It also allowed for customization of the conversation groups had. That was all very positive.

The 'research consultancies' where we met with one leader and several of the participants and discussed issues pertinent to the group. It was a great synergistic environment and I left each of the three energized and eager to continue thinking through the ideas we had generated.

What else what you like to see added to future ISLS Early Career Workshops?

- A web space so that we can get to know each other's research interests about who to collaborate with and the grouping in the research discussion.

- Include opportunities for discussing each participant's personal research.

- Expand the days of the workshop.

- Have reunions, so that we can see how we developed in a one and a half years, and see new people, and enlarge the community.   Also, add a focus on how we become a member of a community in ISLS. That's why I think a reunion is an important idea.

- I think having an assigned mentor, who doesn't necessarily participate in the workshop, but someone you meet with one-on-one to discuss your research direction would be a great addition.

- Time to share research interests with the other participants to see if there were overlaps or potential collaborations. Also, a get-together that includes past alums to keep the connections going and add new ones.

- I would like to see more of the self-organization. Allowing the early career people to determine areas of interest and then affiliate into small groups that would discuss those issues with a senior scholar as a facilitator. I think organizing the workshops using open space technology could lead to really powerful outcomes and much more of a sense of ownership from the participants.

Job Announcements

Tenure-track Assistant Professor, Instructional Systems Program

Penn State University

☑ University Park campus Penn State's College of Education has a strategic initiative in the Learning Sciences. We seek a strong interdisciplinary candidate who will strengthen links between instructional systems, curriculum and instruction, information sciences and technology, educational psychology, and/or other related disciplines. Regarded as one of the top educational design programs in the country, the Instructional Systems Program seeks an individual with outstanding accomplishments in, or potential to advance innovations in the learning sciences, with a focus on applications of technology for teaching and learning. The program has a growing faculty and curriculum in this area and is looking for a new colleague with an interdisciplinary research agenda that could inform understanding of the intersection between design, technology, and learning in formal K-12, informal and non-formal learning environments.

See the full job announcement at:

http://www.ed.psu.edu/educ/employment/employment/assistant-professor-of-education-instructional-systems

Materials will be considered beginning November 30th until the position is filled. For questions contact the search committee co-chairs Brian Smith and Ali Carr-Chellman.

Brown and Peppler Join the IU Learning Sciences Program; Search Continues

☑ After reviewing almost 90 applications and interviewing a number of outstanding young scholars, Indiana University's new Learning Sciences program has hired two of the best. Nathaniel Brown studied completed his doctoral work at Berkeley, where he studied with Rogers Hall and Mark Wilson. His dissertation used innovative methods (discourse analysis and Rasch measurement) to break new ground in fundamental debates over conceptual change. He will be teaching an advanced course *Capturing Learning in Context* and has already collaborated with other LS faculty on research proposals to the Macarthur Foundation and the National Science Foundation.

Kylie Peppler studied with leading arts education researcher, James S. Catterall, and former ISLS President, Yasmin B. Kafai at UCLA. Her work at UCLA, which received a Spencer Foundation Dissertation Year Fellowship, led to a new conceptual framework for describing and analyzing youths' media arts practices, as well as several new methodologies for documenting discipline-specific learning in informal and arts-based settings. She was awarded a UC Presidential Postdoctoral Fellowship in 2007 -- the only awardee in the field of Education -- to extend this research. She will be teaching advanced courses that explore the intersection of arts, digital media, and learning and is currently collaborating with other Learning Sciences faculty on research proposals to the MacArthur Foundation and the National Science Foundation.

Department Head Dick Lesh (ralesh@indiana.edu) and faculty member Ken Hay (khay@indiana.edu) are co-chairing the 2007-2008 faculty search. For more information about the position or the program, contact the co-chairs or visit www.indiana.edu/~learnsci

Job Announcements

Open Rank, Science Education Department of Teacher Education

College of Education, Michigan State University

☑   The Department of Teacher Education in the College of Education at Michigan State University is seeking one or more tenure-system faculty scholars at the assistant, associate or full professor levels as part of ongoing priority initiatives in science education. MSU is committed to strategically increasing its capacity to provide national leadership by building on our long-standing record of excellence in research, teacher education, graduate education, and curriculum development. The faculty in science education at MSU spans several academic units and works collaboratively to address cross-university needs and responsibilities, with coordination provided through the Division of Science and Mathematics Education. Appointments will be possible in the Department of Teacher Education, the Department of Counseling, Educational Psychology, and Special Education, and the Division of Science and Mathematics Education. Joint appointments and other cross-departmental and cross-college arrangements are possible and encouraged.

