

Why do women in SET need feminism?

By Alison Phipps (Sussex University, UK)

In 2006, I reported on a 3-year research project which suggested, among other findings, that women in science, engineering and technology (SET) professions tend to dis-identify with feminism¹. I have also argued that activists for gender equality in SET tend to engage in reformist rather than radical activities which are focused on fitting women into SET instead of challenging it¹⁻³. In this short piece, I want to make a case for the importance of feminist ideas to gender equality activism within SET fields.

Between 2006 and 2008, I conducted research on gender activism in SET between the 1970s and early 2000s³. This showed that, although progress has been made, after 30 years of initiatives, equality has still not been achieved. In the early 2000s, girls were still a minority in physics, maths and ICT (information communications technology) at A-level, and men dominated physical and mathematical sciences, computer science, and engineering and technology at university⁴. Only 2% of mathematics professors, 4% of chemistry professors, and 3% of professors in engineering and technology and physics were female⁵. In 2007, only 5% of the Fellowship of The Royal Society was female⁶.

I argue that, in order to achieve gender equality in SET fields, it is necessary for activists to employ a critical and radical perspective. Currently, the dominant framework appears to be a 'business case' approach in which women's participation in SET is described as essential for the good of the economy³. Although activists have used this rhetoric wisely in order to tap into government and European funding, it does not provide an explanation for women's under-representation in SET or a programme for delivering gender equality. In contrast, the body of knowledge around gender and SET developed by feminists since the 1970s could help activists a great deal in the creation of initiatives.

A broad range of feminist literature has been produced which suggests that it is necessary to work with women's under-representation in SET at three levels: structural, cultural and symbolic. In structural terms, gender inequality in SET is the result of horizontal and vertical labour market segregation, which means that men are a numerical majority and are also concentrated in roles of power and leadership. As a result, they are able to control women's activities through setting agendas, defining working practices and shaping workplace cultures. Labour market segregation is also at the root of the gender pay gap: in 2007, over 30 years after the passage of the Equal Pay Act, women working full-time received only 87% of men's hourly pay⁷.

Masculine cultures in SET have evolved from male dominance and have become so embedded that it would take more than a critical mass of female workers to reshape them. These cultures encompass long working hours and requirements for travel, little support for workers with caring responsibilities, competitive and individualistic environments, sexism and sexual harassment and social activities which do not appeal to female colleagues. There

is also a cultural and symbolic relationship between SET and masculinity: dominant forms of masculinity are associated with rationality, competitiveness, independence, physical strength and technical skill, qualities which are central to the definition of the ideal SET worker and which underpin SET cultures. As a result, many boys and men are attracted to SET, while many girls and women are driven away.

Of course, it would be difficult to design an initiative which tackles this complex interaction of factors. However, feminist analysis could provide a set of tools and activists could breathe life into these theories by putting them into practice. Working from these ideas, we could focus on reshaping SET to be more welcoming to women (and also to men who do not fit the masculine model). Women in SET are feminists already: they believe in gender equality and have already proven that women have the ability to perform well in so-called masculine professions. Unfortunately, stereotypes of feminists as aggressive, unreasonable and unfeminine, and the risks of identifying as a feminist within a male-dominated profession¹, stop many of them from admitting it.

I will end with that well-known saying; feminism is the radical notion that women are people⁸. If we want to achieve gender equality in SET, perhaps it's time to stop believing the stereotypes and come out of the closet.

Please contact rebecca.smith@biochemistry.org if you would like to join our mailing list for more information on this issue.



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References

- 1 Phipps, A. (2006) *Women's Stud. Int. Forum* **29** (2), 125–135
- 2 Phipps, A. (2007) *Sociol. Rev.* **55** (4), 768–787
- 3 Phipps, A. (2008) *Women in Science, Engineering and Technology: Three Decades of UK Initiatives*, Trentham Books, Stoke-on-Trent
- 4 UK Resource Centre for Women in SET (2005) *Statistics on Women in SET*. UK Resource Centre for Women in SET, Bradford
- 5 Promoting SET for Women Unit (2003) SET 4 Women website (archive version). Available from UK Resource Centre for Women in SET, Bradford
- 6 The Royal Society (2007) Gender profile of the fellowship, <http://royalsociety.org/page.asp?id=2214>
- 7 <http://www.womenandequalityunit.gov.uk/>
- 8 Kramarae, C., Trenchler, P. and Russo, A. (1985) *A Feminist Dictionary*. Pandora Press, Kitchener, Ont.