

# Promoting gender-sensitive teaching at the Institute of Technology in Sweden

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Institutions of higher education are generally regarded as important engines of community development. Undergraduate and graduate education programs are influenced by the environment, principles, and rules that exist at the society. The Institute of Technology at Linköping University has taken several steps forward to promote gender sensitive teaching and worked with three, main, general principles, namely, that the students will have: a) the ability to make independent and critical assessments, b) the ability to independently detect and formulate problems, and c) the readiness to adapt to working life changes

The efforts realized shown that, to success, it is necessary in parallel to activities related to the integration of gender issues in academic, it is necessary to stimulate changes in learning process as well as the enhancement of skills within the organisation. Efforts to promote gender sensitivity can no longer focus exclusively on obvious abuses such as sexual harassment and pay gaps. It must also extend to gender sensitivity and a carefully considered outlook that informs the everyday activities of the University—in the educational material produced, in the laboratories, at seminars, in the teaching. Exploring these opportunities requires, however, the interest by the faculty as a whole, leaders, personnel and involvement of students in the process.

## **Keywords:**

Gender-sensitive teaching, gender mainstreaming, undergraduate education.

## **1. Introduction**

Institutions of higher education in Sweden are generally regarded as important engines of community development. Undergraduate and graduate education programs are influenced by the environment, principles, and rules that exist at the society. Academia has, however, long been dominated by men, and the male perspective in policy development, performance evaluation, and interpersonal interactions generally prevails. While the status and representation of women in academe have improved since the 1960s, women faculty remains underrepresented in SME (science, math, and engineering) areas. At the Institute of Technology, women comprised a staff of about 25% of the faculty (349 of 1,259), but only about 6% of the tenured, full professors (9 of 140).

The question of gender difference in scholarly productivity is complex, and many studies have discussed gender differences in scholarly productivity (1) or gender differences in classroom dynamics. The evidence suggests that women are as capable and as productive as men in the academic arena. However, it also suggests that there are a number of factors

related to the using teaching techniques that recognized a variety of learning styles, thereby, contributing to the high attrition for women (and under-represented minorities groups) in science. The Institute of Technology at Linköping University has taken several steps forward to promote gender sensitive teaching and worked to promote gender equality with three, main, general principles, namely, that the students will have:

- The ability to make independent and critical assessments
- The ability to independently detect and formulate problems, and
- The readiness to adapt to working life changes

This last issues are of crucial importance because of the Swedish current law and socio-cultural principles, as well as the fact that it implies that equality between women and men must always be promoted in all activities related to higher education.

## **2. The development process**

Promoting gender sensitive teaching is not only an issue of including women in university teaching or literature written by women in course literature lists, but also a deeper scientific question that implies more radical change in the content of courses. To integrate gender issues into the Institute of Technology's undergraduate education, several steps were developed.

*At the first step*, special funds were reserved for work on gender mainstreaming of undergraduate education. A senior lecturer was appointed as gender lecturer with the mission of to coordinate, develop, and carried out activities to achieve the vision "Linköping University (LiU) a gender-sensitive university by 2009".

*At the second step*, an action plan for the implementation of gender mainstreaming was developed. Objectives and indicators for gender mainstreaming of core activities with the purpose of describing the measures that must be taken to ensure that the content and/ or form of education is permeated with gender-equality and gender perspectives—in planning, implementation and follow-up alike were identified. Work on the drafting of the plan was developed from the Balance Scorecard tool of performance management, and such concepts as success and performance indicators were therefore used.

