

Gender impact assessment in the Department of Digital Media of Furtwangen University of Applied Sciences, Germany: design of the study and first empirical results

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Abstract

The study was carried out within the frame of the programme of the Baden-Wuerttembergian Ministry of Science, Research and Arts “Institutionalisation of Women's and Gender Studies at Baden-Wuerttembergian Universities”. Its objective is to implement gender studies in research and academic teaching. The Centre of Competence TanGenS (Technology and Gender in Applied Sciences) is moreover interested in investigating gender aspects at Furtwangen University of Applied Sciences (Fachhochschule Furtwangen - FHF). The University as a customer and underlying field specifies topics and methods. We introduce the design and first results of a gender impact assessment as carried out in the department of Digital Media. Cross references to other projects and their empirical results complement the findings.

1 Gender studies at a university of technology, business and media

How do these fit together? Indeed, associations with Furtwangen University of Applied Sciences usually are not centered on gender studies. Nevertheless, since the founding of the Centre of Competence TanGenS (Technology and Gender in Applied Sciences) within the frame of the programme “Institutionalisation of Women's and Gender Studies at Baden-Wuerttembergian Universities” in 2002,



there have been gender studies on very different levels, which fit together like the pieces of a jigsaw puzzle.

Inside the FHF TanGenS is affiliated to the Institute of Applied Research, the research organisation of FHF. Due to the University's orientation along technology and business, the IAF's major fields of research are surface technology, medical technology, environmental technologies and micro systems. By the topics Gender and Culture TanGenS is adding complementary aspects and is integrating women's and gender research in other department of FHF.

2 Implementation and institutionalisation of women's and gender research

After female advisories, appointed by the Ministry of Science, Research and Arts in Baden-Wuerttemberg, had found out that institutionalisation of women's and gender studies in exact sciences and technologies were still in an initial stage at regional level as well as at federal level, it was decided to implement that research perspective at the universities of Baden-Wuerttemberg. Centre of Competences should serve as crystallization points for regional, supra-regional and international co-operation. These Centres of Competence are designed to establish competences in women's and gender research and both, students and university lecturers, should take profit out of it. In practice this means to offer gender-sensitive teaching contents for students as well as provide the teaching professionals with gender relevant information for their classes in the form of empirically verified research results. Only on a basis of reliable data it is possible to sensitise students and academic teachers for gender.

In 2002 and 2003 we offered various gender-sensitive classes such as a practical training "experiencing technology", gender-sensitive classes of physics, career training for women, gender- and culture-sensitive modules in Computer Science in Media and others. There was also carried out a quantitative as well as qualitative survey on "technology and gender" among students. Their results can be found on the TanGenS homepage at <http://www.tangens.fh-furtwangen.de>.

Since October 2003 these measures are being added by two other activities: a representative online-survey on the students' satisfaction with the study environment including some gender modules as well as a Gender Impact Assessment (GIA) at the department of Digital Media. These measures aim to gather reliable empirical data which will serve as a basis to discuss further activities in gender equality. They are a prerequisite for a sustainable implementation of gender aspects in research and teaching.

3 Field-related conceptualisation of gender research at (FHF)

The idea of the Gender Impact Assessment is to initialise a process of a growing gender sensitisation. The basic idea is a) appropriateness to the object, i.e. the questions are original and meaningful primarily for FHF and not only for the scientific community, b) method-triangulation i.e. various quantitative and qualitative survey methods will be used and c) service orientation, i.e. all



projects serve to application and documentation of methods that basically can be transferred to other universities as well. In this approach TanGenS goes far beyond the idea to anchor gender contents in studies and examination regulations. According to the TanGenS' approach, we start with the analysis of the local field. This is to be done by methods which allow an easy transfer to other universities. By this the Centre of Excellence can support the implementation of gender contents on regional and supra-regional levels.

Before introducing the concrete methodology of the GIA as an example of such field-based conceptualising, we will make clear why the connection between gender and technology is worth a closer look.

