



ALTITUDE FOUNDATION

**Best Practice Report for Participant Gender
Diversity**

1. Proposing Statement:

In order for Altitude Programme to successfully remove barriers to education for students from disadvantaged socioeconomic backgrounds, social barriers of gender must be considered. As Altitude Foundation works with young students, there is an opportunity to identify and address these social barriers to gender diversity and try to combat stigma within the male-dominated technology sector.

By promoting a system of best practices based on research for incoming participants, retention, activity content, delivery, and communications, more opportunities can be created for those marginalised groups.

2. Background Research:

Nationwide, within the tech sector, women only represent 26% of all jobs. In the North East, this number only declines, coming to 21 %.¹ Of these jobs, few are at the top of their respective businesses—with women only having 9 % of all C-suite executive jobs.² An important factor to consider when looking at these statistics are educational and societal pressures. Only 16 % of women quote ever being suggested a career in technology, less than half the number for men.³ Societal pressures come early, one particular crossroads being choosing A-levels. Despite women on average performing better academically, few choose to take STEM subjects to higher levels. One reason considered to be behind this is thinking of future careers. Women are 10 % more likely to consider their future career as a factor when choosing their A-levels⁴ and the future career many envisage is not a part of the technology sector.

The gender imbalance therefore established in the technology sector is a vicious cycle. Fewer women consider themselves having a career within the sector, leading to the sector being more male-dominated, only making it harder for women to begin careers in the sphere and imagine themselves within the sector.

Far fewer statistics can be found on transgender persons having careers in technology. Even in the last few years, counting the number of transgender employees is a statistic few companies measure (only 35 % of companies registered non-binary diversity in 2023),⁵ and many employees feel at risk declaring themselves transgender. The transgender community only make up approximately 0.5 % of the UK population,⁶ yet they face exceptionally high levels of social barriers. In Scotland, during 2022, 19 % of transgender students reported

¹ Diversity and Inclusion in UK Tech by Tech Nation (2021) [<https://technation.io/diversity-and-inclusion-in-uk-tech/#executive-summary>]

² ibid

³ Women in Tech: Time to Close the Gender Gap (2017) [<https://www.pwc.co.uk/women-in-technology/women-in-tech-report.pdf>]

⁴ ibid.

⁵ Tech Talent Charter Diversity in Tech Report (2023) [<https://report.techtalentcharter.co.uk/diversity-in-tech>]

⁶ 2021 Census: What do we know about the LGBT+ population? [[https://commonslibrary.parliament.uk/2021-census-what-do-we-know-about-the-lgbt-population/#:~:text=Around%2026%2C000%20people%20\(0.5%25\),identity%20as%20'trans%20woman'](https://commonslibrary.parliament.uk/2021-census-what-do-we-know-about-the-lgbt-population/#:~:text=Around%2026%2C000%20people%20(0.5%25),identity%20as%20'trans%20woman')]

leaving school directly because of discrimination and bullying. This group therefore require to be covered by these best-practices policies.

2.1. Additional Definitions:

Intersectionality:

All individuals have multiple social identities which shape their lived experience. This report focuses on gender, and therefore heavily simplifies factors of class, race, age, disability, nationality, cultural background etc, which will undoubtedly contribute to the gender inequality in STEM fields. For example, if a cultural or familial background leads to women being discouraged from a career in technology.

*Unconscious Bias:*⁷

The positive or negative tendencies of favouring/disliking people or groups of people. The most common are:

- *Affinity Bias:* a tendency to favour people who are similar to ourselves.
- *Halo effect:* assuming that someone is skilled out of sympathy for them or because of how they look..
- *Perception Bias:* a belief about a person or group of people based on stereotypes and assumptions.

All three of these biases can favour a male-dominated sector, based on men favouring men through their looks, similarity to themselves and stereotyping. Recognising these biases can be vital when considering activity content and delivery: for example, what type of people are unintentionally receiving more/less help within sessions?

Pink Tech:

When STEM courses/products/careers are specifically marketed to women, possibly with positive intent in mind, but only further enforce social barriers. A good example of pink tech is Digital Divas Club, a programme in 2014 (designed by researchers, teachers, and students) that specifically focused on engaging young girls with technology by making a website and curriculum materials that should interest them. The resulting content was strongly visual and focused on dieting and body image.⁸ It is no surprise then that the girls felt even more strongly about not wanting to be involved within the technology industry in future years.

When considering best practice policies for gender diversity, great care must be taken so as to not slide into 'pink tech'.

⁷ Delivering Gender Equality: A Best Practices Framework for Male-Dominated Industries (2023) [<https://www.usaid.gov/sites/default/files/2023-05/Delivering%20Gender%20Equality%20Best%20Practices%20Framework%20May%202023.pdf>]

⁸ Outreach Programmes to Attract Girls Into Computing (2014) [<https://www.tandfonline.com/doi/abs/10.1080/08993408.2015.1067008?journalCode=ncse20>]

Tokenism.⁹

A policy or practice that is symbolic and involves attempting to fulfil one's obligations with regard to established targets, with limited efforts or gestures that will not change men-dominated arrangements.