A number of key individuals from different institutions were invited to working meetings with the aim of providing feedback and contributing to ideas that could improve the suggested action plan. A success factor for the Institute of Technology was identified as being that all study programmes were starting to integrate gender sensitivity in to the form of the education provided. For this purpose, a series of seminars for university teachers on gender perspectives with focus on undergraduate courses in teaching and learning were developed. The seminars can be regarded as a form of pilot activity. They have therefore been flexible and aimed at creating knowledge about the status of gender perspectives in the different disciplines represented by course participants and at raising the level of knowledge about gender. The seminars included a theoretical moment and an applied moment, in which the participants had been given the opportunity to listen to previous experiences about how and if it is possible to promote gender-sensitivity teaching, but also how, in practice gender issues can be applied to courses in SME areas. In addition to this, in the seminars, the following aspects of integrating gender into undergraduate teaching have been taken up:

- Organisational and institutional discussions.
- The deconstruction of representations and dualities regarding men and women, male and female, and masculinities and femininities in scientific texts. How are women and men portrayed?
- How has male numeric dominance been transformed into a representation of men as more scientific rational, etc?
- How do gender relations “work” in the classroom teaching, and how are male and female teachers’ authority viewed?
- The importance of the use of literature that takes into consideration both males’ and females’ experiences, knowledge and values, in the use of production of knowledge.

A follow-up of guidelines was developed to apply in teaching situations or to review of curricula, and in order to give all students the same opportunity of obtaining knowledge and experience. The guideline was then used as inspiration by teachers from different SME areas to integrate gender perspectives into syllabi and course implementation.

*The guidelines contain the following items:*

- *Projects and practical work:* This guideline applies to all situations in which students work in pairs or groups. It is the students’ responsibility to arrange a rota of responsibilities and roles. The students should discuss the division of labour among themselves on the basis of rotating duties and roles. The teachers should follow up the students’ rotas and assist in putting them into practice.
- *Seminaries and lessons:* The most difficult aspect of this category of work is how we respond to one another’s questions and answers. In practical terms, something should be done about the actual distribution of speaking i.e., of the questions and answers.
- *Lectures:* Avoid poor examples, and do not refer to what men and women respectively are able and unable to do. Nor, of course, should generalised assertions be made on the basis of ethnicity, for example. Bear in mind your way of responding to questions.
- *Examination:* There are various forms of decoding examinations, such as removal of names and personal identity numbers. In the case of oral or viva voce examinations, an assessor was recommended.

Finally, collaboration with the students’ representatives was initiated and activities such as follow-up of the work performed to integrate gender issues in SME courses, and special seminars for students with the aim to disseminate knowledge and experiences accumulated, were programmed.

### 3. Lessons learned

The work strategy adopted to promote gender-sensitive teaching at the Institute of Technology contributed to recognizing the integration of gender issues as a key issue to improve quality aspects in all basic education activities. With focus on students, it was considered, to be vital to work for development of gender perspectives to promote students’ learning. Gender issues in SME courses, were therefore considered as something that cannot be pasted on afterwards; rather, they must be integrated throughout the duration of the studies.

The guidelines developed helped faculty members become more aware of the issues that affect students, especially female students, in SME areas and provide them ideas about how to address these issues in their own classrooms. Using teaching techniques that recognized the importance of class participation, the importance of the division of power during seminars and lessons, the importance of variety of learning styles in the classrooms, and the importance of variety of examinations options was found not to serve only women, but as a factor that would attract more students to SME areas. It is, however, important to signal that due the nature of the education imparted, the goals and indicators for success identified as important to achieve, were related to issues as for example, how to stimulate conditions to give both male and female students the opportunity to pursue their studies successfully and how to stimulate and practical apply *women's* and men's skills, experience and values (1-4).

After completing their education, students are today expected to have acquired knowledge and understanding of the influence exerted by gender identity at both an individual and societal level. However, a pre-requisite for success was considered to be that the education must be provided in such as ways that take the objectives of an undergraduate university education into consideration. This means learning how to find, assess, understand and use men's and women's experiences and knowledge, and especially acknowledge women's contribution to science, so that they benefit from this knowledge in their future working lives. In addition to this, male teachers that actively worked to integrate gender issues in their own courses signalled the importance of to work with a contextual methodological approach that allows place gender in the context of particular disciplines and particular organizations.

