



advancing gender
equality in science,
engineering and technology



support

For careers professionals working
with girls and women in science,
engineering and technology



About the UKRC

The UKRC offers support, consultancy and training to organisations in science, engineering, technology and the built environment (SET). We work with employers, professional bodies, education institutions, policy institutes, sector skills councils, research bodies, the government and many others to build and mainstream equality and diversity.

The UKRC is supported by the Department for Business, Innovation and Skills.

You can find out more about our work at www.theukrc.org or email info@theukrc.org

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About this guide

This guide is for careers professionals working with schools, in further and higher education and with adults. We hope that the tips and case studies in this booklet will provide you with ideas to support girls and women wanting to access and progress in the SET sectors.

We hope it will help you make equality and diversity part of your mainstream practice.

“We recognise the challenges and opportunities for women in an operating environment and believe we have a real responsibility to increase female representation in SET. Partnering with the UKRC helps us to understand how we can educate women about our business and support women more.”

Clare Robb, Culture Officer, PepsiCo

1. What to consider when providing careers advice to women in SET

Women are generally under-represented in SET occupations (excluding the health sector). As a professional careers practitioner you may already have considerable experience in providing advice and guidance to girls or women who are pursuing SET studies, considering careers in SET or returning to SET after a career break.

Career professionals have a duty to offer a client-focused service. They need to gain good knowledge and understanding of career opportunities and labour market intelligence (LMI) for a wide range of occupations. Careers practitioners may often face additional challenges when advising girls or women interested in pursuing SET careers such as keeping abreast of changes in SET occupational fields and being aware of their own biases when advising clients interested in pursuing non-traditional careers.

Particular issues for advisers to be aware of include:

- The need to treat each client as an individual and not to make assumptions about career choice based on gender.
- Being aware of and challenging your own biases in relation to non-traditional career choices.
- Deciding whether or not to challenge clients about their assumptions or choices such as what it might be like to work in a non-traditional occupation.
- Understanding what careers information is relevant to the fast moving field your clients are in or wish to enter.
- Checking appropriate codes of ethics and committing to offering impartial advice and guidance.
- Developing knowledge of resources and services that can support women in SET.

"I use a range of tactics and strategies to help the client to assess what they want. Often it is about balancing up decisions, particularly in relation to compromise and what that means and how they feel about it. Focusing on skills often gives a positive boost as it helps them to see other things they are good at such as management and organisation. These can open up other opportunities they hadn't considered."

Sarah Blackford, Careers Adviser for the Society for Experimental Biology

2. What are the implications of a non-traditional career path for a client?

If you are working with girls in schools you may be supporting them to consider very long-term career decisions. For all clients, there may be a time lag between them planning and actually entering or returning to SET sectors and during this period job roles, sectors and working environments can change considerably. Questions you may need to consider are:

- What is your personal definition of a 'non-traditional' career?
- Does this definition affect your guidance practice?
- Have you any in-depth experience or knowledge of non-traditional fields
 - if so how does this affect your attitude as a careers adviser?
- What do you believe to be the implications of taking a non-traditional career path over a career time period of four or five decades?
- What do you need to know about LMI and what does your client need to know about the present and future labour market trends?
- Do you know what local and national support is available for women such as mentoring programmes and women's networks?

Female science, technology, engineering and maths (STEM) graduates of working age in the UK are more likely to take up employment in non-SET than in SET occupations. Only 29.8 per cent of all female STEM graduates of working age in the UK are employed in SET occupations compared to 50.3 per cent of male STEM graduates of working age.

Kirkup, G., Zavelski, A., Muryama, T. and Batool, I (2010). Women and men in science, engineering and technology: The UK statistics guide 2010. Bradford: The UKRC.

3. Facts and figures

The UKRC Statistics Guide demonstrates that women tend to be in the minority in many SET areas, commencing with study at school and continuing into most SET occupational areas. However women are a well established minority in many important SET areas, and there are some sectors in which the proportions of women are increasing.

Nearly two million women and 7.6 million men work in SET industries in the UK. This includes those who are in non-SET roles within SET industries, such as administration, human resources or finance.

- In 2008, 10.7 per cent of women of working age were employed in SET industries (excluding the health sector). Although this is small, it is three times larger than the percentage of women working in SET occupations (SET qualified roles).
- In comparison, 38.5 per cent of working age men were working in SET industries and 24.6 per cent in SET occupations in 2008.
- The majority of women working in SET industries are in manufacturing (40.2 per cent).
- Two thirds of women with SET qualifications are not working in SET.

Four SET industries employ the majority of female STEM graduates who are working in SET industries. In 2008, 66.0 per cent of all female STEM graduates were clustered in manufacturing, professional science and technology industries, and a further 24.5 per cent were in construction and information technology.

