North Lindsey College

Building Bridges

A practical guide to achieving best practice in relation to gender representation on engineering, construction and hairdressing/beauty therapy apprenticeships
Contents Summary

PART ONE: Attitudes – Addressing Stereotyping in the Training Environment ................................................. 3
  Introduction .................................................................................................................. 3
  Creating Change: Listening to the Stakeholder Voice ................................................. 4
  Strategies ..................................................................................................................... 11

PART TWO: Embedding Gender Themes into the Curriculum – Practical Guidance ......................... 22
  Gender Role Models .................................................................................................. 23
  Other Places, Other Roles ......................................................................................... 26
  Changing Times ............................................................................................................. 28
  Gender Swap Shop ........................................................................................................ 30

PART THREE: Reaching out to Potential Trainees ................................................................................. 32
PART ONE: **Attitudes** – Addressing stereotyping in the training environment

**Introduction**

A recent report, ‘Under-representation by gender and race in apprenticeships’, published by Unionlearn – the TUC’s learning and skills organisation – and the National Apprenticeship Service has warned that gender stereotyping is dissuading young women from pursuing careers in traditionally male industries:

“There is a gender apprenticeship split – the number of women taking apprenticeships has more than doubled over the past decade. However, women are still pursuing careers in ‘traditional sectors’ that offer lower wage returns and career opportunities than sectors where men tend to do their apprenticeships.

In 2011/12 half (50.1 per cent) of all apprenticeship starts were female. However, women made up just two per cent per cent of all apprenticeship starts in each of the construction, electro-technical and vehicle maintenance and repair sectors, and less than four per cent in the engineering and driving vehicles sectors. By contrast, over nine in ten apprentices who started in the hairdressing (92.2 per cent) sector were women.” (‘Under-representation by gender and race in Apprenticeships’ report)
In written evidence recently submitted by the Royal Academy of Engineering to the Business, Skills and Innovation Committee, it has been recognised that the perpetuation of stereotypes within the education system is presenting a significant barrier to achieving gender balance and the recruitment of females onto engineering programmes of study. This argument can also be said to apply to the recruitment of males in other non-traditional vocational areas such as Hairdressing and Beauty Therapy:

“Whilst many organisations are doing good work to promote engineering careers in schools, this will have minimal impact on the under-representation of women if stereotypes perpetuated at societal level—through parents, teachers, peers and society at large are left unchecked. The education system and wider society must be aligned to challenge stereotypical thinking that acts as a barrier to the participation of girls in programmes of study that lead to engineering careers. Whilst at the same time presenting engineering careers as achievable, desirable, progressive and well-paid”

(‘Royal Academy of Engineering written evidence submitted to the Business, Skills and Innovation Committee’)

Creating Change: Listening To Stakeholder Voices

What do we want to improve and why?

It’s essential that we develop and increase our understanding of how our trainees perceive their role as apprentices both within the college training environment and outside in the workplace in order to identify any areas for improvement in our personal day-to-day interactions with them, especially those interactions which impact upon our expressed attitudes towards male and female gender roles.
What are the key issues to be addressed?
Discussions with trainees have revealed a wide range of positive responses in respect of the following gender-related areas: attitudes; understanding; behaviour; interaction; promotion of gender role models.

The key issues related to these areas can be summarised as follows:

**Attitudes**
The need to continually develop our awareness of attitudes to gender as reflected in demonstrated attitudes to male and female apprentices and identifying any areas for change.

**Understanding**
The need to continually develop our understanding of the needs of specific gender groups.

**Behaviour**
The need to be continually aware of the gender-related behaviours of apprentices.

**Interaction**
The need to be aware of differences related to interactions between gender groups.

Why is such an awareness and understanding important?
Being aware of negative and positive attitudes and patterns of behaviour in relation to specific learner gender groups can enable us to improve our own personal practice which can only impact positively upon the experience of our trainees, leading to improved retention, success and achievement.
What are we trying to improve?
To effect continual improvements and positive shifts in expressed attitudes towards male and female gender roles as reflected in formal/informal interpersonal communications in the educational culture of apprenticeships which can at times contribute to the promotion of negative vocational stereo-types.

