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In this article, we report on a new ESRC co-funded project which aims to design, implement and develop a mentoring scheme for female professionals within the aviation and aerospace industry, through a knowledge exchange partnership between UWE, the Royal Aeronautical Society (RAeS), the Royal Air Force (RAF) and Airbus. The project is co-funded by the Economic and Social Research Council (ESRC) and the project partners. The team at UWE comprises Susan Durbin, Ana Lopes, John Neugebauer and Stella Warren.

The aviation and aerospace industry is of critical importance to the UK, both in terms of contribution to Gross Domestic Product (GDP) and employment; however it continues to face a skills shortage. Women are under-represented in the industry, comprising only four per cent of commercial and RAF pilots (RAeS 2009) and seven per cent of engineers in the UK (EngineeringUK 2013). This under-representation and the retention of women already in the industry could be addressed if organisations offer support to female professionals, such as mentoring. A recent study, conducted by Susan Durbin (2013) with aeronautical engineers, revealed that while men enjoyed access to a number of mentors, women struggled to do so.

Why Mentoring Matters

In becoming qualified professionals in the aviation and aerospace industry, women enter what has been described as a 'masculine profession' (Evetts, 1998; Durbin, 2010; RAeS, 2009), perceived as being 'tough, heavy and dirty' (Powell and Baglihole, 2006) and therefore unsuitable for women. It is, therefore, increasingly important to retain, nurture and develop those women who 'buck the trend' and enter these professions and who build up important tacit knowledge and experience.

One way organisations can improve the recruitment and retention of women in the aviation and aerospace industry is by offering support to their female professionals through mentoring. A mentor is someone who has relevant knowledge and experience, and works on a short or long term basis with a mentee to give advice, guidance and support to assist the mentee's career, learning and development. Mentoring encompasses functions that can be categorised as 'career development', such as sponsorship, coaching, protection, providing challenging assignments and exposure; and 'psychosocial support', such as acceptance and confirmation, counselling, friendship and role modelling (Kram, 1985).



Evidence shows that the assistance of a mentor is important for women at all stages in their careers (Ehrich, 2008; Singh *et al.*, 2002; Vinnicombe and Singh, 2002; 2003), but especially in terms of career advancement (Durbin and Tomlinson, 2010; 2014; Lineham and Walsh, 1999; Ragins, 1999). Mentoring also acts as a channel for the exchange of tacit knowledge and information that is often linked with promotion opportunities (Durbin, 2010; Swap *et al.*, 2001). Mentoring is of particular significance for women as it may help them to break through the 'glass ceiling' (Lineham and Walsh, 1999; Ragins, 1999). Mentoring also increases women's visibility within organisations (Hersby *et al.*, 2009) and contributes to raising aspirations and levels of self-confidence (Institute of Leadership and Management, 2011). However, mentors are harder to come by for women, especially in male-dominated industries (Durbin, 2010; Durbin and Tomlinson, 2014).

While the positive gains from mentoring are clear, some negative aspects have also been identified. Negative mentoring experiences (e.g. mentor self-absorption, incompatibility between mentor and mentee, manipulative behaviours by the mentor, poor mentor interpersonal competency skills, and mentor neglect of the mentee) are more likely to occur where the mentee perceives the mentor as having dissimilar attitudes, values and beliefs to their own (Eby *et al.*, 2000). The implications of these findings is that not all mentoring is beneficial and there needs to be care in setting up of formal mentoring schemes if they are to result in positive outcomes for all those involved. Most agree that a properly conceived formal mentoring scheme can help under-represented groups, such as women and ethnic minorities, gain access to mentors (Clutterbuck, 2002; 2010).

The project

The aim of this ESRC project is to design, develop and implement a mentoring scheme for female professionals within the aviation and aerospace industry, initially through a knowledge exchange partnership between UWE, the RAeS, the RAF and Airbus, but with scope to reach out to further companies within the industry in the future.

