NAPLeS: Networked Learning in the Learning Sciences

Frank Fischer, LMU University of Munich, Germany, frank.fischer@psy.lmu.de
Freydis Vogel, LMU University of Munich, Germany, freydis.vogel@psy.lmu.de
Daniel Sommerhoff, LMU University of Munich, Germany, daniel.sommerhoff@psy.lmu.de
Julia Eberle, LMU University of Munich, Germany, julia.eberle@psy.lmu.de
Deborah Fields, Utah State University, USA, Deborah.Fields@usu.edu
Susan Goldman, University of Illinois at Chicago, USA, sgoldman@uic.edu
Stian Håklev, OISE, University of Toronto, Canada, shaklev@gmail.com
Daniel T. Hickey, Indiana University, USA, dthickey@indiana.edu
Cindy Hmelo-Silver, Indiana University, USA, chmelosi@indiana.edu
Manu Kapur, National Institute of Education, University of Singapore, Singapore, manu.kapur@nie.edu.sg
Marcia Linn, University of California, Berkeley, USA
Kris Lund, ICAR Ecole Normale Supérieure de Lyon, France, kristine.lund@ens-lyon.fr
Sadhana Puntambekar, University of Wisconsin, Madison, USA, puntambekar@education.wisc.edu
Jim Slotta, OISE, University of Toronto, Canada, jslotta@gmail.com
Susan Yoon, University of Pennsylvania, USA, yoonsa@gse.upenn.edu

Abstract: The workshop about networked learning in the Learning Sciences is based on the ISLS initiative to establish a network for PhD and Master's programs in the Learning Sciences. The main objective of this network is to support the academic exchange for professors and students in Learning Sciences programs worldwide. An important question that has been raised in several meetings of members of the network is how learning material for students in the Learning Sciences can be developed, used in Learning Sciences classes worldwide and evaluated for sustainable learning. This workshop will bring together Learning Scientists to discuss this question from various perspectives including those concerned with pedagogy, technology networked learning and evaluation. Finally, the participants will come up with a feasible plan for the development, implementation and evaluation of learning materials that can be used across Learning Sciences programs worldwide.

The Network of Academic Programs in the Learning Sciences (NAPLeS)

The International Society of the Learning Sciences (ISLS) is formed by a community of academics, practitioners and students from different disciplines (e.g. cognitive science, educational sciences, psychology, sociology) who are concerned with research and practice in the scope of teaching and learning (ISLS, 2009). Over the years, the Learning Sciences community has become increasingly international with active members from North America, Europe, and Asia, but also South America, Australia, and even Africa (Kienle & Wessner, 2006). The community is characterized by non-institutionalized collaborations and exchanges among scholars located in different countries and representing various disciplines (Hoadley, 2005). Because of the ad-hoc nature of these collaborations, it has been difficult for students and young researchers who wish to affiliate with the Learning Sciences to access the enormous amount of knowledge the community has generated over the years. NAPLeS seeks to address this challenge, giving students and young researchers greater access to community knowledge and helping them to become active members in a scientific community (Eberle, Stegmann, & Fischer, 2014). Graduate students in the Learning Sciences are often educated only within their university's Learning Sciences programs, which naturally reflect the research foci and viewpoints of the local faculty. Having access to the broader Learning Sciences community and the variety of disciplines and perspectives concerned with teaching and learning could enrich their graduate training, and offer sustained access to postdoctoral scholars and early career professors.. The NAPLeS initiative is designed to provide such access.

The educational aims of the ISLS are to facilitate Learning Sciences students and young researchers in their effort to acquire knowledge in the multiple fields of the Learning Sciences, to conduct and publish Learning Sciences research, and eventually become active members of the global Learning Sciences community (ISLS, 2009). To realize these aims and to foster high quality Learning Sciences programs internationally through mechanisms that support teaching and learning, the ISLS has established the Network of Academic Programs in the Learning Sciences (NAPLeS), an institutional network of PhD and Master's programs in the Learning Sciences.