In addition to listening to the voices of trainees, the views of the trainers should also be considered. Engaging in dialogue with the trainer through the presentation of structured question templates can result in light being shed on areas previously ignored.

The Engineering staff voice
In the vocational area of Engineering the following responses were obtained from staff which have subsequently led to some of the strategies and actions presented in the current guide:

What are the key issues we need to tackle in relation to gender stereotyping and gender attitudes by either staff or students in the training environment?
The engineering industry is a male-dominated profession. However, vocational roles can be aspired to and performed by any able-bodied person. The key issue to challenge is the image of a male dominated industry which is imprinted into a child from an early age.

Whilst we can fight the gender attitudes of existing students, it is the attitudes of the future students that will affect the future industry.

Why do you think these issues are important?
Children become part of the culture within which they are raised. This culture exhibits traits of gender stereo-typing that the child accepts as ‘normal’. This is also prevalent in the teaching staff at secondary schools. This (almost subconsciously) guides the child into taking the options that suit their environment rather than their aspirations.
What are the root causes?
Schools and teaching staff are emerging from a generation that accepted male dominance as the norm in engineering. The idea of aspiring to what is considered ‘normal’ goes unchallenged and leads to gender under-representation.

How are we going to solve the problem?
We need to show that it is culturally acceptable to be a female in engineering. Provide this image at a child’s formative age (certainly before they take their options) so that they can make choices about their future that are not driven by the environment they exist within but the potential which they hold. People in engineering positions should promote this image as the industry requires engineers (regardless of gender) not just a balance between the genders. Right person for the right job (age, gender, ethnicity or religion do not enter into the equation).

What might change if/when we achieve the goal?
Engineering becomes accessible for all.

What will be the impact?
Hopefully, improved gender representation in engineering with a parallel breakdown of social barriers and stereo-types.

What will we be saying/thinking/feeling/doing differently?
Taking part in school ‘Careers Days’ and open evenings and delivering engineering courses for schools that cannot support an engineering provision.

What outputs could we produce?
Accredited engineering courses that would prepare school children for engineering. They would experience the workshop, the equipment and the engineering environment both on the course and on ‘Careers Days’. The latter could be advertised and promoted to local feeder schools.
What are we going to do?
Design a level 1 or 2 engineering course that can act as a ‘feeder’ course for our apprentice engineering program. The schools can offer this course as an option to students or as a mandatory part of the curriculum. This would capture a broad and diverse student population that may (or may not) consider a future in engineering but would challenge the existing culture of male dominance through first-hand experience.

What might help?
Input from local schools regarding what engineering provision they currently have and what they would like to offer or may be interested in offering.

What might get in the way?
Such initiatives might be seen as not being profitable for the engineering provider or may not be required by the school (possibly due to regional demographics).

The aim of the current ‘Best Practice Guide’ is to present a range of practical strategies to address such barriers and to present solutions in a range of forms that can be utilised both in the training environment and elsewhere.

The Construction staff voice
What are the key issues we need to tackle in relation to gender stereotyping and gender attitudes by either staff or students in the training environment?
We need to shift the focus to Equal opportunities for all. Employer involvement in the promotion of females into Construction needs to be addressed. At the same time Sexist comments by male employers and employees has to be challenged in order to create a safe working environment.
Why do you think these issues are important?
Such issues can have both a physical and emotional impact on a female wanting to train and work in a male dominated trade.

What are the root causes?
Judgemental attitudes towards females: for example, with regard to lifting and general abilities.

How are we going to solve the problem?
Create a female forum across all areas in college to promote females in construction and other areas, invite successfully employed females to give toolbox talks to the forum, strive to gain employers interest in employing more females. Possibly establishing a female only company based within college.

What might change if and when we achieve our goal?
Improved employment opportunities for females in a male dominated career coupled with a raising of awareness throughout college of ‘equal opportunities for all’.

What will be the impact?
Encourage all learners to accept everyone they come into contact with as being equal.

What difference will it make for everyone?
The raising of awareness and building female confidence.

