CSCL Promoting Distributed Excellence

Virtual Ph.D. Programs
A Case Study

Hans Spada, University of Freiburg, Germany
“Es gibt einen, der liest mich in Triest, und einen in Lübeck; das sind schon zwei.”

“There is one person reading me in Triest, and one reading me in Lübeck. Not too bad: two!”
An Analogy

In analogy to:

The Long Tail: How endless choice is creating unlimited demand (Anderson, 2006)

my talk is about:

The Long Tail: How endless choice of scientific partners with relevant expertise is creating unlimited possibilities for worldwide virtual Ph.D. programs with distributed excellence.
Think of the following scenario:
- At several universities in Germany or even worldwide you have at each university one or two excellent researchers in some special domain.
- To establish a Ph.D. program each of them could try to form an interdisciplinary group of researchers with competences and interests in adjacent domains.
- Or, and this might be much more promising in some cases, these scientists with homogenous interests and competences could collaborate to establish a Ph.D. program tailored to the needs of their doctoral students.

The solution:
- Computer supported collaborative learning (CSCL) in virtual Ph. D. programs
- But: Would such a program work?
- A case example: The first virtual Ph.D. program in Germany, the VGK (Virtuelles Graduiertenkolleg)
Such a Ph.D. program requires a proposal to be successful in a nationwide competition organized by the German Science Foundation (DFG). If the proposal is successful students apply for scholarships in a competitive process, too.

Doctoral students conduct research within the framework of a coordinated program. Research program is supported by several faculty members. Ph.D. curriculum. Interdisciplinary orientation of research and study programs. Complemented by inviting visiting researchers, arranging summer schools, etc.

But these Ph.D. programs are usually located at one particular university and do not capitalize on distributed excellence.
The Virtual Ph.D. Program (Virtuelles Graduierten Kolleg: VGK)

Dates and Facts

• The Virtual Ph.D. Program (VGK) was distributed across research institutes at six universities.

• Funding period: 1999 – 2009

• 12 faculty members (all of them psychologists), 40 Ph.D. students, most of them with scholarships, most of them successful in finishing their Ph.D. project.

• 2 500 000 € of funding by the German Science Foundation (DFG)

• Chair: Friedrich Hesse, Vice Chair: Hans Spada

• Quite a few of the faculty members and the former students of this program are participants at this conference
The Virtual Ph.D. Program (VGK): Theme, Goals, Research Topics

- Theme: Knowledge acquisition and knowledge exchange with new media (from a psychological perspective)
- Developing support measures for
  - computer-mediated collaboration
  - learning individually and collaboratively with new media
- These support measures developed as part of the doctoral theses were also applied in order to promote students’ own learning and research

- The Virtual Ph.D. Program (VGK): Distributed excellence with an homogenous perspective (psychologists from cognitive, social and educational psychology)
The Virtual Ph.D. Program (VGK): Virtual Computer-Mediated Teaching and Learning

- Virtual seminars on different topics

- Nation wide net-based and local face-to-face supervision of the Ph.D. projects

- International summer schools and visiting scholars program

- Doctoral students attending international conferences (e.g. CSCL conferences, ICLS) and being part of international collaborations (e.g. Early Career Exchange Program between DFG and US NSF)

- Students members of local research groups

- At least once a year face-to-face meetings of faculty and doctoral students
The Virtual Ph.D. Program (VGK): A Success Story: The Virtual Colloquia

- **Aim**: Elaborated net-based discussion and critique among both students and faculty members about the ongoing Ph.D. projects.

- **Design of the process**: Each Ph.D. project was discussed over three weeks in a special format ensuring high quality of the contributions.
  1. First week: current status of work presented, including open questions and problems.
  2. Second week: detailed feedback provided by several faculty members and peers.
  3. Third week: evaluation of comments, and consequences for future work on project.

- **Evaluation**: Preferred by Ph.D. students and faculty members over face-to-face colloquia, because comments were:
  - better elaborated
  - more constructive
  - less hierarchical
The Virtual Ph.D. Program (VGK):
What we should have done

• A **wiki** for the common memory of this virtual Ph.D. program:
  – To establish a dynamically evolving common memory, to help new doctoral students to get acquainted with the goals, concepts, methods, tools, and processes of this type of Ph.D. program.
  – To involve the doctoral students even more in the development of the field and to motivate them to reflect the place of their dissertation thesis in the general framework of the program.
This PH.D. program was a distributed, yet connected network enabling collaboration of the most distinguished German researchers in this field, not only the ones of one particular university. **Distributed excellence – united expertise**

Knowledge exchange with international experts was made possible by using innovative communication technology.

Computer-mediated communication on Ph.D. projects was proven to be more elaborated compared to the interaction taking place at face-to-face colloquia.

- But using interactive media does not imply discarding face-to-face meetings!!
In analogy to:

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I would like to phrase the lessons learned for the long tail:

The Long Tail: How endless choice of scientific partners with relevant expertise is creating unlimited possibilities for worldwide virtual Ph.D. programs with distributed excellence
Virtual Ph.D. Program VGK of the Deutsche Forschungsgemeinschaft DFG
Knowledge acquisition and knowledge exchange with new media

The End