

Science and Technology

The Cultural Context of Disciplinary Differentiation.

Computer Science in Switzerland

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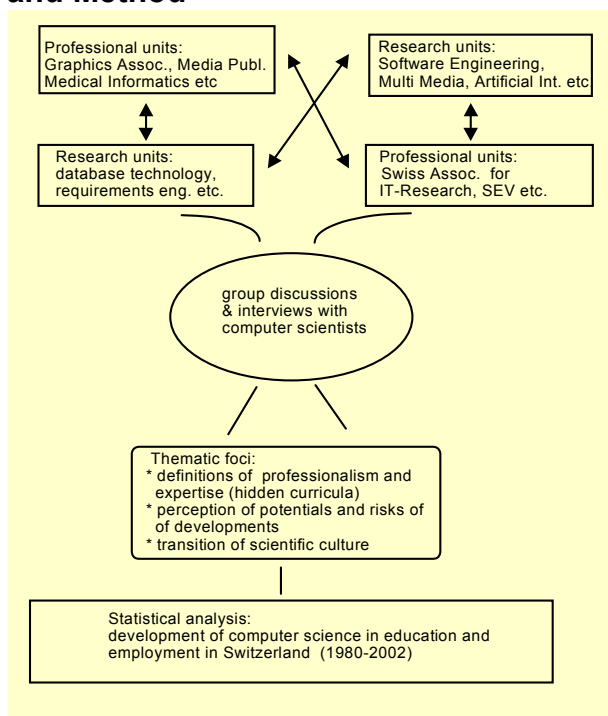
Introduction

More than other disciplines computer science is characterized by a rapid differentiation. This is only partly described by the tripartition into traditions of mathematical-theoretical thinking, engineering and technical science as well as design oriented research.

In the meantime, computer science increasingly profits from inter- and transdisciplinary forms of knowledge production, which not only open the field up for a multiplicity of scientific models and methods, but also tend to interrogate its only recently established disciplinary identity.

Starting from perspectives offered by science and technology research as well as professionalization theory, the project focuses on cultural orientations which imply and accompany the current unfolding and growth of the discipline.

Design and Method



Aims

The study seeks to provide information and knowledge for measures that are intended to (re-)shape computer science as an inter- and transdisciplinary field of research, and to develop promising concepts for secondary and tertiary education.

Available data on the development and differentiation of computer science and information technology in Switzerland, with special emphasis on the situation of women, shall complete the project.

Subject

Science in Transition

The first part of the project is based on group discussions and interviews with experts from different fields of computer science at universities and in industry.

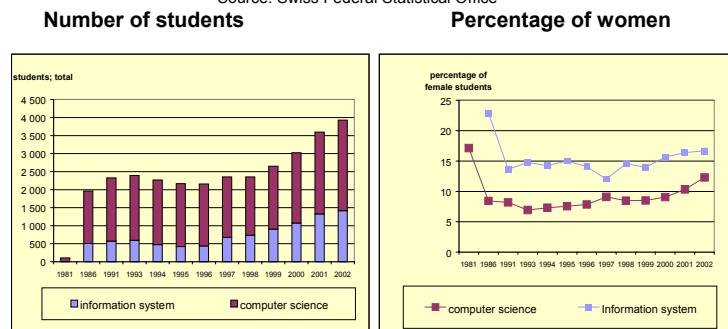
Setting constructions of computer science into disciplinary, inter- and transdisciplinary contexts of knowledge production, the cultural transformation of the discipline will be lined out.

Inventory

The second part of the project deals with a secondary analysis of representative surveys on the development of computer science in education and information technology on the labor market. Special attention is set on the participation of women.

Development of computer science and information technology in Switzerland

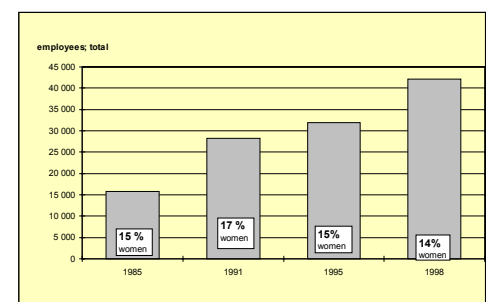
Figure 1 & 2: Students of computer science and information systems management (ISM) at Swiss universities (1981-2002)
 Source: Swiss Federal Statistical Office



Until 1998 the number of students in computer science and information systems management (ISM) was rather constant (fig. 1). Since 1998 there has been a rapid increase in those numbers. Most of the students were enrolled in computer science.

Female enrolment in computer science programs is at 12% in 2002 (fig.2). This is lower than female enrolment in IMS, which is at 17% in 2002. Within the last 3 years the proportion of female students has grown slightly in both disciplines. However it has not reached the level observed in the beginning of these disciplines in the 80's.

Figure 3 : Employees and percentage of women in information technology in Switzerland (1985-1998)
 Source: Swiss Federal Statistical Office



Despite the economic crises in the 90's the number of employees working in the information technology field increased considerably. As indicated by the numbers in the additional boxes in the above graph, the percentage of females working in information technology rather declined.