What will we be saying/thinking/feeling/doing differently?
- An improvement in the general attitude towards different genders evidenced in the monitoring of informal verbal interactions (what might commonly be described as ‘banter’) between male and females.
• A positive mind-set change achieved through invited guest speakers and the organisation of termly meetings for the female forum.
• An awareness of vocational opportunities through regular access to and promotion of an employer database of female employment opportunities.

What are we going to do?
• Gather lecturers to give their views on gender under-representation
• Create a forum in order to build bridges with employers promoting females in construction
• Raise the confidence of female learners across college with regard to employment
• Promote a positive attitude towards females in a male dominated trade.

What might help?
Meetings, toolbox talks and guest speakers.

What might get in the way?
Staff availability due to time constraints and deep-rooted mind-sets

The Hairdressing staff voice
What are the key issues we need to tackle in relation to gender stereotyping and gender attitudes by either staff or students in the training environment?
• Female staff tend to stereotype by mothering the male trainee because we assume they are not organised and we feel that we have to be more tolerant with them.
• Female trainees stereotype male learners by assuming they are “Gay”.

Why do you think these issues are important?
• Male trainees tend to control their female peers in the salon environment which can lead to control/behavioural issues within a group.
• Despite being ‘labelled’ these male trainees still seem to be “leaders” as the females will follow/flock around them.
What are the root causes?
Personal home life issues and associated gender issues can lead to male trainees being stereotyped before they are even on the course.

How are we going to solve the problem?
• Promote gender through balanced images on publicity material
• Success stories of previous male trainees used in promotional material
• Male industry leaders invited to give guest lectures to current trainees

What might change if and when we achieve our goal?
Both Hairdressing and Beauty Therapy would have more males in a predominantly female profession.

What will be the impact?
If we advertised that we have male learners in the area of beauty therapy this could encourage or discourage members of the public attending the salon as clients (in respect of the latter due to religious beliefs or intimate services that might be provided).

Strategies
The following activities enable an ongoing audit of expressed attitudes which if not addressed can contribute to a training culture that unconsciously promotes gender stereotypes and related negative forms of interpersonal communication. These elements can impact negatively upon retention, achievement and success.
Activity 1: Listening to the learner voice – Gender Identity in the Training environment

The following questionnaire is a tool that can be used with trainees on a regular basis to gauge their changing perceptions. Additionally, it can serve as a self-reflective template against which we can also measure our own changing attitudes and behaviours in relation to our trainees.

The focus of the questionnaire is specifically upon awareness and perception of gender identity as it impacts upon attitudes, understanding, behaviour, interaction and vocational role models.

Initial responses to the questionnaire from some of our current trainees has provided some very positive responses, samples of which are provided below. However, it’s important that we track changes in attitudes and perceptions over the duration of a learners programme in order to identify any negative trends and take appropriate action if necessary.

It’s worthwhile examining the various trainee responses provided below as these can inform our understanding of the mindset of our trainees enabling us to reflect upon our own practice and also upon the management of the training environment in relation to inter-personal exchanges and gender relationships both within and outside the training environment.

The questionnaire can be modified and amended to meet changing training contexts.

The Questionnaire

GENDER IDENTITY IN THE TRAINING ENVIRONMENT

Attitudes to gender

1. Are female apprentices treated differently to male apprentices in the training environment by either employers, staff or other apprentices and how/why?

2. Are male apprentices treated differently to female apprentices in the training environment?
environment by either employers, staff or other apprentices and how/why?

3. Is there anything you would change about this treatment? How important is it? What effect does it have?

“No, we’re not treated differently. We are all part of a group and treated the same. It’s not as if we’re male and female. We don’t act differently with the guys in the groups. We join in with their conversations. The guys don’t act differently when we’re around. They’re themselves and we’re ourselves. I think if things changed, it would make us feel awkward and not want to be there. The way they treat us is good. They don’t separate us just because we’re females”

“There’s no difference whatsoever.