The seminars allow discussing issues that traditionally have been indicated as key factors to achieving gender equity in classroom. These include issues such as gender differences in communication styles in the classroom, how students must be trained in the various roles and stages that seminars and lessons demand, how to distribute the time the students are given for answering/asking specific number of questions, how teachers must self- critically examine their own behaviour and take pains to respond gender sensitively and the importance of decoding examinations and as teachers lay preconceived valuations aside when they are marking examination papers. However, the seminars allowed also identifying the importance and the need to scope and support for development and consolidation of gender implications, especially for those who have been engaged in gender-sensitive teaching for some time. Work to promote gender-sensitive teaching must be characterized by continuity and persistence, as well as providing arenas for continuing training and models for enduring work are to be created to ensure the continuity of the work

The leaders of the Institute of Technology play a key role for the success of the work plan. The Dean of the Institute of Technology was actively involved in the planning process and assumes the responsibility for strategic measures to be achieved. The Vice-dean participates as lecturer in all seminars giving specific examples of how gender-related aspects influence not only the quality of the educational programs, but also the importance of to recognizing gender-related aspects to learning. They also actively worked to ensure that all boards of studies, consisting of representatives of the relevant disciplines, industry, students, and others adopted and active work with the vision, measures and factors identified in the work plan.

### 3. Conclusions

Today, gender issues are dealt with very differently in different subjects. It often depends on individual teachers' knowledge and motivation. The efforts realized at the Institute of Technology shown that, to success, it is necessary in parallel to activities related to the integration of gender issues in academic, it is necessary to stimulate changes in learning process as well as the enhancement of skills within the organisation (2-5).

We learn also that efforts to promote gender sensitivity can no longer focus exclusively on obvious abuses such as sexual harassment and pay gaps. It must also extend to gender sensitivity and a carefully considered outlook that informs the everyday activities of the University—in the educational material produced, in the laboratories, at seminars, in the teaching, and so forth (3-5). The creation of equal opportunities for women and men is one of the basic principles the Swedish society. No teachers or students can deny their own responsibility and we must all help one another to create a fairer and more equal relationship and response. This is important for individual students who would otherwise face direct or indirect discrimination; it will enable teachers to put an end to a power structure that is inherently unjust.

As in previous research (5), it has been argued by many colleagues that by using teaching techniques that recognize a variety of learning styles in classroom, we would not serve only women but would attract more students, including men, who are not learning under the standard lecture style. Some colleagues argued also that that the challenge of teaching for a more diverse audience is simple "good teaching" and that it is difficult to see the difference between good teaching and gender sensitive teaching. However, some suggestions presented in the guidelines have in fact less to do with good classroom teaching and more to do with creating a welcome climate and second, by concentrating on good teaching alone, we often ignore gender-related differences.

Even if universities were the most agile of organizations, however, one of their products is, people, and it takes decades, and metrics measures of effectiveness of their teaching, to form any judgement about the success of the education provided. Nevertheless, despite the fact that an evaluation of the impacts of the work performed is not yet available, the gender-sensitive work being using some characteristics considered as relevant for education, as for instance: The need for change: our students will face a world that has changes, and continues to change, more rapidly than one may imagine. The need to develop new skills that will help to get an interesting and rewarding job, even globally, learning how and what to contribute to society focus on excellence in research and teaching, and taking diversity seriously. Our society, in the future, need the most active involvement from all of its sectors; people with different backgrounds or different genders and ethnic backgrounds all have contributions to make. If, as a society, we do not take advantage of the heterogeneity of our society, one of its most unusual characteristics; we are losing an opportunity to use human capital effectively, even in academia

There are, however, many opportunities for us to innovate in the content of curricula, in the context of individual courses and in methods of instructions about how to integrate gender-related issues into undergraduate education. Exploring these opportunities requires the investment of time and interest by the faculty as a whole, leaders, personnel, and involvement of students in the process. It is therefore important to note that the Institute of Technology's efforts to promote gender sensitivity have acquired relevant importance only

because the performed work is considered as crucial and important for the leaders of the Institute and because they have prioritized interest and given resources to issues related to undergraduate education and gender sensitivity teaching.

Many objectives have been achieved, but a great deal undoubtedly remains to be done before we can credibly claim to have achieved all stated goals. Continuous interaction with students' representatives will without any doubt give us new inputs, new experiences and new opportunities to be used for successful work with gender equality issues in undergraduate education and do the Institute of Technology an attractive place to study in.

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