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Women into Science and Engineering (WISE): Activism and Institutional Change.

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Summary

For the last four years the authors have worked as joint Chairs of the Open University (OU) WISE Group. It operates with the support of a dozen active women and men, and a large mailing list of passive members. Over the years we can claim a number of achievements for the Group, but there are areas where we have made little or no impact on the University. In this paper we begin to analyse why we have been successful in some areas of work and not in others. We feel that our own experience of sustaining a feminist pressure group in a liberal, but bureaucratic, academic institution will be familiar to many people working for women's education in science and technology. We need to share our understanding of institutional power to be better able to develop feminist strategies for achieving institutional change.

The Institutional Context

The OU is a national distance teaching university, the largest provider of undergraduate, postgraduate and adult education in Britain, with 100,000 adult part-time students in 1988. It was established by a Labour government in 1969, in a period of expansion in higher education. The key educational principle of the OU, alongside its distance teaching methodology, is equality of opportunity through open access. This policy was stated in the government White paper *A University of the Air* (1966) which laid out plans for the University:

"Enrolment as a student of the University should be open to everyone on payment of a registration fee, irrespective of educational qualifications, and no formal entrance requirement should be imposed." (quoted in McIntosh 1977:3).

This was enshrined in the University's charter, and undergraduate courses are carefully structured so that no presumptions are made, beyond those of basic literacy and numeracy, about students' educational skills on entry to their first year of study. It was hoped that large numbers of working class men and women would be attracted to open access university education, but this has not proved to be the case. Class remains a general barrier to access.

In particular subjects, gender is a barrier too. In 1988 women were 46% of all undergraduates, the same proportion as women on full-time undergraduate courses in other UK universities (Universities Statistical Record 1988). However, the proportions studying mathematics, science and technology are much lower, with women being only 16% of all technology students, 26% of mathematics and 37% of science. Such statistics provided the context for the establishment of the WISE Group in 1984; its early work has been described elsewhere (Carter 1987).

Successful WISE initiatives

WISE successes are easy to claim, and very tangible. The Group has been most successful in its promotional activities; the 1980s have seen a steady increase in the proportion of women entering the first year course in technology, from just over 15% to 28% in 1989. Our leaflets encouraging women to consider technology as a subject of study and our careers booklet "Career-wise: a fresh start in technology" (Kirkup 1986), which encourages mature women to consider training for and entering a new career in technology, have been widely used by women studying at local colleges as well as our own students. The promotional work of the Group is seen by the Technology Faculty, in particular, as being good general publicity for the Faculty and so it is supported.

Similarly, the Group organises and hosts a WISE seminar series with invited speakers from both inside and outside the OU. Seminars, which take place on the afternoons following morning WISE Group meetings, are mostly well attended and expenses are met by the Technology Faculty.

Some individuals in the Group have received acknowledgement for their work in this field and are invited to speak outside the University about WISE and the OU, and to join special groups and committees within the University. Sometimes WISE work has provided a visible platform for active and competent women who would be unlikely to have been assigned prominent roles or responsibilities in their day to day work. However, the time needed to do the work is not recognised even when the product is, so most of the group fit WISE activities into the margins of the rest of their work.

In 1989, the work of the Group contributed directly to the OU's reputation as an institution with a record of excellence in women's education. The University won two national awards in this field, one from the Fawcett Society, a group with a long history of working for women's rights, and the other from Good Housekeeping, a 'quality' women's magazine. In the submission for each of these awards, successful WISE Group initiatives were documented together with equally successful women-oriented projects stemming from other groups within the University, the Women In Technology project and the Women into Management course, for example.

The WISE Group has been the longest running of the many different kinds of equal opportunities groups across the University. It was not originally intended as such, since members had more radical notions in promoting women's interests than simply working for equality of opportunity. The University's philosophy of 'openness' has proved a hindrance, at least as much as a help to the work of such groups. For some people, rhetorical commitments to openness have taken the place of developing and monitoring practice. There has also been concern, common where there is a liberal belief in equality, that special initiatives for some disadvantaged groups would lead to inequality of provision. The University as an institution did not acknowledge that it was not providing equality of opportunity amongst its staff, or that in practice it was not providing equal opportunity for access to all potential students, until 1987 when the University Senate supported a motion to establish an explicit Equal Opportunities Policy. A Team was then set up to design the Policy and the structures

for implementing it over a five year period. Two active members of the WISE Group were asked to join the Team because of their long experience of involvement with womens' issues. However although their experience has benefitted the Equal Opportunities Team greatly, and their Team work has been acknowledged by the institution, there has been no direct benefit (as yet) to the WISE Group.

Less successful initiatives

While we would argue that almost any initiative generated by a small, committed pressure group in a large educational institution is likely to have some positive effect by the very fact of its existence, there have undoubtedly been areas of our work in the WISE Group which we regard as having failed. Usually, success extends to the boundary where we have control over the outcome of our efforts and are able to continue to influence it, whereas failure occurs when we come into conflict with the institution, or encounter institutional inertia. The group benefits from the traditional ideology of 'academic freedom' and autonomy. We can write, speak, and run educational initiatives, and those who disagree with us will not hinder us, although they might write or speak against us. However, once we try to achieve institutional change that influences the work of others or the operation of the institution, we are effectively members of a large corporation. Corporate ideology and practice is very powerful and self-protective.