I’ve been on two courses and on both occasions I’ve been treated exactly the same as the lads. The lads don’t treat me any different. The lecturers don’t treat me any different. Once you’re placed in that Engineering environment, you just adjust and get used to how lads are. Males can be a bit boisterous in comparison to females. Females can be a bit more placid. In an engineering environment, you’ve got to be prepared for that”

“In the workplace it’s a bit more professional. When you’re in an office or factory, you’re there to work whilst at college when you’re on breaks, the lads will have a laugh but you tend to get used to it and adjust, get on with it, find it funny and not take offence to things that are said. Male humour doesn’t really bother me but for some females it might and they might feel uncomfortable. I felt like that at the start but now I just let it go. It’s just social media that makes men look at women in a certain way. Women find it a bit daunting to go into a male environment. Guys will just get together and maybe have a laugh about something on social media. If a guy went into a female environment where they’re saying this, that and the other about men, the guy would maybe shy away from it.”
Gender understanding

1. Do you think male staff or employers understand what it means to be a female apprentice? Give a reason for your answer and an example if possible. Do you think female staff or employers understand what it means to be a male apprentice? Give a reason for your answer and an example if possible.

2. Do you think male apprentices understand what it means to be a female apprentice? Give a reason for your answer and an example if possible.

3. Do you think female apprentices understand what it means to be a male apprentice? Give a reason for your answer and an example if possible.

4. How important is this understanding? Does anything need to change?

“If you’re a female on a male dominated course, there’s attention to your needs but after a while once they see you are comfortable in that environment they treat you the same as everyone else. The staff do help you a lot if you are a bit shy and help you open up into the group. Engineering and Welding is always projected to be a male dominated environment. Even a woman thinking of going into that environment might shy away from it a bit. To actually go into the class is a big step with all these male personalities around you. However, women can enjoy Engineering just as much as men. There’s women that are better even than men, so why does it have to be projected that way?”

“I think the staff understand. They give us good advice when we need it. Even if my main tutor wasn’t around, I could go to another tutor and he would help me. Even the boys, they come and speak to us. One of the boys was having a relationship problem and he came and spoke to us and it made him feel better. Giving him the female perspective just made him feel better. Sometimes if one of the boys is switched off because of a relationship problem, talking to us can help him get back on track again. We can make him look at things from the female angle especially when it comes to relationships.”
Gender behaviour awareness

1. Do male apprentices act differently to female apprentices in the training environment and how/why? No we’re just as bad. There’s no competition. We work to our own capabilities. Nobody gives each other grief if they can’t do anything. If someone’s struggling, we all help each other… the other day we were doing stencils, putting them on the wall… some of the boys had only just started and were coming up to me, asking if I could help them. I showed them…. When I was working on my wall and I was a little bit behind, Jack came and helped me. We all help each other…

2. Do female apprentices act differently to male apprentices in the training environment and how/why?

3. Do male apprentices act differently to female apprentices outside the training environment and how/why?

4. Do female apprentices act differently to male apprentices outside the training environment and how/why?

5. How important is the effect of this behaviour on you? Can you describe the effect and give an example? Does anything need to change?

“It’s good that we all working together. If we didn’t work together and help each other, some of us might get behind and start having days off. Our attendance is really good, over 90%. We all take breaks together and we all get back on time.”

Gender interaction awareness

1. How do male apprentices act towards female apprentices in the training environment? Do they modify their behaviour in the presence of female apprentices?

2. How do female apprentices act towards male apprentices in the training environment? Do they modify their behaviour in the presence of male apprentices?

3. How do male staff/employers act towards female apprentices in the training environment? Do they modify their behaviour in the presence of female apprentices?
4. How do female staff/employers act towards male apprentices in the training environment? Do they modify their behaviour in the presence of male apprentices?

5. How important is the effect of this behaviour on you? Can you describe the effect and give an example? Does anything need to change?

“The lads don’t push it. Bad sexist jokes? It never happens. They know the line and we all know our boundaries. We wouldn’t back down if there was any sexist language. Some of the lads are quiet and some of them aren’t. It’s all about understanding. I don’t think anything could be improved. It’s all going well and it’s all positive.”

Gender identity role models

1. Are you given examples of positive gender role models related to your chosen vocational area within the training environment?

2. How important for your own career development awareness is this provision of gender role models? Does anything need to change?