Before NAPLeS was founded in the summer of 2012, an extensive search for international academic Learning Sciences programs was conducted. In the spring of 2012, a survey was sent to 37 universities worldwide that offered Learning Sciences and related academic programs, in order to investigate which academic Learning Sciences programs would be willing to contribute and what they would expect from participating in NAPLeS.

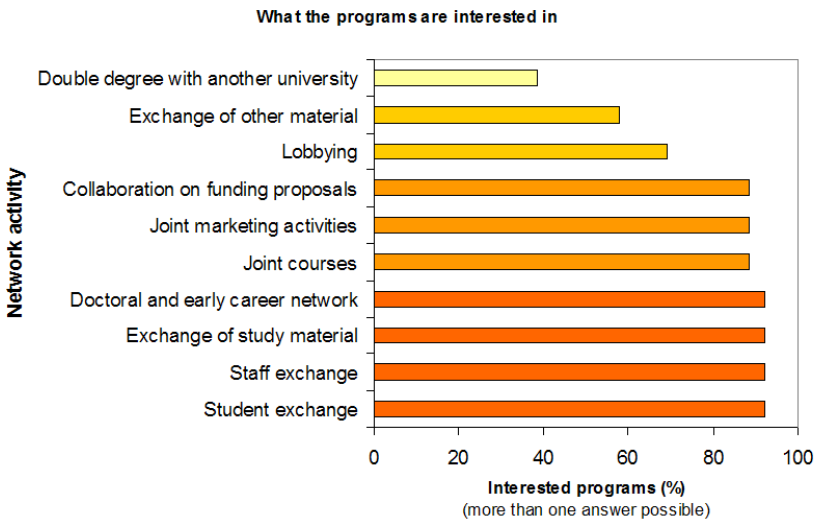

Figure 1. Types of activities in which the Learning Sciences programs were interested

The survey was well-accepted, with a response rate of about 70% responding that they were very interested in joining a network, with particular interests in the exchange of learning materials, staff, and students with other Learning Sciences programs (see figure 1). However, the survey also revealed that most of the programs were not at all or only to a very slightly willing or able to financially contribute to the network (see figure 2).

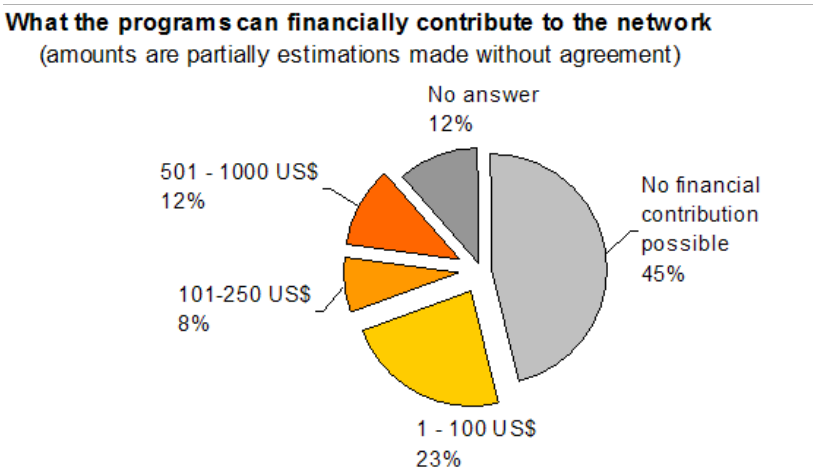

Figure 2. Budget the Learning Sciences programs could contribute to the network

Against the backdrop of the outcomes of this survey, a NAPLeS taskforce was formed and started to plan several activities to be implemented in the network, with an emphasis on low cost of participation and early return on investment. Amongst others, the activities included:

- Collecting examples of syllabi used in existing Learning Sciences programs.
- Creating learning resources prepared by renowned scholars on specific topics in the Learning Sciences.
- Offering scholarships for students to visit other Learning Sciences programs.
- Facilitating the organization of international supervision of doctoral projects.