These founding partner organisations recognise the need for mentoring support for their professional female employees. The scheme will initially operate between the RAeS, The RAF and Airbus, working in consultation with other key organisations within the industry, including Virgin, BAE Systems, Rolls Royce, Virgin Atlantic Airways, Augusta Westland, AJW Aviation and Universal Weather & Aviation. The project will offer the opportunity for professional women to work with mentors both within and outside of their organisations.

The aim of this ESRC project is to design, develop and implement a mentoring scheme for female professionals within the aviation and aerospace industry

The project is built upon four key objectives:

- To create an integrated sector-based approach to the issue of the recruitment, retention, development and progression of women in aviation and aerospace.
- To design, build and review a mentoring scheme, specifically based upon the identified needs of female professionals (through a survey, face-to-face interviews and focus groups with female professionals in the industry) and 'best practice' interviews with key industry stakeholders.
- To design and deliver a training scheme for potential mentors and mentees and build mentoring into yearly performance reviews for both.
- To sustain the mentoring scheme through the partnership built up within the knowledge exchange programme.

The project is built around a project group, comprising the founding organisations, that meets each month to discuss the progress of the project. The project was officially launched at the Annual Conference of the RAeS Women in Aviation and Aerospace Committee, entitled, 'Flying High in the Aerospace Industry' and held in November 2014, attended by eighty female professionals. This was a good opportunity for the UWE team to make contact with some key women within the industry and the project was well received.

The project was officially launched at the Annual Conference of the RAeS Women in Aviation and Aerospace Committee

The table below summarises the key project phases:

Phase 1	<i>Project launch</i>
Phase 2	<i>Data gathering:</i> through a survey of 1700 female members of the Royal Aeronautical Society, as well as interviews and focus groups with female professionals in the partner organisations.
Phase 3	<i>Benchmarking:</i> identify best practice and gaps through interviews with stakeholders in other aviation and aerospace companies about their own mentoring schemes, exploring future partnerships and expansion of the scheme.
Phase 4	<i>Co-design of mentoring scheme:</i> based on 'best practice' principles and tailored specifically for the needs of female professionals. The research team will also design a training programme for potential future mentees and mentors.
Phase 5	<i>Mentoring scheme launch:</i> at the Annual Conference of the RAeS' Women in Aviation and Aerospace Committee in October 2015, followed by dissemination events with the main partners and key stakeholders within the aviation and aerospace industry.

Knowledge Exchange and Research Impact

Knowledge exchange, which is at the core of this project, will take place through the sharing of expertise between the academic and business communities. This will offer the opportunity to bring together theoretical knowledge that underpins mentoring schemes, published research monographs and journal articles and published examples of mentoring schemes.

The project will impact a number of key groups and audiences through a combination of practical outcomes and dissemination. Impact will be felt most strongly by female professionals in the industry who will benefit from the mentoring scheme, in terms of career and social support from more experienced mentors. The partner organisations will benefit through an enhanced understanding of the needs of their female professionals and will



be able to offer personal career development through the mentoring scheme, at little financial cost to themselves. The research will also impact the industry through knowledge sharing and participation in reciprocal mentoring arrangements and in the long-term there is the potential to extend the scheme to others in the industry. Other key stakeholders, such as the Women's Engineering Society (WES), Women in Science and Engineering (WISE) and Athena Swan will benefit through discussion and benchmarking. Finally, the research will impact the academic community through a better understanding of the issues women face in this industry.

We are planning an interim dissemination event, in June 2015, where findings from the survey, interviews and focus groups will be presented and discussed. We will update CESR Review readers on the progress of the project at this stage and also towards the end of the project in November 2015.

Get Involved!

There are several ways in which you can get involved with this project:

- Visit the project website: www1.uwe.ac.uk/bl/research/cesr/research/labourmarkets/mentoring.aspx
- Email the Principal Investigator, Sue Durbin (sue.durbin@uwe.ac.uk), or Co-Investigator, Ana Lopes, (Ana2.lopes@uwe.ac.uk) and tell them how you would like to get involved.

We would welcome your comments.

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