

National Women in Engineering Day, 23rd June 2015

SAGE Interview with Dr Helen Meese CEng MIMechE, Head of Engineering in Society, Institution of Mechanical Engineers (IMechE)

How did you get into engineering?

I wanted to be an engineer from the age of seven. I've always loved science and science fiction, and was intrigued by anything that moved and always wanted to know how things worked. I was influenced by my father and other relatives who worked as engineers. A primary school visit to a power station was a defining moment in me deciding to become an engineer. Of course I didn't know what it was back then, I just knew I wanted to do it.

Why did engineering appeal to you as a career?

I saw being an engineer as a way to not only expand my knowledge and understanding of the way the world worked but also to travel and work on projects in other countries and to help society in a practical way.

Did you find it difficult to start your career in engineering?

Like most engineers, I'm quite a practical person and I found formal teaching at school quite difficult, which was reflected in my A-Level exam results. However, once I was at university I really learned what it was to be an engineer because the course was far more hands-on. The opportunity to do work experience during my degree was particularly useful as it enabled me to understand and work out what type of engineering I wanted to do.

I didn't find it hard to start my career, I think regardless of how you think your career will be, it never works out that way. New opportunities come along and move you in a new direction; you're constantly re-starting your career, in a good way of course.

Why do you think so few women see engineering as a prospective career?

The ratios between men and women working within STEM careers is about 78:22 and the industry is still seen as a male-dominated profession. In 2013, the average basic income for male registered engineers was £55,000, 19.7% higher than that of females (£45,941), and women are about three times more likely to be working part-time than men. Gender stereotyping still continues to haunt the profession, dissuading young women from pursuing careers in traditionally male industries.

Women don't necessarily think engineering is a poor career choice, it's more that they don't see it as providing the flexibility they need to suit their family life or that they will be valued the same as their male counterparts. This needs to be addressed to make engineering an attractive career path.

What advice would you give to young people looking into an engineering career?

Challenge yourself. Engineering or any STEM subject for that matter, is not easy. It takes time and commitment, but the long-term rewards far outweigh the effort. Take time to look at different aspects of engineering and find out what gets you excited. There are many types and routes into an engineering career, think about doing some holiday work in a company for example to get a feel for what it's really like.

As few as 5.5% of engineering professionals are female according to a WISE survey- how do you think we can encourage more women to consider Engineering as a career?

Talented women often leave companies or are made redundant when they decide to have children or take on other family commitments. Additionally, in the past 4 years the average cost of nursery places has risen 23% (average cost of a part-time place for a child under two being £106 a week in 2013), with the average full-time wage has increased just 2.5% over the same period. Additionally, only 45,000 companies in the UK (out of 2.15 million) were participating in childcare vouchers schemes.

The engineering industry needs to ensure that women know that when they take a break from their career to have families that they will have the support to do so from their employer. If young women entering the profession can see that there are long-term career prospects before, during and after having a family, then they are more likely to want to commit to the profession.

What do you think are the biggest challenges for women embarking on a career in engineering?

I think the lack of good role models for young female engineers is a major challenge; we need more women who are already in the industry to step up and guide the next generation through if we are to attract and retain them in the industry.

However, I think we are on the cusp of a real change in the way women see engineering as a profession. There is much more awareness of STEM and women are much more vocal about stating their case than ever they were when I started my career. I don't think women need to be singled out with complicated and expensive initiatives, they just want to be listened to and for employers to act on their requests. The challenge for the next generation is to not just 'lean in' but to raise their voices even louder.

What advice do you have for women who currently work in engineering?

I would say "Question the norm, challenge employers to change current working practices to improve retention, not just for women but for everyone."