To ensure the quality of participating programs, it was agreed that to join NAPLeS, a graduate program must offer (or be preparing) a PhD and/ or Master's degree in the Learning Sciences, with at least three ISLS members associated to the program (two of whom should be faculty). Furthermore, NAPLeS member programs (and their associated faculty and students) are expected to actively participate in the network in following ways:

- Naming a program representative (e.g., a PhD student) to serve as a liaison for NAPLeS
- Submitting program information, to be presented on the NAPLeS website
- Providing visiting scholar opportunities for other NAPLeS students

- Submitting exemplary syllabi for exchange with other NAPLeS members
- Collaboratively developing and exchanging learning materials (e.g. on the NAPLeS webinar series).

After the initial planning phase, the NAPLeS network was officially founded at the 2012 ICLS meeting, beginning with programs from 12 member institutions. Since then, many new programs have joined, and currently NAPLeS has more than 30 programs affiliated to 24 different member universities (see Table 1).

Table 1: Location of NAPLeS member universities and type of programs (March, 2014)

University	Location	Learning Sciences program
Carnegie Mellon University	Pittsburgh, PA, USA	Master's, PhD
Indiana University	Bloomington, IN, USA	Master's, PhD
Nanyang Technological University	Singapore	Master's, PhD
New York University	New York, NY, USA	Master's, PhD
Northwestern University	Evanston, IL, USA	Master's, PhD
Open University of the Netherlands	Heerlen, The Netherlands	Master's, PhD
Rutgers University	New Brunswick, NJ, USA	PhD
Saarland University	Saarbrücken, Germany	Master's
Stanford University	Stanford, CA, USA	Master's, PhD
University at Buffalo - State University of New York	Buffalo, NY, USA	Master's, PhD
University of California, Berkeley	Berkeley, CA, USA	PhD
University of California, Los Angeles	Los Angeles, CA, USA	PhD
University of Haifa	Haifa, Israel	Master's, PhD
University of Illinois at Chicago	Chicago, IL, USA	PhD
University of Munich (LMU)	Munich, Germany	Master's, PhD
University of Nottingham	Nottingham, UK	Master's, PhD
University of Oulu	Oulu, Finland	Master's, PhD
University of Pennsylvania	Philadelphia, PA, USA	Master's
University of Pittsburgh	Pittsburgh, PA, USA	PhD
University of Sydney	Sydney, Australia	Master's, PhD
University of Toronto	Toronto, Ontario, Canada	Master's, PhD
University of Washington	Seattle, WA, USA	Master's, PhD
University of Wisconsin-Madison	Madison, WI, USA	PhD
Utah State University	Logan, UT, USA	Master's, PhD

Since the official initiation of the NAPLeS network, many Learning Sciences programs, as well as Learning Scientists not affiliated with a member program, have contributed to the collection and exchange of learning resources. Currently, the NAPLeS website gives access to more than 15 syllabi from different Learning Sciences Master's and PhD programs in various topic areas representing the multitude of contents in international Learning Sciences. In October of 2013, NAPLeS launched an online seminar series – the so called "webinar series" – with more than 50 of the most influential and renowned researchers in the Learning Sciences. The webinars are categorized into four main topics, namely (1) how people learn, (2) supporting learning, (3) methodologies for the Learning Sciences, and (4) Computer-Supported Collaborative Learning. These four topics and the broad spectrum of researchers serve to reflect the multiple research areas within the Learning Sciences. Each webinar session has been recorded and shortly afterwards the corresponding video recording made available as a resource on the NAPLeS webpage – not only to serve as a resource for learning and teaching in Learning Sciences programs, but also for the general public. Up to today, 25 webinars have been conducted and are now available on the Naples web site (see the ISLS home page).

A look at the access statistics of the NAPLeS webpage reveals that all digital learning resources on the NAPLeS webpage have been quite well received. Since the webinar series started, the NAPLeS webpage has up to 21,000 hits per month and more then 1,400 unique visitors from over 30 different countries worldwide. But it is not only the recordings of the webinars that are popular. The syllabi collection is also highly frequented, with a total number of up to 545 downloads per month.