4 Women and technology - a draught

One cannot deny that the world we are living in has a rather gendered structure. Perception of sex and following performative acts serve for (still) effective reduction of complexity. In everyday knowledge and everyday practice bisexuality is regarded as fact, unchallengeable and existing beyond social life. Everyday representations of gender are experienced in a binary way, are legitimated biologically and mostly experienced in an unproblematic way. Gender herein resembles societal norms - just deviation makes people realize a fundamental principle of standardisation.

Such irritating experiences occur in technology field and technology studies. For a lot of people technology still seems to be connected to an exclusively male connotation. Technical areas are mostly taken by males, technical education and courses of studies span a field characterised by male habits [1, #119]. Women are comparatively seldom able to enter this area and only by passing barriers that refer latently to their sex. Also in the academic programme, gender makes a difference. There are a couple of reasons for it, that point (in a cultural way) to a long established connection between technology and gender, or more precisely, gender blindness. In following overview will help to remind us.

Ontological inequalities: male primacy in technology

Personhood is manhood, gender is womanhood. Quite a chapter of societal and science history can be reduced to this stereotyped blasting composition. The unquestioned equalisation of human nature and maleness (Simone de Beauvoir) finds its expression in the cultural primacy of maleness in the area of technology genesis in the form of technology as a male myth. A deeply rooted connection of maleness and technology has become independent and makes it arduous to sort out all cross connections. Over a long period of time, amalgamation of two social constructions - maleness and technology - have obviously been handed down and has deeply been remembered in habit and therefore in the structures of the field as well as social practice [2, #15, 111]. Taken away from everyday perceptions by a cultural monopoly, these attributions have become self-referential and draw a picture of technology including associated dimensions like technological interest, technological talent, technological affinity, and technological



competence - a picture of maleness without alternatives. These mechanisms get a status of more or less natural regularity which has a specific dialectical charm when thinking of the very dichotomy of nature and technology. For three decades researchers in social sciences are analysing the phenomenon, why women avoid technical fields or how determinants of careers in technical fields do differ in a gender-related way (e.g. Schulte-Florian [4, #373]). Meanwhile sociological research has unmasked technology as well as gender as cultural constructions.

Especially in practice, these findings do have consequences. Thus researchers are asking because of which kind of socialisation effects men and women choose a technological academic programme and with which (technical) previous knowledge they start in their academic field. Practice shows quickly that there's still a gendered distribution of opportunities. A very interesting stage is the period between graduation and the beginning of a professional career. Therefore, in order to influence practical behaviour in the direction towards of more equality it is necessary to understand exactly how diversity at the beginning of the academic programme turns into a multiplicity when entering a professional career, or, to put it another way, how do gendered structures of knowledge acquisition emerge and which are the consequence at an individual level. The Gender Impact Assessment at the Department of Digital Media exactly deals with process of how the students transform a gender-neutral offer of academic classes into individual career opportunities.

Being a University of Technology, Business and Media, FHF focuses on teaching applied knowledge in future areas. Until now the conception of academic study programme largely followed an implicit assumption of neutrality with respect to gender. Institutional knowledge and personal competence are emerging in social connections and, vice versa, are continuously shaping social connections. This is particularly true for future technologies like internet, online media, multimedia etc. which decisively influences the forms of working, communication and living in the future.

The assumption of neutrality however, the starting point of a Gender Impact Assessments (GIA), does not apply to the contents the knowledge. It means that the object of GIA is not gender neutrality of programming languages, project management tools or visual design. In contrast to examining the neutrality of contents of knowledge (which is anyways hard or hardly comparable in an inter-subjective way), we examine the gender neutrality of the transfer of knowledge and the acquisition of competence, that is the interaction between the institutional offer and individual demand, as well as the opportunities to allocate competencies in run of the academic programme. So we are checking the hypothesis, whether opportunities are distributed in an unequal, gendered way; we do not check the hypothesis, whether the contents of teaching are gendered.

