

Gendered Social Practices in First Year Engineering: Alliance or Alienation?

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At a time when there is a shortage of students in engineering disciplines in the UK, the ESRC-funded *'Mathematics learning, identity and educational practice: the transition into higher education'* shed light into the gendered cultures, epistemes and social practices involved in engineering in higher education, and specifically during transition to undergraduate engineering programmes. These practices affect and influence both men and women, but the majority of previous research focuses on the women alone, and often has positioned the 'lack of women going into engineering' as 'a problem' or alternatively, has placed the women as 'victims' of engineering culture.

According to Phipps (2008), over the past thirty years around one hundred and fifty initiatives have been devised and implemented in the UK to encourage young women to study and then pursue careers in science, technology, engineering and mathematics (hereafter STEM) but, despite the well-intentioned motives behind these schemes, women remain under-represented. In addition, there has been extensive research published ranging from the pioneering work of Kelly (1981 and 1987) which discussed girls in science education through to the more recent research of Watts (2007) which explains that the very nature of science itself deters women from continuing with the subject and Blickenstaff (2005) who likens women's withdrawal from science-related subjects to a 'leaky pipeline'. Burke and Mattis (2007) adopt a more positive viewpoint by examining the challenges and opportunities involved in increasing the participation of women in STEM although Powell, Bagilhole and Dainty (2007) view the challenges as barriers to women's progression in engineering. From a career perspective, there is also research into the reasons for women leaving the STEM-related workplace (Cabrera, 2007) and Faulkner (2006) reveals the stereotypical practices in the workplace that make engineering more appealing to and supportive of male engineers thereby alienating many women.

This paper hypothesises that the values and norms of the engineering culture shape men's and women's dispositions and hence their engineering identities and careers. Thus, masculinities in engineering in general – and those in university engineering in particular - mediate the students' professional and learning relationships. As a consequence, these gendered social practices may not only be deterring women from pursuing careers in engineering but also have the effect of discouraging some of their male counterparts who do not wish to be associated with engineering cultures.

(378 words)

References

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