4. Best practice for supporting girls and women

This section includes further ideas, tips and sign-posting to help you in supporting girls and women make appropriate decisions related to working in SET, including:

- finding and using good role models
- using relevant careers information
- understanding the benefits of mentoring support
- understanding the importance of relevant work experience
- making advice 'real'
- how the UKRC can help

Finding and using good role models

Role models at different career stages can have a tremendous impact on those making a career choice. There are lots of different ways to identify useful role models and it's important to use them effectively. Role models should be inspirational and include people with whom your audience can identify.

Ideas to try:

- Identify and promote female role models through case studies, guest lectures and blogs such as the GetSETWomen blog on relevant websites. Include current and past students, female academics, lecturers or trainers, women working in industry, female entrepreneurs and women who have had career breaks.
- Create a pool of ambassadors in a diverse range of careers using resources such as STEMNET's STEM Ambassadors programme or through contacting professional bodies and sector skills councils to find out about their specific schemes, such as the IT Ambassadors scheme run by e-skills.
- Use regional network groups to identify inspirational women in your area. Check the UKRC's Connect webpages for lists of women's regional and national SET networks.
- Contact the Equality and Diversity champions of relevant SET professional bodies such as ICE, IMechE and IoP and sector skills councils including SEMTA, Cogent and e-skills for links to case studies and other resources. (See also the UKRC's guide for careers professionals for a list of useful organisations to contact).

Make use of relevant careers information

It is impossible and impractical to know everything about every career. SET careers encompass a broad range of specialist fields and job roles may be less well known and are constantly evolving in line with developments in technology. There are a lot of misconceptions about careers in SET. For example, engineering is sometimes mistakenly viewed as dirty, and science as dull and boring. Research shows that some SET careers are still perceived as more suitable for men by many people.

Things to consider:

- Ensure your careers resources include material that challenges stereotypes.
- Challenge careers information that lacks positive images of women and uses biased language.
- Have access to local labour market information and understand the full range of possible SET careers that exist.

The following can help develop your knowledge of SET career choices and provide useful resources to support girls and women pursuing careers in SET:

Futuremorph – for a downloadable careers information pack

GetSET Women – for a range of case studies, access to potential mentors and role models

STEM Choices – provides profiles of four UK industries to give girls and women insight into the range of careers on offer

STEM equality and diversity toolkit – provides examples of effective practice in equality and diversity within STEM subjects and careers

STEM girls – a website for girls to ask questions to a team of female advisors who all have direct experience of working in STEM industries

WISE – works with industry and education to inspire girls and attract them into STEM careers

Women in Technology - works with organisations to encourage them to recruit more female technologists and supports women seeking careers in IT

Ideas to try:

- Compile a list of useful resources to signpost girls and women interested in SET careers, such as relevant professional bodies and sector skills councils.
- Track the destinations of past female students or clients who have pursued SET careers and compile a list of careers profiles or case studies to inspire them.
- Develop a list of SET roles which challenge stereotypical assumptions and demonstrate the importance of a wide range of skills and settings such as office-based engineering roles which require strong design and creative skills; science roles involving communication with people; SET roles in the beauty industry, media, animal welfare, environment and other sectors which may be of interest to girls.

"I have attended a number of workshops to support the process of achieving a SET career and joined GetSET Women. It has given me tools and inspiration to keep going with trying to achieve my goal."

Angela Jones, Transitions Mentor

The benefits of mentoring support

Girls and women can lack confidence in choosing a non-traditional career path and women returners to SET careers may need additional support in going back into the SET workplace. The first step can be easier with support from someone who has taken that route before. A mentor can pass on knowledge and provide encouragement in pursuing career goals.

A mentor can:

- act as a sounding board and be a 'critical friend'
- act as an inspirational role model
- help build a mentee's confidence and provide practical advice.

Mentoring can include one to one support and peer mentoring circles and it can be formal or informal. The UKRC provides training to help you set up your own sustainable mentoring schemes.

Ideas to try:

- Find out which employer contacts are interested in mentoring students (as part of their corporate social responsibility).
- Contact SET professional bodies to find out about existing mentoring schemes to support students and returning professionals (as a way of helping them increase membership).
- Set up your own mentoring scheme working with employers and/or a professional body or run your own informal peer mentoring circles and encourage clients to form their own circles.
- Find out about regional, funded schemes which support particular groups such as entrepreneurs, students, unemployed people.

"My mentor has been absolutely fantastic. She supported me throughout my job search and kept me motivated by sending me job applications and science papers. We are still in contact about once a month. She has been a great encouragement in my career progression and my confidence has really grown."