“Our Tutor will talk about males and females who are self-employed. He’s told us about one female student who used to attend college and who has gone on to start her own business. It’s not all about males. We know there are female decorators. We know there are more males than females and because of that there’s more male stories to tell than females. I prefer sometimes to work with boys rather than females. However, ‘we don’t have to give up what it means to be female’

“Being a female isn’t important. We all bring different things into what we do regardless of who or what we are. I came on this course because it’s something I love and something I enjoy. I was helping decorate my mum’s and other friends houses.”

“We didn’t get much information at school about it. We didn’t really speak about it. The only things we were told about were English and Maths, nothing about Construction. We had people
coming in from college however telling us about the courses. This is very important. There should be more information given at school but nobody spoke about it. The guys were expected to do Motor Vehicle and the girls were expected to do Hairdressing. At college the stereotypes are being broken, definitely.”

Activity 2: Scenarios – types of gender stereotyping

In order to develop an understanding and awareness of the nature and effect of gender stereotyping the following scenarios can be used with learners.

Scenario 1: Types of gender stereotyping

Stage 1

Begin by having students work in small groups to come up with a working definition for themselves of Gender stereotyping in their particular vocational area.

After a period of between five and ten minutes each group shares their definitions with the whole body of learners present.

Discuss these definitions and attempt to encourage learners to provide actual or imaginary examples of such behaviour.

Additionally each scenario enables individual trainees to reflect upon their own demonstrated attitudes.
**Stage 2**

**Part 1:** Prepare the Role-Play (45 minutes):
Divide participants into small groups.
Provide each group with one of the following scenarios to role-play:

A parent (can be either father or mother) talking to their daughter and expressing their concerns about her decision to enrol for an Engineering or Construction apprenticeship

A parent (can be either father or mother) talking to their son and expressing their concerns about his decision to enrol for an Hairdressing apprenticeship

Explain that they will create a role-play for the scenario provided and present it to their small group.

Ask them to prepare a role-play of a maximum of five minutes in length.

Allow 30 minutes to prepare.

**Part 2:** Present the Role-Play (45 minutes):
Ask a group to volunteer to be the first to present.

Ask the groups to start by presenting the title of their role-play, as well as introducing each group member by name before beginning.

**Stage 3**

Following presentation of each of the above role-play scenarios, through group discussion, make it clear that all of the above examples demonstrate gender stereotyping in different ways. Attempt to have the learners grade the level and type of stereotyping in terms of its impact.
Activity 3- Breaking the Stereotype: A Case Study

The following activity focuses on positive experiences of persons working in non-traditional vocational areas which provide models as to how non-traditional areas can be accessed by females and males.

The text provided is from a member of college staff recounting their experiences as a female engineer working both in industry and also within the educational sector.

The text can be used as a focus for follow-up discussion designed to enable trainees reflect upon the case-study and identify similarities and differences between this and their own experiences.

Influences and inspirations

“I was always interested in how things worked. I enjoyed taking things apart and seeing if they could be improved or made differently. I loved designing and building with Lego. I was always enjoying solving mathematical problems.

“My dad was a chartered electrical engineer and my brother did a mechanical engineering degree and then went into software programme engineering. As a result, I was aware of the wealth of opportunities available in Engineering. I was also inspired by working with my dad to restore my classic Mark 1 Ford Escort in order to learn to drive in it, when it was older than I was!”

Careers guidance

“From my personal experience, I did not feel that I had received strong guidance in order to follow an engineering career. It did not seem like there were any advisors available that had strong experiences to share and knowledge to advise. There was no clear and distinct encouragement to make me realise that females can succeed in Engineering despite it still being a male-dominated environment. I relied on family and friends to learn about opportunities available.”
The problem of stereotyping within the engineering sector
“I think that throughout my career people have shown an element of surprise at a woman in a professional engineering role. However, I have always been determined to quickly prove my worth and get the job done at a level that is just as good as a man would do, and, if possible, even exceed my own expectations”

The skills brought by women into engineering
“I feel that a male and female presence is always beneficial in the workplace. In a male dominated environment it can be useful to have a woman in order to see things from a different viewpoint or angle and suggest different ideas. The end result can be potentially more balanced in terms of both approach and solution. Women can perform powerful roles and make a difference. By solving problems and reasoning your case, as a woman you have the ability to help people and situations by improving products and/or processes”