For example in 1989, at the instigation of the WISE Group, the Faculties of Science and Technology attempted to change the wording of the advertisement which appears annually in the national press to recruit tutorial staff for OU summer schools. Both Faculties had monitored the gender composition of their summer school staff and wished to insert a sentence in the advertisement to encourage more women to apply. The request was made well before the deadline for the preparation of the advertising copy, but the administrative unit responsible was unsympathetic to the proposal. It took delaying action and attempted to redirect responsibility until the deadline passed and the amendment was not included in the final advertisement for staff for the summer

of 1990. The hidden power of conservative administration to delay, dilute or block change is enormous.

On the one hand the institution refused to take legally acceptable positive action on recruitment, yet on the other it had eagerly claimed the Good Housekeeping award mentioned above as evidence of its progressive practice. Having accepted the award on the basis of a submission prepared by the Press Office, the University managed to omit any public acknowledgement of the contributions of the many groups including WISE, whose work had won it. When at last feminist activists should be enjoying that public recognition the University sidesteps them and claims the work for 'The University'.

Working on curriculum change in technology is a long term task, and one where the WISE Group has been disappointed by its lack of influence. Feminist critiques of scientific and technological method such as that of Harding (1986), come from the disciplines of history and philosophy of science and technology. Their impact on the curriculum in science and technology is inevitably slow, because it is difficult to translate theoretical critiques into the practical design of new teaching material. Academics in the pure sciences, technology and engineering tend to view their fields as absolutes, providing a correct analysis of the material world in which social constructs have no role. Feminists have begun to challenge these underlying assumptions (see, for example, Keller, 1985, Carter and Kirkup 1990) but it will be many years before science and engineering educators are able to present different maps of each field at the core of their teaching.

Course teams preparing or revising Technology courses have invited and apparently welcomed advice from the WISE Group on non-sexist presentation, content and gender-linked issues, but the Group has rarely been offered the opportunity to comment on print drafts in time to change them, or to contribute to improving the audio visual components of the multi-media OU courses. Not only are we questioning what constitutes knowledge, without as yet being able to provide answers, but we also

present a challenge to those who are authorised to produce knowledge. This is a combination which our colleagues find hard to accommodate.

Interaction with the institution

In theory the University manages itself through a system of committee structures which contain representative and co-opted members of all the academic units. Kanter's work (1977) on who has power in large corporate organisations, and why that is less likely to be women, applies equally to large educational institutions. In the OU cases for new initiatives and change must be argued many times through different layers of committees and there are many places where individual committees or University administrators can hinder, if not block, progress. Encountering any key individual or sub-group who is not persuaded that women are disadvantaged in some respects can be disastrous for WISE initiatives. At the same time, this democratic model permits the men in senior positions to claim the success of new initiatives for themselves and for the institution, without acknowledging their origins and development.

None of the women in the WISE Group are senior academics and many members are not on the academic staff at all. We are not a collection of high status members of the University, nor as individuals do we wield institutional power. However, we have been more successful in getting the support of senior members of the University than in getting that of our immediate colleagues. The Dean of Technology, a long standing member of the group, has provided us with status and resources. As we have always had members from several faculties we are, increasingly, able to call on the Deans of Science and Mathematics, and some of our Pro-Vice Chancellors.

As a voluntary group outside the University's formal structure we have no direct access to budgets. Small administrative cost and expenses are met from Faculty budgets, but these do not stretch to supporting any financially ambitious project. We

continue to bid, internally and externally, for funding for a variety of projects, with limited success.

At a more personal level, the pressures of time, and of mainstream workloads, always disadvantage voluntary work done by women. The staff population at the OU, as at other UK universities, is static and ageing. Amongst women, this means that more and more are contending with additional family responsibilities which conflict with their professional work and contribute to their overall load, marginalising WISE work even further.

One of the successes and yet one of the weaknesses of the Group has been its determination to be open to members from any Faculty and from a variety of feminist positions. It has been successful in that people work on a wide range of projects together, and feel able to make a contribution. Operating a consensus model has also provided us with more support within the University and an image (with most of our colleagues!) of 'reasonableness'. However it is also a weakness since we have no 'manifesto' or commonly developed analysis of women and technology. But, without one we cannot assess how far we have successfully challenged the University.

A future for WISE?

In the OU, at least, we do not feel that there is a danger of WISE issues being entirely dismissed as trivial or irrelevant, even though we regularly notice the work of the Group being relegated to the periphery of "serious" academia. One of the major reasons for this is not due to the success of our work at all, but to the much discussed 'demographic time-bomb'. Senior members of the University are aware that its survival depends on recruiting students from previously untapped groups of the population such as the working class and ethnic minorities, as well as women into non traditional areas. We may feel cynical and wary of this concern, but we would be short sighted not to use it to our advantage.

To ensure that WISE initiatives have an easier passage through the formal structure of the institution, members of the Group need to accrue more status through

promotion and election to the University's many committees. But, fulfilling promotion criteria and sitting on committees take time and energy and can divert our radical intentions. Meanwhile, we provide networked support for each other and we are in touch with similar groups in other colleges and in other countries. Ironically, the Group also provides a forum for the full discussion of curriculum issues.

We will need to be clear headed about our aims for the next 10 years. In the UK we will find ourselves working in educational institutions which function increasingly like business corporations: efficiency and profit become major concerns, tenure ceases to exist and academic freedom has a different, and restricted meaning. Feminists working for women's education in science and technology need to understand their current interaction with their institutions. This will be vital information in the new context, where we will require different strategies for achieving institution change.

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