Rajni Bhardwaj, Research Technician, Centre for Plant Science,
Faculty of Biological Sciences, Leeds University

Spotlight on returners

For many women career paths are not linear and may involve several breaks, lateral moves and downshifts. Women often end up working below their qualification and experience level due to lack of up-to-date information on the sector, loss of confidence in the currency of their skills and constrained choices for flexible working.

Providing specialist labour market information, networking and mentoring support can be effective ways to rebuild the confidence and technical knowledge of adults who need to reskill and change career direction in SET areas.

The Daphne Jackson Trust offers flexible, part-time paid fellowships in universities and industrial laboratories to returning scientists, engineers and technologists who have had a break for two or more years (visit www.daphnejackson.org).

Professional bodies such as Institute of Physics, Institute of Engineering and Technology and the Royal Society offer guidance and support to returners to SET careers. Some research councils such as the Science and Technology Facilities Council offer fellowships to returners.

SET-related work experience

Work experience at any age is a helpful way of finding out what a job is really about and can be a successful route into more permanent employment. Non-traditional work experience opportunities will help to challenge employers' perceptions and raise girls' and women's aspirations. Research has shown that relevant work experience is highly effective in widening career choices for young people. Work placements are also a great way of helping women with SET qualifications returning to the workplace gain confidence and update their skills.

Ideas to try:

- Contact your local business support agencies to find out how you can make work experience a positive means of changing perceptions and raising aspirations.
- Find out how work experience is managed in schools in your area and challenge stereotyping in a positive way by finding out about non-traditional work experience opportunities for girls.
- Identify committed employers and help them meet their equality and diversity objectives by encouraging them to offer work placements as a way of attracting more women into SET.
- Help girls and women set up their own work placements. See the UKRC's A-Z of advice for women at www.theukrc.org/women for suggestions on how to go about this.
- Ask employers to offer work shadowing experience as an alternative to a work placement. Work shadowing can provide a real insight into a particular role.



"My primary reason for doing a work placement was to update my CV in the field of climate change. In the short term it filled a gap until my youngest child started school and in the longer term I hoped it would provide me with the recent experience which would result in securing a new job in an area which I am interested in."

Kathryn Richardson, Environment Agency

Making it real

Employers are often keen to arrange site visits for groups to showcase their projects or inclusive working environments and provide information about career opportunities. Opening access to non-traditional careers is easier if you have real life examples to show to girls and women. You can draw on contacts within professional bodies and other groups such as STEMNET and the Engineering Development Trust who can advise you on how to offer hands-on activity days for girls and women.

Ideas to try:

- Make use of colleges, universities and local employers who all need to recruit and often take positive steps to encourage girls and women to join their organisation.
- Organise visits to employers where women work or where you know girls and women will be welcome. Ensure women role models participate in visits and capitalise on the experience by making visits annual. Design related project work for students, write up case studies of visits and follow up on placements or job opportunities.
- Make use of events such as Science Week and Construction Week by encouraging students and clients to attend events and organise your own activities such as competitions, employer talks and visits, SET careers fairs and employability workshops.
- Include parents in activities and events when schoolgirls are involved, to improve their understand of SET careers and challenge stereotypical assumptions about job roles.

How the UKRC can help

We provide careers professionals with useful information and resources including:

- Gender equality training.
- Career development workshops for women in SET.
- Web pages including signposting to support for organisations and for individual women.

Gender Equality Training

The UKRC offers organisations a broad range of gender equality training programmes designed specifically for the SET sectors. It is built upon the experience of women working in SET and on industry feedback and originated as part of a collaboration between the UKRC and Sheffield Hallam University.

By undertaking our gender equality training careers professionals can:

- Raise their awareness of gender-based attitudes and knowledge about the facts and the business case for equality of opportunity.
- Explore ways to improve the recruitment, progression and retention of women in SET.
- Learn how to produce more inclusive publicity and marketing materials.
- Improve teaching, learning and inclusivity.
- Ensure they are compliant with gender equality legislation.

Development Workshops

The UKRC runs UK-wide Continuing Professional Development (CPD) workshops for both organisations and individual women to share and build on existing knowledge and experience. UKRC workshops focus on a range of topics including leadership skills, mentoring for career development and sharing of good practice. Contact us at info@theukrc.org to find out more about how our bespoke sessions can help.

Web pages for careers professionals

There is a wealth of support and information available at www.theukrc.org including:

- Signposting to resources and useful contacts and information across the SET sectors.
- Reports and publications that support the business case for supporting girls and women in these sectors
- Best practice case studies from across industry.

"I never had any difficulties in my profession being a woman. It hasn't affected my choices or my progress at all. I think women are coming into this industry more and more now and nobody should be put off doing what they want to do."

Carly Denton, Assistant Quarry Manager



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