Further actions: Gender Forums
In order to address gender stereotyping and expressed attitudes by both staff or students in the training environment which could be evidenced in judgemental attitudes towards females (for example with regard to lifting and other physical capabilities), a female student forum could be established across all areas to promote females in non-traditional employment areas.
The types of activities which could be promoted by such a forum could include:

- Successfully employed females being invited to give toolbox talks to the forum,
- Setting up a college-based female company to gain employers interest in employing more females
- Establish an employer database promoting employment of females
- Ongoing dialogue with lecturing staff and businesses

The forum (meeting on a half-termly basis) would seek to build bridges with employers, promote females in non-traditional areas, raise the confidence of female learners across college with regard to employment and promote a positive attitude towards females in male dominated sectors.
PART TWO: Embedding Gender Themes Into The Curriculum: Some Practical Guidance

In order to effect a positive shift in expressed attitudes towards gender roles it is not only necessary to address and improve interpersonal communications between stakeholders but to embed themes relating to gender under-representation in the training process itself through the highlighting of, for example, gender role models and generally to raise awareness and understanding of these. Such exercises will ultimately result in a transformational process that will create cultural change at the very source of training within the workshop and classroom environment. What follows here is essentially an ‘idea bank’ of activities which it is hoped will go some way to enabling this change to take place. These ideas are not set in stone and can be modified in response to changing contexts. The purpose of the current guide is to address gender under-representation in a number of key vocational areas. The following project ideas complement and progress this target through the identification of a range of examples through which such under-representation can be challenged and inspirational models developed for learners and staff alike.
Gender Role Models
In discussions with learners it has become apparent that an awareness of positive gender role models can have a significant impact upon recruitment, achievement, success and retention.

Such awareness can lead to a culture change within specific vocational areas reflected in expressed attitudes in both the trainer and employer context. Role model-based work can significantly improve and alleviate negative stereotyping.

For example, females who learn about successful women in a non-traditional vocational area may demonstrate improved performance in comparison to those who study successful corporations/males rather than successful women.

The following projects provide ideas and starting points for changing this culture enabling the development of an ‘inclusive’ gender culture that is no longer dominated by ‘male’ role models.

The Trainee Poster Project
One way in which curriculum areas can enable this to happen is to highlight the achievements of male and female trainees in non-traditional vocational areas.

The first stage in this process is for training delivery teams to work collaboratively to identify trainees of specific gender who have made important contributions to their respective vocational areas in terms of both course achievement and future career progression. If possible such trainee examples should be both historic and current in order to show development and progression.

Having identified these individuals, teams work collaboratively with both current trainees and cross-college marketing/design specialists to produce a series of posters highlighting, reflecting and celebrating such achievement. It is recommended that such posters combine...
both text and image, the text elements including trainee reflections, tutor and employer positive commentaries.

In order to maximise the impact of the posters due regard should be given to their locational placement. For example, posters could be displayed in both training and social spaces in vocational areas. Additionally, consultation could take place with employers and career services to ensure their placement in both the workplace and in other recruitment locations. Posters should also be produced in hard and electronic formats for multiple media formats.

Images of past and current trainees could also be incorporated into teaching materials (for example, worksheets and power-point presentations) in order to subliminally reinforce these gender-specific role models on a regular and ongoing basis.

Impact measurement of the effect of posters should be gleaned through a range of methods including formal surveys and informal discussions with trainee groups.

It is essential that posters be updated and revised on a regular basis in order to ensure that they are both contemporary and relevant.

Underpinning all this is the concept of the project being rooted in collaborative practice between trainees and staff.

The Professional Role Model Poster Project
A further way in which curriculum areas can address the gender imbalance in certain vocational areas is to highlight the achievements of male and female professional role models in non-traditional vocational areas.

The first stage in such a process would be to encourage learners themselves to research on the internet examples of those individuals who have achieved both national and/or international
recognition for their particular vocational achievements. Such achievements could be current or historical.

Students then work collaboratively with other areas throughout the college to produce a further series of posters highlighting, reflecting and celebrating such achievement. It is recommended that such posters combine both text and image, the text elements researched by learners and documenting the career progression routes of role models.