3. Best Practice Research:

USAID (United States Agency for International Development) in 2023 released a document outlining how to reduce gender inequality within male-dominated industries.¹⁰ This report focuses on employee diversity, but many sections remain applicable to improving participant diversity for Altitude Foundation.



The USAID splits best-practices into four umbrella categories: Corporate Culture and Leadership, Policies and Grievance Management, Company Performance and Reporting, and

⁹Delivering Gender Equality: A Best Practices Framework for Male-Dominated Industries (2023) [<https://www.usaid.gov/sites/default/files/2023-05/Delivering%20Gender%20Equality%20Best%20Practices%20Framework%20May%202023.pdf>]

¹⁰ Delivering Gender Equality: A Best Practices Framework for Male-Dominated Industries (2023) [<https://www.usaid.gov/sites/default/files/2023-05/Delivering%20Gender%20Equality%20Best%20Practices%20Framework%20May%202023.pdf>]

Corporate Communication and Branding. Much of this comprehensive view is not applicable to Altitude Foundation, so a pared down approach is used below.

Initial Engagement:

The first and most vital stage to improve gender diversity is increasing initial uptake of the sessions by those in gender minorities. To break the cycle of recruitment of participants mentioned before, where women do not see themselves within tech sectors, their visibility must be improved. By having specific events for minorities in the tech sector (i.e., Women in STEM) and publicising this, organisations can be seen as safe spaces.

Retention:

Accessibility of resources can help retention. Students who are less confident in their own abilities (perhaps due to social pressures) may struggle to keep up with content, especially if they are absent for a session, and may build up the mindset of being constantly behind. Often, it is easier to give up at that point. Therefore, making sure resources are available online to those who register may help this.

Secondly, the USAID report states the lack of role models for gender minorities may harm retention and uptake. There are plenty of role models in the tech sector for those in gender minorities, they are simply not advertised effectively. In person events (such as FIERCE in 2017) with female role-models have seen significantly positive effects, especially over longer-terms.¹¹

Thirdly, the USAID recommends the practice of diversity networks. Such a peer-to-peer network would be a safe place for young people to build relationships with, and encourage, one another. Women-focused networks already exist within the North East: for example Women in Tech North East, which has held networking events primarily aimed at those in careers already, or The Girls' Network, which gives mentors to girls in schools, and have a branch for the Tyne and Wear region. By connecting to these networks Altitude Foundation could be a safe space for diversity, and retention/uptake could be improved.

Activity Content:

Engineering UK released a report in 2023, which takes into account almost 400 papers on how to decrease the gender gap in Engineering and Technology, beginning at a young age. Much of this report contains successful activities that boosted the confidence of the girls who undertook them, and made them see careers within engineering in a more positive light.¹²

Activities tailored to girls' interests did successfully have a positive impact on their self image. Examples include Social Robotics (where they were shown how robotics can help older

¹¹ FIERCE: Empowering Girls in Engineering Through Role-Models and Mentoring (2017) [<https://peer.asee.org/fierce-empowering-girls-in-engineering-through-role-models-and-mentoring.pdf>]

¹² Engineering UK: Rapid Evidence Review, Interventions to increase girls' aspirations for engineering and technology careers (2023) [<https://www.engineeringuk.com/media/318995/rapid-evidence-review-girls-stem-aspirations-final.pdf>]

people and children with disabilities), Hello Cafe (a STEM club designed around humanitarian engineering), and LAunchPad (a programme centred on how engineering and computer science can make the world a better place).¹³ A thread between these successful programmes is the grounding of technology within society, using practical examples. This evidence could be used to specifically create specifically engaging content for girls. Although it is vital to note that tastes will differ, and what may have been successful in this report may not be in practical sessions.

Language is key when reviewing tutorial content. Gender-skewed language can lead to students not engaging fully with content, and may marginalise groups of students. By making sure the language of content is gender-neutral, everyone is equally engaged.

As mentioned before, 'Pink Tech' refers to technology products or marketing that is designed to appeal to women by using stereotypically 'feminine' themes. While there may be a positive intention behind Pink Tech, often the effect can be harmful, and reinforce gender stereotypes by limiting girls' exposure to STEM fields and applications. Whilst creating events and content specifically geared towards women and other underrepresented groups, there needs to be regular assessment of what is explicitly and implicitly being said, so as to not slide into being 'Pink Tech'.

Delivery:

One aspect recommended to be mindful of is when a programme delivers content to a mixed-gender group and gendered role attribution crops up (for example boys coding and girls presenting content) either by themselves or those in authority. This could reinforce the idea that certain groups are incapable of performing certain tasks.

