Aalborg Universitet

AALBORG UNIVERSITY
DENMARK

The Mentor Program of Aalborg University

Nielsen, Kirsten Mølgaard; Hansen, S.L.

Publication date:
1999

Document Version
Også kaldet Forlagets PDF

Link to publication from Aalborg University

Citation for published version (APA):
Nielsen, K. M., & Hansen, S. L. (1999). The Mentor Program of Aalborg University.

THE MENTOR PROGRAM OF AALBORG UNIVERSITY

Kirsten M. Nielsen, associate professor of Aalborg University, Aalborg, Denmark.
Saskia L. Hansen, Industrial Liaisons Office, Aalborg University, Aalborg, Denmark.

INTRODUCTION

Aalborg University is situated in the northern part of Jutland, Denmark. The faculty of Engineering and Science holds around 5000 students. At the university the curriculum for the education in engineering as well as in natural science is project organized studies. The projects can be design-oriented problems, which can be solved by theories and knowledge from lectures or it can be problem-oriented work dealing with unsolved problems in science and industry. In many ways the project work reflects the work process in an industrial company. A project-group consists of 4 to 6 students.

Within the traditional classical engineering disciplines as electrical, electronic, mechanic and civil engineering the rate of female students is about 15% and it is going down. In addition the drop out rate of female students has been double the rate of male students. Consequently a pilot mentoring program for these students was established during the summer of 1998.

This paper is based on the experiences we have obtained during the first pilot mentor program at Aalborg University. In the paper we will at first present the mentor program which is inspired from the Aalborg University tradition of group work, and followed by mainly e-mail correspondence and secondly some of the issues which have been raised during our conversations and evaluations with the participating students and mentors will be given. Finally we will present a number of questions which we will invite you all to discuss in groups and in plenum.

THE PILOT PROGRAM

The pilot mentor program was initiated during the summer of 1998 when the Dean of the Faculty of Engineering and Science realized that something had to be done about the higher drop-out rate of female engineering students within a number of engineering disciplines than that of male students.

Consequently the associate professors Mona Dahms and Kirsten M. Nielsen were given the task of supervising the program while Saskia L. Hansen from the Industrial Liaisons Office was asked to take care of the practical implementation and administration of the mentor program. The main aims of the program were defined as securing a higher retention rate among the students and furthermore to prepare them in the best possible way for the labor market.

During August and September 1998 letters were sent to a number of companies asking them for female engineers who might be interested in participating in this program. The letters were sent to the Human Resource Departments because we wanted the companies' official support and acceptance since the participating mentors would have to spend some of their working hours participating in the program. 18

engineers from a vide range of companies signed up and the response from female students was overwhelming and some even had to be put on a waiting list.

Organization of mentors and mentees

The organization of the mentors and mentees is partially based on the special pedagogical model of Aalborg University with its focus on problem-based learning. Consequently the organization of students into project groups was transferred into the organization of this mentor program.

The project committee decided to match one mentor with two mentees (if possible a fresher and a graduate) and each mentor was matched with another mentor, forming a small group of two mentors and four mentees. This group could then exchange experiences, the mentors could assist each other and if one mentor were to be extremely busy for a period the other mentor could take over prime responsibility. Likewise the mentees were invited to exchange their experiences - our aim was that the older students in this way could be a help for the freshers.

The matching of mentors and mentees was rather difficult in that we had 18 mentors and 35 students whose disciplines did not exactly match. We had too many electronic engineers and too few electronic students and likewise many civil engineering students and only few mentors. This is partly due to the fact that the main mobile communication industry is situated in and around Aalborg and consequently many electronic engineers joined the program. One student was doing an internship in Zimbabwe and was matched with an engineer in Copenhagen who only wanted to participate through e-mail.

The specific matching of mentors and mentees was made by us in the project committee, since we in this first pilot program only had a very limited number of mentors to offer the students.

Means of Communication

The communication of mentors and students was intended to be only through e-mail apart from the meetings which are part of the program. It turns out that some of those mentors who work and live in Aalborg also invite their students out for lunches and dinners. Furthermore many mentors have invited their students on company visits, even those mentors who work in companies that are situated far away from Aalborg. This means that the communication in many ways has been more personal and direct than the originally intended e-mail communication.

Launching the program

The program was launched with an initial meeting for the mentors and a month later, a meeting where mentors and students could meet for the first time. Suzanne Brainard's Handbook for Mentors and Mentees was handed out since we do not yet have information material modified to Danish culture and written in Danish.

There was a midterm evaluation in early February and there will be a final evaluation in June. All mentors and students can continue on the program if they would like to, but the pilot program only asked people to make a commitment for one year. A new program with new students and mentors will be launched in September. In the continuation of the existing program and in the new program we will make changes relating to the response we have received through discussions at the midterm evaluation and through e-mails and other conversations with mentors and students.

DISCUSSIONS DURING THE PILOT PROGRAM

In the following some of the topics which have been discussed through the first part of the pilot program will be introduced and this will form the background information for the following sessions in discussions groups.

Gender and Technology

The issue of Gender has been highly debated in relation to our program and it gives an impression that in Denmark it somehow is not quite legitimate to make initiatives which focuses on only one of the two sexes.