Once again, in order to maximise the impact of the posters due regard should be given to their locational placement in both training and social spaces in vocational areas.

The following links provide access to information which could be used by learners in developing these posters:
- Wise campaign
- Women’s Engineering Society role models

Alternatively learners could be encouraged to research the career pathways of specific individuals.

For example, in the area of Hairdressing:
- Lee Stafford
- Vidal Sassoon
- Errol Douglas
- Nicky Clarke
- John Frida
- Paul Mitchell
- Anthony Hutton

In the area of Painting and Decorating, trainees could be signposted to female decorators who own thriving and successful businesses. Trainees could then produce a series of related posters documenting each business. Here are a few examples of female decorator links which could provide source material for poster development:
- Natasha Hewitt
- La Femme
- Leanne’s lick of paint
- Mrs Paint Brush
- Lady decorator
Other places, other roles
In order to develop an understanding of the global dimension of non-traditional gender roles, students could research and study how in other societies and cultures the traditional models have been inverted. Such work enables both students and staff to reflect upon the reasons why certain professions are dominated by one gender.

Research Project 1: Women in Engineering Worldwide
This project requires students to investigate the roles of women engineers in a variety of cultures and societies such as China and India. By examining current attitudes to gender roles in these countries, students will come to realise how entrenched we have become in the West to gender roles in comparison to non-European countries where such attitudes are more fluid.

In China, women make up approximately 40 per cent of the STEM workforce according to the Chinese Academy of Science. Work-life balance, lack of support and encouragement for female students, and cultural perceptions about roles of women are among a few reasons why the engineering field is male-dominated in most parts of the world. By becoming aware of the experience of women in other countries, students can become equipped with the necessary personal tools to counter such barriers as and when they are encountered.

The following website can provide an initial link for students starting this micro-research project:

The role of women engineers in other global societies

Students could also engage in dialogue with other female engineers worldwide through contributing to the IEEE Women in Engineering (WIE) Facebook page which is the largest international professional organization dedicated to promoting women engineers:

Facebook page for WIE (Women in Engineering)
Students could present the results of their research as a power-point followed by a question-and-answer session with both their male and female peers.

**Research Project 2: Women in Construction – Global Business**

As global attitudes continue to change towards the role of women in the construction industry, this second micro-project requires students to examine the initiatives being taken by multi-national companies in redressing the gender imbalance.

Focusing on one or more companies, students will examine the initiatives being taken by examining the policies and procedures in place to change attitudes in terms of recruitment and workplace conduct to encourage the development of a more diverse and inclusive workforce.

The results of such research could be presented as a poster display project highlighting the initiatives of such companies as, for example, Skanska. Here is a link to further information on their attitude to recruiting women:

[Skanska](http://www.skanska.com)

**Research Project 3: Male Hairdressers in India**

Attitudes to the role of men working in the hairdressing industry vary considerably on a worldwide basis.

In order to raise awareness of these contrasting attitudes, students can firstly consider the results of the following study which was recently conducted in the UK examining attitudes to gender roles in different professions:

[The Gender Divide Survey](http://www.gendersurvey.com)
Following discussion on the points raised by this study students could then examine the following article published in the Times India in order to compare and measure the attitudes of another culture to the role of male hairdressers. Such a comparison enables students (and staff) to reflect on our European view of the occupation:

Times of India - male hairdressers

**Changing Times**
This cross-curricula project focuses on the evolving role of gender groups in relation to specific vocational roles.

The output of this project is the creation of a timeline sequence of images that can be either projected on a plasma screen or displayed in a corridor in chronological sequence. Learners should be encouraged to research images for their respective vocational pathways.

The images could also be uploaded onto an online blog with complimentary contextual information and critical commentary being added to support the images. Students should be encouraged to explore the reasons why particular genders have been under-represented in respect of certain professions in different historical periods.

For example, the following three images for the changing images of women in construction could be supplemented by further linking images.
Here is another example for the role of men in Hairdressing history. In the examples provided students could undertake research on the career development of the highlighted hairdressers and investigate the barriers that existed at particular points in time:
Gender Swap Shop
In this project trainees will spend a day working in a vocational area that is not traditionally associated with that gender or a vocational area which suffers from particular gender under-representation.