Unconscious biases can also be harmful for students as some are prioritised over others in terms of support.

Communications:

As mentioned within the Retention section, including gender-diversity to communications can help uptake. Additionally, the USAID recommends diverse pictures in social media posts (e.g., equal representation of men and women), as well as transparency of gender and inclusion strategy documents. Care must be taken within social media posts that tokenism is not encouraged: be conscious of the diversity present rather than what can artificially be shown.

Joining conferences/working groups on gender equality also shows commitment and gives the opportunity to learn from other companies, in order to keep up to date on best practices and networking.

4. Best Practices Suggestions and Action Points

Initial Engagement:

¹³ *ibid*

- Hold a specific gender-diverse event.
- Contact peer-to-peer women-focused networks within the North East

Retention:

- Make resources available in later sessions (i.e., previous tutorial sheets) as well as online, to encourage those less confident.
- Publish information on role models who are gender diverse: either as a newsletter, or through in person events, or both.
- Create a peer-to-peer gender diverse network, so that women and transgender students can encourage one and create a sense of community.

Activity Content:

- If content is being made specifically for girls and those gender diverse, make sure it is engaging, perhaps a practical example of technology helping society. Yet also be aware that tastes differ and the dangers of pink tech.
- Content should be reviewed to make sure that the language included is gender neutral.

Delivery:

- Training for volunteers and employees on gendered role attribution and countering these within the sessions.
- Training for volunteers and employees on recognising personal unconscious biases and how to overcome them.
- Ask and use preferred names and pronouns within sessions, when desired by the participant. Follow their lead and preferences.
- Avoid gender-segregated activities.
- Challenge bullying and discrimination.

Communication:

- Make sure that social media posts include the diversity 'in the room', to show transparency and encourage new students to join without establishing tokenism.
- Publish gender inclusion strategy documents online.
- Join conferences and working groups across the country to learn from them.

Action Table:

Practice	Ease of Practice (1 easy, 5 hard)	Possible Impact on Gender Diversity (1 little, 5 large)	Actions Required of that Practice	Practice already in place?	Notes	Deadline and Milestone
Hold a gender-specific event to increase diversity	5	5	Plan, organise and create content for a gender-specific event	<input type="checkbox"/>	Can be difficult to fit into the year's schedule. Don't want to exclude students	Plan and cohost 1 event. End of the school year 23/24
Collaborate with a peer-to-peer gender diverse network	4	4	Discover a safe way for participants to positively engage with one another	<input type="checkbox"/>	Difficult to overcome safeguarding issues	Reach out to the Women in Tech NE to plan event
Make resources available in later sessions	1	1	Have printouts of previous tutorials and provide content online	<input type="checkbox"/>	-	Automate online tutorials being sent to those registered after every event. 20th of Dec 23.
Publish information online on gender-diverse role models	1	2	Find existing articles from role models or ask role-models specifically for information. Publish this information in the newsletter or have an in-person event	<input type="checkbox"/>	-	Publish articles/interview for Tuesday Tuneups. Monthly recurring.
When creating content specifically for girls, consider what could be more popular with them	2	2	Consider the background information given above: primarily that a grounding of technology in society is popular. Be careful of pink tech	<input type="checkbox"/>	Remember not to assume engagement just by tailoring content	-
Use gender-neutral language	1	1	Review the current tutorials, slides, and published plans for gender-neutral language	<input type="checkbox"/>	-	Review all modules, tutorials and slides to make sure they use gender neutral language. 31st of October.
Ask and use preferred names and pronouns. Follow their lead and preferences.	1	2	Ask preferred names and pronouns when collecting data and use these within the sessions.	<input checked="" type="checkbox"/>	-	-
Avoid gender-segregated activities	1	1	Avoid splitting groups by gender and possibly isolating transgender participants	<input type="checkbox"/>	-	Staff training on these by 20th of December.
Challenge bullying and discrimination.	1	2	Actively counter any discrimination to create a safe place for learning.	<input type="checkbox"/>	-	
Address gendered role attribution	2	2	Train staff and volunteers on gendered role attribution and	<input type="checkbox"/>	-	

and unconscious biases			unconscious biases			
Include diversity within social media posts	1	1	Post the diversity actually present within events. Avoid tokenism	<input type="checkbox"/>	-	
Publish information on gender-inclusion strategies	1	1	Publish on the website any gender-inclusion strategy documents	<input type="checkbox"/>	-	Publish this document/strategies on gender diversity best practices. 20th Dec 23.
Join conferences and working groups on gender inequality	1	3	Investigate and join conferences and working groups on gender inequality	<input type="checkbox"/>	-	Have as many members possible go to a conference/talk focused on women in technology. May 24.