Firstly quite a few of the companies contacted were not interested in participating in activities with a gender focus and some of the female engineers themselves also reacted towards this mentor program and thought that the program tried to make a problem out of being a female engineer and engineer student. Secondly the participating mentees all want men to be part of the program as well. Opinions differ from men somehow being included in the current mentor program to suggestions of running parallel programs for male students and male engineers. Likewise a majority of the mentors would like to mentor male students as well or at least ensure that male students are given the same opportunity.

Some of the participating mentees have been bullied by their male co-students and teased with having a need for a "nanny". Other male students have been rather jealous and find it unfair that this opportunity is offered only to female students.

Mentor programs and preparation/training

Using mentor programs is something quite new in Denmark and in our program this has raised the issues of how the mentees can use their mentor, which questions they may ask, how much they can demand of their mentor and likewise the mentors have been insecure as to how often they should get in touch with their students, how they should react when students do not answer e-mails etc. This leads directly back to the question of the information material available for mentors and mentees and the overall training and preparation of both mentors and mentees.

We used American information material which has not worked very well in a Danish context. Many of the specifics in the American handbooks (such as instructions about

behavior etc.) simply do not fit in with Danish mentality. Furthermore the fact that the material was in English has made some mentors and students simply put the material away; not because they don't read English, but because they found that this did not fit with the information they needed.

At the midterm evaluation one suggestion was to make a small guide introducing various activities that mentors and mentees could do together. This could also be activities such as company visits where e.g. also the male students from the mentees' project group or class could be invited.

Furthermore the need for physical meetings has been stressed. Both mentors and mentees find it a lot easier to communicate through e-mail if they have seen their counterpart and also these meetings add another dimension to just writing through e-mail. Most mentors and mentees conclude that actual meetings are necessary in order to establish a good relationship.

The organization of the program

Everyone agree that the organization of the program in groups is great. The mentors have pointed out that they get the opportunity to get in touch with engineers from other parts of the industry and that it is a help to have another mentor to exchange ideas with. However most of them see the general meetings as an opportunity to get together and establish an informal network among these female engineers. In the project committee we will try to establish special activities for these engineers in the new program and thus substantiate and support the basis of the network.

The students likewise are happy about the organization, but for those groups including a fresher and a graduate the gap in maturity and experience is simply too big. The graduate is already focussed on getting a job whereas the fresher is slowly getting to know the world of university. Consequently a proposal from a group of mentors and mentees is to establish groups of 3 mentees and one mentor. The mentees should then consist of a fresher, someone in the middle of her studies and a graduate. This would facilitate a better exchange of experiences than the current model.

Furthermore an issue has been the static aspect of this type of organization. Suggestions have been that mentees should be able to circulate in a wider group of mentors. Depending on which project the mentee is working on or problems she is engaged in, she should be able to temporarily adopt another mentor who could help her with the specific question in mind. This would mean a better use of the mentors skills and abilities, give the students better and varying opportunities for help and advice, but would also mean a lot of extra work for the mentors. This increased flexibility might limit the difficulties involved with matching students and mentors; many students have been critical of their match with a mentor of different disciplinary background than their own which it is difficult to avoid unless many more mentors join the program.

The supply & demand situation concerning engineers

As in many other countries Denmark today is facing a severe shortage of engineers and scientist - and the number of female students within this field is very low compared to the fact that more woman than men are engaged in higher education. This problem is accentuated by the fact that the soft disciplines such as the humanities and arts experience an ever growing number of students.

This dilemma is a growing headache of politicians, the industry as well as lower and higher educational institutions. Initiatives that can stimulate the interest of primary school children in science and technical areas is discussed as well as initiatives more directly aimed at primary and secondary school girls.

We find it strange or rather curious that in a country such as Denmark, appraising the equality of the sexes, there still is a marked gender difference concerning the fields of engineering and science.

Topics for group discussions

Gender and technology
- how do people in you state/country consider the issue of gender especially in relation to special initiatives directed towards women in technology?
- if it is the case that the issue of gender is a more legitimate issue in the USA than in Denmark, why do you believe this is the case? Could this be because of the specifics of national culture & values?
- if you have experiences with mentor programs, have the mentors and mentees been critical towards the fact that the program is for females only?
- has anyone used male mentors and if yes, has this been successful?
- how do you consider the influence of national culture on the issue of affirmative action; what is your experience?

Mentor programs and training
- which are your experiences with the preparation of mentors and mentees?
- have you used written information material and how successful was this?
- have you had separate training sessions for mentors and also mentees?
- has there been meetings for mentors and mentees?
- how do you match mentors and mentees?

Organization of the program
- how are the mentor programs you know of organized?
- how would you compare the advantages and disadvantages in relation to one-on-one mentor programs and programs based on groups of mentors and mentees?
- how do you find interested mentors and students?
- is the company of the individual mentor involved in this process?

The supply & demand situation concerning engineers
- how are the political actors, the higher education institutions and the industry in your state/country dealing with the issues of the growing demand for engineers?
- is the issue of gender part of this?

References

Kjersdam, Finn & Enemark, Stig, The Aalborg Experiment, Project Innovation in University Education, Aalborg University Press, 1994, ISBN 87-7307-480-2.

Gertje Joukes (ed.,VHTO), Good Practice Handbook on mentoring of girls and women in or towards technical jobs, VHTO/UETP-Randstad, 1998, ISBN 90-72912-12-8.