Are there gender-specific obstacles, filters or selectivity – autonomous or heteronomous ones- that control participation in a social event called "acquisition of competencies at university"? Is the choice of specialisation, the grading of cognitive performance, choice of co-operation partners in practical training or finally the career opportunities influenced by those?



For answering these questions, first results can be derived from the content analysis of bachelor theses of the last years. In addition to expert interviews, participant observation of seminars and exercises as well as focus groups with students, this sub-project gives a first impression of gender-specific selectivity of the field. Already the analysis of nine group discussions, carried out in 2003, showed a clear trend: there are gender-specific differences in realizing talents and interests, previous knowledge and socialised cognitive interests. Whereas for men the centre of attention seems to be "application", do women prefer "learning". These "Leitbilder" and types of knowledge are realised evidently in a selective way: "Boys implement, but girls design it". This is a statement done in a discussion group, that metaphorically condenses the necessity to set a focus on the content on the one hand, and gender-specific preferences on the other hand.

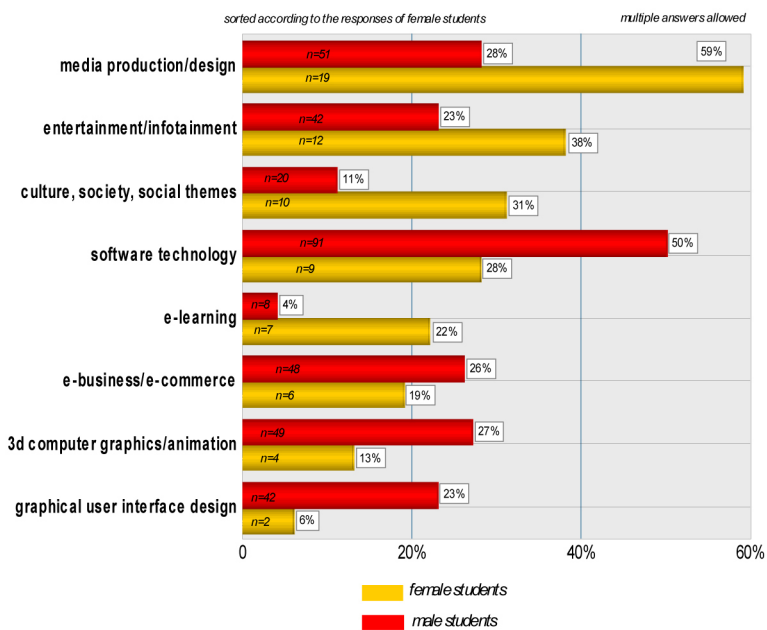


Figure 1: Specialist topics chosen for Bachelor thesis.

How are these differences portrayed in the empirical part? In order to answer this question TanGenS evaluated the abstracts of totally 215 bachelor theses (183 men and 32 women) written between winter term 1997 and summer term 2003. A bachelor thesis is part of the final examination. Aim of the analysis of bachelor theses was to check the neutrality hypothesis, i.e. whether there are gender-specific effects in selecting the seemingly gender-neutral offer of a thesis. The analysis of the diploma theses was based on following premises: 1. students choose topics for their theses in agreement with their individual preferences and focal interest in order to get good results of the examination. 2. They choose

their topics in accordance with their individual professional goals. In the following, the most important results of the analysis are introduced. Because of the small number of cases, in the following text and in the graphics, the absolute values are given additionally.

A first impression of gender-specific differences allows the thematic attribution of bachelor thesis by the "columns" of the department - Technology, Design and Business. Almost all assignments of men (91%; $n=166$), but only two thirds of women (69%; $n=22$) can be definitely assigned to the technological area (if more than one coded). An inversion of this perspective evolves in assigning to the design area. Three quarters of the women (75%; $n=24$) carried out a thesis dealing with creative tasks, but only every other man (57%; $n=105$) selected such a component. About one third of the students' theses of each sex can be assigned to business. So a focus on business is regarded more seldom as a stepping stone to career, and both, man and women are less interested in it.

