

# Myths and Realities in Gender Aware Teaching

The following myths and realities hold true in general for gender aware teaching. Be aware that of course specific individuals may deviate from the norm in their perspectives.

**Boys prefer male teachers/presenters (Myth)** – for the majority of boys and girls, the teacher's gender has no bearing on their preferences for a teacher. The vast majority of boys and girls prioritise a teacher's individual ability as a teacher, and their level of care for their students, rather than a teacher's gender. Francis *et al.* (2008), Carrington *et al.* (2008)

**Girls prefer female teachers/presenters** – see above

**Boys benefit from a competitive learning environment (Myth)** – Competitive learning practices may actively discourage those boys who do not immediately succeed. Social constructions of gender encourage boys to be competitive. However, such constructions also involve a dislike and/or fear of losing. (Jackson, 2006)

**Boys are naturally different to girls and learn in different ways** – see below

**Segregated teaching is the most effective style for both boys and girls** – [MYTH] This myth has chiefly arisen due to the success of all-male and all-female private schools in scientific subjects. However when factors such as socio-economic background are taken into account, there is no evidence to support segregated teaching.

**There are more neurological differences within the sexes than between them (REALITY)** or Boys are 'naturally' different to girls, and learn in different ways (Myth) There is little evidence to suggest that neurological differences result in boys having different abilities/ways of learning to girls. Teaching boys or girls as though these are discrete groups will fail to meet the needs of many boys and girls. (Baron-Cohen, 2004)

**Concepts need to be placed in context rather than presented purely abstractly** – [REALITY] Both sexes (but girls in particular) respond better when they can see the relevance of what they are learning and can perceive how their learning is applicable in real life (Murphy and Whitelegg, 2006).

**Girls are more likely to forward plan so links to careers are an effective engagement tool for them** – [REALITY] Girls mature emotionally faster than boys and tend to think more broadly about the implications of their actions from a younger age (Murphy and Whitelegg, 2006).

**Making science 'girly' (e.g. through links to female-oriented aspects such as makeup) makes it more relevant to girls** – [MYTH] Most girls feel patronised by this sort of approach. Although they may be interested in *using* makeup that does not necessarily mean that they want to know the science behind it (Murphy and Whitelegg, 2006). It can be helpful to use a checklist to ensure that your activity contains a balance of female-oriented, male-oriented and gender-neutral examples (see the useful table on p22 of Hollins *et al.*, 2006)

**Talking about my personal background and career path helps make me an effective role model** – [REALITY] Students of both genders are interested in you as a person and could see you as a good role model even if they aren't the same gender.

**The nature and purpose of scientific research is as important to discuss as the technical details** – [REALITY] Many scientists take for granted that what they do is important and that their audience will find the everyday details of their research dull or boring. In reality research has shown that it is necessary to justify the purpose of the science being discussed, as well as provide an idea of what it's like to do that role.

**Boys and girls who attain the same marks perceive their own ability in a subject in different ways** – [REALITY] Even though girls may be doing very well in a subject they are more likely to admit to finding it difficult or believe that they aren't capable of continuing to do well. Conversely, boys tend to be much more confident – even if they are getting lower marks! (Murphy and Whitelegg, 2006)

**Assigning roles in groups is an effective gender aware teaching tool** – [REALITY] In many practical and interactive exercises boys tend to take the lead with the hands-on elements, leaving the girls to do the note-taking or analysis. By assigning roles (either randomly or deliberately) these unintentional stereotypes can be avoided (Murphy and Whitelegg, 2006).

**Behaviour and engagement are strongly linked – so if students are behaving and doing well they are likely to continue with the subject** – [MYTH] Whilst it's true that engaged students are more likely to behave well, the opposite is not necessarily true. The *Girls in Physics* research showed that girls might attain good marks and behave well in class despite having a deep-seated dislike or distrust of a subject – which is often not even apparent to their teacher! (Murphy and Whitelegg, 2006)

## Gender Awareness – Further Resources

If you are interested in finding out more about gender aware engagement the following resources may be of interest:

**Institute of Physics:** A number of reports and resources are available at [www.iop.org/genderbalance](http://www.iop.org/genderbalance) including:

- *Opening Doors: A guide to good practice in countering gender stereotyping in schools* (2015)
- Murphy and Whitelegg (2006), *Girls in the Physics Classroom: A review of the research on the participation of girls in physics*.
- Hollins et al. (2006), *Girls in the Physics Classroom: A teacher's guide for action*
- *Engaging with Girls: increasing the participation of girls in physics – an action pack for teachers* (2010). This includes: Grant, Bultitude and Daly (2010), *Girls into Physics: Action Research*.

### Reports

- *ASPIRES: Young people's science & career aspirations, age 10-14*. "The first ASPIRES study tracked the development of young people's science and career aspirations from age 10 -14 (from 2009-2013). We found that most young people, from primary through to secondary, find school science interesting. However, interest in science **does not translate into post-16 participation and careers**." The Aspires report discusses the concept and importance of science capital. [www.kcl.ac.uk/aspires/](http://www.kcl.ac.uk/aspires/)
- OECD (2015), *The ABC of Gender Equality in Education: Aptitude, Behaviour, Confidence*, PISA, OECD Publishing. <https://www.oecd.org/pisa/keyfindings/pisa-2012-results-gender-eng.pdf>
- Department for Education, Gender and Education – Mythbusters, (2009) "Addressing Gender and Achievement: Myths and Realities", ref: 00559-2009BKT-EN available online.
- ROSE: Relevance of Science Education see <http://www.ils.uio.no/english/rose/>
- Introductory overview of the ROSE study: <http://www.scienceinschool.org/2006/issue1/rose>

### Other references

- Fine, C. (2010) *Delusions of Gender: The Real Science Behind Sex Differences*. Icon Books.
- Hattie, J. A. C. (2009) *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. London: Routledge.
- Carrington, B., Tymms, P. and Merrell, C, et al (2008) Role models, school improvement and the gender gap – do men bring out the best in boys and women the best in girls? *British Educational Research Journal* 34(3): 315-327
- Francis, B., Skelton, C., Carrington, B., Hutchings, M., Read, B., and Hall, I. (2008) A perfect match? Pupils' and teachers' views of the impact of matching educators and learners by gender. *Research Papers in Education*, 23(1): 21-36
- Jackson, C. (2006) *Lads and Ladettes in School: Gender and a Fear of Failure*. Open University Press.
- Osborne, J. & Dillon, J. (editors) (2010) *Good Practice in Science Teaching (2<sup>nd</sup> Edition)* Open University Press. Chapter 11 (pp238-258).