For example, male construction apprentices will spend a day working in a Hairdressing salon whilst female hairdressers will spend a day working in a Construction workshop.

During the day trainees will develop one particular skill related to the vocational area in which they are working.

Reflective log
Following their experience trainees will document their experience in the form of a reflective log responding to questions such as:

Did you feel that your gender had an effect on how staff and trainees of the opposite gender treated you in the vocational area in which you were working?

Were you aware of any form of stereotyping (experienced by yourself or observed in the behaviour or practices of others)?

Follow-on discussion
- Do traditional male and female jobs really exist?
- Are there differences in pay between male and female dominated jobs?
- Is it possible to achieve your career goals free from the constraints of gender stereotyping?
- Is self-imposed gender stereotyping a major influence on our career choices?
**Project development**

This project could further be extended by staff from different vocational areas exchanging roles.

Senior management could also be placed in non-traditional vocational areas to provide a high profile focus on this issue of work-based gender identity and stereotyping.
PART THREE: Reaching out to Potential Trainees

Single-gender tasters
In order to address the problem of gender stereotyping the provision of single-gender taster sessions for potential trainees is one potential solution.

The gains of such sessions are as follows:
• Raise awareness of non-traditional vocations for particular gender groups
• Enable potential trainees to make choices that escape from gender stereotyped vocational models
• Mixed-gender sessions sometimes result in tasters being chosen that are seen as being typical for one particular gender

Engaging parents
Why provide the same information for all parents? Why not target parents of non-traditional potential trainees (for example, promoting engineering and construction to the parents of girls)?

Examples of such methods could include:
• At college open events invite past and present trainees who have followed non-traditional career paths to respond to questions from parents of potential trainees
• Remove the constraints that influence males and females in mixed groups

Ensure marketing materials address gender imbalance through critical analysis of text, image and sound whether in print or digital form
• Invite parents to the premises of employers in order to acquire a more in depth understanding of the career opportunities available
Same-gender role models and mentors
At promotional events and during the delivery of pre-course taster sessions student mentors of a particular gender on non-traditional courses could be used to support potential trainees of the same gender in order to challenge stereotypes about a course and future career choices. Videos of same-gender role models talking about their experiences could be viewed online via hyper-links embedded on the college website or through related social media.

Partner employers
- Provide non-traditional role models who can visit schools
- In all their publicity underline the fact that the sector welcomes employees regardless of gender
- Use non-traditional local role models in publicity material,
- Deliberately encourage under-represented groups through:
  a. single-sex visits to work sites and taster days
  b. encouraging organised visits for parents
  c. organising publicity about the sector aimed at parents as well as prospective workers.

Partnerships with local schools
The key issue to address is the image of a male dominated industry which is imprinted into a child from an early age.

Whilst we can fight the gender attitudes of existing students, it is the attitudes of future students that will affect the future of the industry.
Children become part of the culture within which they are raised. This culture exhibits traits of gender stereo-typing that the child accepts as ‘normal’. This is also prevalent within the culture of teaching staff at secondary schools. This (almost subconsciously) guides the child into taking the options that suit their environment rather than their personal aspirations.

Schools and teaching staff are emerging from a generation that has accepted male dominance in engineering. The idea of aspiring to what is considered ‘normal’ goes unchallenged and is under-represented.

In order to address this problem it is important to show that it is acceptable and not ‘a-typical’ to be a female in engineering. Providing such a positive image at a child’s formative age (certainly before they take their options) is the way forward in order that they can make choices about their future that are not driven by the environment they exist within but by the potential they hold.

Partnerships to address the issue of promoting those vocational areas which suffer from gender imbalance could be developed with schools as early as Year 7.

Pro-active work at Year 9 could lead to the design of level 1 or 2 courses that could act as ‘feeder’ courses for apprenticeships. Schools could offer these as an option to students or as a mandatory part of the curriculum. This would capture a broad and diverse student populace that may (or may not) consider a future in non-traditional vocational areas but would challenge the existing culture of gender dominance in certain vocational areas.