The majority of the theses are application oriented. Three quarters of the men (78%; $n=141$) and one third of the women (66%; $n=21$) went for this direction. Only one third can be classified as basic research. Interdisciplinary topics were even less attractive. Nevertheless, for almost one quarter of the women's theses we can confirm such a preference (23%; $n=7$), but only every tenth man (13%, $n=21$) liked to see beyond the end of his disciplinary noses.

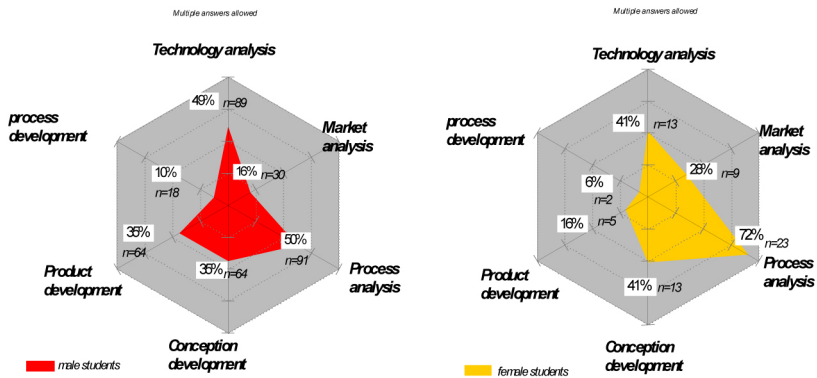


Figure 2: Aim of Bachelor thesis.

However, most gender-specific differences appear most clearly in the choice of areas of specialisation (cf. fig. 1.). Women preferentially decide for design and communication, whereas the men prefer technical areas such as programming. More than half of the women (59%; $n=19$) but only one quarter of the men (28%; $n=51$) worked on media production or design. When looking at the areas entertainment and infotainment, we get a similar result. The share of women's' works makes up about one third, the part of men's' theses only one quarter. The men showed least interest to the areas e-learning as well as culture, society and social issues. Whereas almost a quarter of the women (22%; $n=6$) were interested

in e-learning, the proportion of men was negligible (4%; n=8). Only every tenth man was interested in cultural, societal or social topics (11%; n=20), whereas one third of the women did (31%; n=10). Men's domain is definitely software technology. Every other man decided for this specialisation (n=91), but only a quarter of the women (28%, n=9). Therefore the antagonism is "media design" versus "software programming". Along the axis of preference we are able to locate students, not exclusively, though with a certain possibility.

This first rough impression is deepened by a closer examination of the objectives of the theses (cf. fig. 2). Both, male and female students often deal with the analysis of processes. However, there are clear differences. Whereas only every other man takes such a task, almost three quarters of the women do (72%, n=23) do. Women more often choose a market-analysis or development of concepts, whereas men go more often for technology analysis and product development.

5 Conclusion

Summarizing, we conclude that there are clear preferences and selectivities. Women are more inclined to deal with design, conceptional or communicative-didactical tasks, men prefer programming and application-based development of prototypes or products.

Selectivities, developed in the run of the academic programme, are already perceived outside of the narrow context of a single department. The underlying casualness, how the job market for internships is divided into a male and female sphere ("Would you rather work in a creative or programming area?"), show that employers, with their seismographic talent, do not need any quantitative empirical proof to detect this kind of differentiation.

These first results only deliver a tiny insight in the area "academic programme", its latent and obvious gendered structures, its implementation processes, actions of choice and allocation of opportunities for students. The results of the GIA will be combined with a quantitative survey about the satisfaction with the study environment that will be realised in summer 2004. This spectrum of activities gives evidence of the diversity in implementing the Leitbild "gender". TanGenS is trying hard to introduce gender as a topic in a technology-centred environment, to intensify gender-specific and gender-sensitive educational offers at FHF as well as, in general, to contribute in sensitising students and university lecturers for gender.

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