We seek faculty candidates with primary research interests in science education, and we especially encourage applications from those with expertise in science teaching and learning in urban contexts, teacher education at all levels, educational policy or assessment. In addition, experience in use and application of technology in instruction or education is desirable.

Major responsibilities. Faculty who assume these positions will conduct research and inquiry and teach undergraduate, masters and doctoral courses. Additional duties will vary depending on departmental placement and rank, university and academic unit education needs, and the candidate's experience and interest. Faculty will be involved in continuing efforts to foster collaborations among the Colleges of Education, Natural Science and the K-12 community. These are academic year positions with a proposed starting date of Fall 2008.

Qualifications. All candidates are expected to have an earned doctorate including emphasis in science education, a record of scholarly

accomplishment through publication and success in obtaining and leading externally funded projects appropriate to stage in academic career, and participation in interdisciplinary work. National leadership in science education initiatives is desirable, evidence of capacity to contribute to the intellectual, research, and instructional life of MSU is essential.

We invite inquiries from potentially interested candidates. Please visit http://www.educ.msu.edu/college/jobs/faculty07-08/openrankScience.htm for the full job announcement.

We also invite inquiries to any of the search committee members: Andy Anderson, Chair (andya@msu.edu), Angela Calabrese-Barton (acb@msu.edu), Amelia Gotwals (gotwals@msu.edu), Gail Richmond (gailr@msu.edu), Christina Schwarz (cschwarz@msu.edu), and Michelle Williams (mwilliam@msu.edu).

Review of applications and letters of interest will begin November 1, 2007, and will continue until the positions are filled.

Post your job announcement on the ISLS website

See many more job announcements at http://www.isls.org/jobs.html. To submit a position to publish on this page, please send an email with the subject of "ISLS JOB" to the ISLS webmaster with the following information: (1) Title of Position (2) Applicable dates, (3) Brief description (60 words or less), (4) URL for further details and/or an email address for contact person.

International Society of the Learning Sciences

European CSCL in Berlin and on the Web. By Christopher Frank (LMU, Munich)

A big event of European CSCL <http://cscl.noe-kaleidoscope.org/ > research is the **Kaleidoscope Symposium** in Berlin from November 26th to 27th 2007 (http://www.noe-kaleidoscope.org/group/symposium/).The CSCL community will be represented in many ways, but most prominently in a state-of-the-art workshop with papers by Pierre Dillenbourg, Sanna Järvela & Frank Fischer on "The evolution of CSCL research: from design to orchestration"; by Berner Lindström, Roger Säljö, Sten Ludvigsen, Anders Mørch & Barbara Wasson on "Socio-cultural dimensions of computer- supported collaborative learning - Participation, changes in activity systems and appropriation of cultural tools"; and by Anders Mørch, Pierre Tchounikine & Barbara Wasson on the "Operationalization of CSCL technology: From design to use". Paul Kirschner will be the discussant. In addition, there will be a plenary talk by Frank Fischer, on "Learning Through Scripted Discussions". See you there! In case you cannot come you can watch the symposium videos at TeLearn.

The European Network of Excellence **Kaleidoscope** <http://www.noe-kaleidoscope.org/pub/> established the **TeLearn** archive <www.telearn.org>. It is the first international Open Archive in the field of Technology Enhanced Learning (TEL). Currently, CSCL is represented with over 150 peer-reviewed articles, conference papers and videos for free download. We invite ISLS members to be part of this effort; take the chance to explore this valuable source and to contribute your own work. In supporting a good idea, you may simultaneously increase your scientific impact: Papers available online are cited substantially more often.

Call for manuscripts from researchers and practitioners: The Intersection of the Learning Sciences and Museum Education

An upcoming issue of the *Journal of Museum Education* (JME) will be devoted to the intersection of the learning sciences and museum education. Learning sciences researchers examine social, organizational, and cultural dynamics in teaching and learning while museum educators are immersed in practices that inform understanding about how diverse groups learn and interact. This issue will bring learning sciences research to the attention of museum researchers and practitioners and allow practitioners and researchers to participate in the learning sciences research agenda.

* Articles should speak to both practitioners and researchers about theory, research, and practice specifically related to museum education and the role of the museum educator.

* Authors should be interested in addressing the advancement of scientific understanding and practice of teaching and learning in museum environments and familiar with existing museum education literature.

* Manuscripts should be between 1,500 and 3,000 words and adhere to The Chicago Manual of Style, (15th Edition).

* The deadline for receipt of manuscripts is January 1, 2008.

If you are interested in submitting a manuscript, please send an email to Sandra Toro Martell at smartell@uwm.edu or Heather Toomey Zimmerman at htoomey@u.washington.edu for more information, including JME guidelines for style, language, and format.