Parallel Session 11: PCST network: an added value for science communication training?

GLOBALIZING SCIENCE COMMUNICATION TRAINING: CASE STUDY OF THE STANFORD RESEARCH COMMUNICATION PROGRAM

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Abstract: This paper gives an overview of the Stanford Research Communication Program, which develops tools to help experts learn to communicate complex information to a broad audience. It also discusses collaboration efforts to expand the program internationally, and includes an overview of a study in progress that aims to deepen understanding of ways researchers can improve their written and oral explanatory communication skills across disciplines and cultures.

Keywords: explanatory discourse, research communication training

Overview

The Stanford Research Communication Program (SRCP) helps researchers learn how to communicate the nature and significance of their work to lay audiences.   The program also works to identify specific problems of communicating between disciplines, and between researchers from varied locations.

SRCP consists of two programs and a public outreach effort. I-RITE is a series of workshops that focus on written communication, and I-SPEAK focuses on oral content and delivery skills. These programs have been offered in online and asynchronous formats, ranging from two-day workshops to two-month courses. SRCP also has experience integrating students from universities in Sweden into Stanford's course and workshop offerings. These pilot programs allowed SRCP researchers to refine approaches to helping non-native English speakers learn to communicate complex information in English.

Since 1999, SRCP programs have established a proven curriculum, a prototype Web-based submission/annotation tool, a draft evaluation plan, and extensive experience implementing the program under a variety of conditions. Based on preliminary results, SRCP believes that there is great potential to prepare I-RITE and I-SPEAK to be fully global programs that can be open to doctoral-level researchers from anywhere in the world. In line with this aim, SRCP continues to:

- *further develop the program's technological infrastructure* by evaluating current technologies for use in workshops and courses, developing appropriate new features, and implementing redesigned tools in a cross-cultural program;

- *establish a systematic research and evaluation effort to* a) validate and increase program effectiveness at improving explanatory writing skills, and b) investigate means of effectively using ICT to support our program aims.

Program Rationale

While Information and Communication Technology (ICT) tools address problems of communicating at a distance, these tools are not sufficient to create a fuller interchange of research ideas. Within most fields, discussion of cutting-edge ideas is limited to highly technical discourse particular to a disciplinary, or sub-disciplinary, research program (Wear, 1999). A first step in equipping researchers with tools for interdisciplinary communication is fostering new modes of writing and speaking that make important ideas readily accessible to a broader audience (Gopen & Swan, 1990; Rowan, 1990, 2003; Whaley, 2000).

In an ideal world, researchers would be able to give effective written or oral accounts about their work to the types of academic audiences described above. This ability to engage in explanatory communication is essential to success in professional and academic contexts (Calandra, 2002; Jaffe, 2003). Unfortunately, considerable anecdotal evidence suggests that many researchers are not adept at explanatory communication designed to deepen a nonspecialist's understanding of unfamiliar information for a broad audience (Rowan et al. 2003).

International Collaboration

While there has been a collaborative relationship between Stanford and two Swedish universities (Uppsala, KTH) since 2001, it has mostly been a voluntary effort to pilot integrated Stanford/Sweden I-RITE programs. In 2003, SRCP was awarded a grant from the Wallenberg Global Learning Network (WGLN) to formalize international collaborations, and the evaluation process.

Also, SRCP has been and will be conducting I-RITE workshops at universities in Norway, Denmark, Japan, and South Africa. With these pilots, SRCP is collecting data on cultural needs in training and program deliverables, investigating localized train-the-trainer scenarios, and is planning to continue these collaborations as a stepping stone for future research studies.

Program Evaluation

A critical element in establishing I-RITE and I-SPEAK's validity is to include a rigorous research and evaluation program. In collaboration with faculty

experts in explanatory communication, SRCP has created a system for (a) measuring explanatory discourse generated to help lay audiences understand a student's research and (b) measuring the extent to which this discourse helps lay audiences appreciate the value of research being described (Rowan et al. 2003).

This system is currently being tested with I-RITE program participants providing pre- and post- "elevator talks" (short passages explaining a research project to nonspecialists).

Quantitative measures of program outcomes will be supplemented by other indicators of program effectiveness. SRCP uses several approaches to gather information about the processes through which participants build their communication skills (analysis of implementation conditions, discourse analysis of participants' face-to-face and online interactions, pre- and post-surveys, and interviews).

Sustainability

Based on program refinement, evaluation outcomes, and research results in the upcoming year, SRCP plans to open the I-RITE/I-SPEAK programs to participants from interested research institutions worldwide. SRCP expects that funding for these participants will come from their home institutions, and foundations that promote international development in higher education.

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