

Questioning Gender in the Discipline Computer Science

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The meaning of gender is embedded in social and cultural constructions and is always dynamically linked to the meaning of many concepts such as technology or the relation between use and design. The performances of gender are the symbols for power relations in a domain such as Computer Science.

The phenomenon of underrepresentation of women in Computer Science is not simply a question of deficits of women, of removing barriers, or of making products more attractive to women. It is connected to the dominant epistemological and ontological actions and structures within the discipline and it can be seen as a symptom for deeper lying phenomena of power that are visible in existing hierarchical binary oppositions in Computer Science.

Gender is hidden under a weave of hierarchical binary oppositions and covered by the unquestioned habits in interaction worlds. By ICT-products such as e-mail, groupware, workflow systems and Internet services, humans changed their interaction options and thus changed the character and content of interaction itself.

Questioning gender is a strategy to disrupt the obvious acting of actors: designers and users in domains related to Computer Science. The performance of gender in Computer Science can become visible through questioning and doubting: What has been overvalued, what has been undervalued and what has been ignored? Doubt can occur by criticizing the constructed meaning of activities, which we humans call design-, and use-activities that are linked to gender in the discourse of the Computer Science domain. The deconstruction of the hierarchical opposition 'use-design' function as sources for doubts on the discourse and the acting, paradigm's, methods and theories within Computer Science

Questioning gender creates critical transformative rooms in which can be revealed that the binary hierarchical opposition between use and design in Computer Science is based on the following:

- Use and design are treated as activities in different worlds; a world of senders and a world of receivers, while the IT-products are seen as the exclusive links between these worlds.
- IT-representations are perceived as the products of a design process if the product is new and innovative in the receiver world whether or not that the process of making is a routine process of applying obvious methods and routines.
- The symbolic meaning of use and design is constructed as an opposition in which design is active and virtuous and use is passive and not creative. Designers see themselves and are seen as makers of a better future and working in a straightforward line of progress. Designers follow the ideal of making IT-products that cause no disturbances for and fit completely within the expectations of the users. The concept of 'user friendliness' is based on this notion of non-problematic interaction and security of interaction. Good design is defined as making a product for users that should not create disharmony or doubt in the life of the users.

One of the main causes of the hierarchical opposition between use and design is that oversimplified models for interaction and communication are used in Computer Science. In models such as the transmission-model and the impulse-response-model there is no room for processes of meaning construction. 'Communication' is defined as the transmission of representations between a sender and a receiver through a neutral channel.

Questioning gender in Computer Science can lead to the enclosure and the repair of a variation of 'transformative critical rooms', which were closed in the past and redecorated with differences. The concept of a 'transformative critical room' as a place of negotiation between interpretation and representation is found useful for the construction of mutual actability. In my research projects I have started this process of opening through examples of constructions of such critical rooms. The examples I have developed are:

- conceptualization of analysis as an ongoing conversation on vision instead of solving problems,
- rewriting the ontology of the object-oriented (OO)-approach to make it possible to look at OO-realizations as plays of artificial actors directed by users,
- integrating doubt on methods and -theories in Computer Science-education by an interdisciplinary approach,

- developing a critical approach of application fields such as e-learning and ambient intelligence.

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