Nevertheless, it is still an open question how these video recordings and other learning resources can be optimized for access and uptake within the community, and how they can be successfully integrated into curricula and informal learning processes. Most importantly, as we are a community concerned with the nature of learning and instruction, it seems evident that the pedagogical approaches being researched within the Learning Sciences field might be more systematically applied to facilitate learning within our own community.

The challenge, then, is to identify principles derived from Learning Sciences research that can serve to guide the design of these digital learning resources and give clear recommendations for their use in different curricular and informal environments.

Objectives of the NAPLeS Workshop at ICLS 2014

The NAPLeS workshop at ICLS 2014 should bring together professors, post-docs, and PhD students to discuss about the Learning Sciences as a domain of learning in an international context. Participants will discuss potential formats of learning resources to ensure sustainable learning for PhD and Master's students in the Learning Sciences. Specific topics to be discussed are: learning and technology, networked learning, community building, and collaborative learning at a distance. Four expertise teams will be formed to discuss this issue to arrive at a concept of how to realize digital learning resources in the Learning Sciences in the future, and how these digital resources can be used in Learning Sciences degree programs and beyond. Additionally, a timeline will be created covering concrete steps for the implementation of the concept into the NAPLeS network and NAPLeS activities. The concrete objectives of the workshop are as follows:

1. Creating a concept for the development of digital learning resources in the Learning Sciences from a pedagogical, technological, and community building perspective.
2. Developing recommendations for lecturers in the Learning Sciences, regarding how to implement these digital learning resources in their own Learning Sciences courses.
3. Planning future activities within the ISLS community to create, share, and evaluate learning resources.

The outcomes of the workshop will be used as foundation for the creation and preparation of learning resources for PhD and Master's students in the Learning Sciences. Furthermore, the outcomes will provide guidelines for lecturers in the Learning Sciences how these resources may be integrated into their own teaching. As an extended activity and outcome of this workshop, the workshop organizers will create high quality video recordings of short introductory talks or interviews of different learning scientists throughout the ICLS conference. The digital resources and instructions, which will be created during this ICLS workshop, will then be made available for lecturers and students in the Learning Sciences (ISLS and/ or NAPLeS members).

NAPLeS Workshop Expertise Teams

The creation and use of digital learning resources for PhD and Master's students in the Learning Sciences will mainly be discussed in four distinct expertise teams and from their specific points of view.

Pedagogical Issues

When designing and publishing digital learning resources, pedagogical questions cannot be ignored. This team will clarify the pedagogical issues related to the creation of digital learning resources for students and lecturers in the Learning Sciences, discussing the functionality needed for new online resources, the goals for their use in teaching and learning, and the pedagogical aspects that must be considered. This team will also consider how pedagogical approaches from Learning Sciences research can be systematically applied.

Technological Issues

When talking about digital learning resources, technological aspects of learning have to be considered as well. Research results about digital and online learning and also the increasing number of available online learning environments both have to be taken into account when planning for the new digital learning resources. This expertise team will work on the use of technological developments for the digital learning resources, taking into account the constraints given by the limited funding of the NAPLeS network.

Networked Learning

The NAPLeS network aims to create a worldwide community of Learning Sciences students as a platform for networked learning and as a starting point for their integration into the ISLS community. This expertise team will discuss how networked learning and community building aspects can be facilitated within the NAPLeS network and how the facilitation could be enhanced by including different digital learning resources.

Evaluation

Creating more digital learning resources is only one side of the coin. Carefully assessing and evaluating them is equally important to ensure a high quality and usability of the resources. In order to make sure that the digital learning resources fulfill their pedagogical objectives, match the high standards of the community and reflect the communities' needs, an ongoing process of evaluation is required. This expertise team will work on a plan for the evaluation of the digital learning resources in NAPLeS.

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