
Engineering Diversity: making placements real and meaningful

Today there is a growing awareness that if any profession is to be creative and on top of the game, then the right people make all the difference. Recent research 'Powering economic growth: Attracting more young women into Science and Technology' carried out by STEM Accenture Research, stated that the findings were not only important for the education sector but also for industry, if together, obstacles are to be removed which have so far served to minimise the involvement of young women in the STEM area. One of the many factors raised was 'influence ambiguity', that is, those who influence career aspirations might inadvertently contribute to assumptions and beliefs about who is the best 'fit'. We need to consider if this could also be the case for students with disabilities - do we really believe that they have something to contribute to engineering and STEM careers and do current engineers and employers contribute to these assumptions?

Currently there are almost 2,700 students with disabilities studying STEM courses with different talents, hopes and aspirations for their future careers (AHEAD Survey on Participation rates of students with disabilities in higher education in Ireland 2013/14). There are 975 students with disabilities in engineering courses alone that makes up just 6% of all engineering students. AHEAD's aim is to improve this figure and show students and future employers that engineering in fact needs all sorts of people.

Willing Able Mentoring (WAM) is a work placement programme run by AHEAD that aims to promote access to the labour market for graduates with disabilities and build the capacity of employers to integrate disability into the mainstream workplace. It acts as a conduit of learning between higher education and the world of work in relation to the transitioning of graduates with disabilities.

There are many reasons why this target group should be seriously considered by those offering STEM subjects and included in the message that engineering is for all. A graduate with a disability might present differently, but they are naturally a group of creative thinkers, team players, flexible and adaptable – they have to be! Most importantly they are used to thinking outside the box. **So what is the issue? Are these not the very attributes that employers seek out and recruit? Perhaps.**

But perhaps the more difficult question is that if STEM industries and particularly engineering need more diversity – how do we achieve it in a meaningful way?

One small step would be to offer a placement opportunity (specifically) to students with a disability. This one action may sound simple but having worked for over 10 years with employers we know this not to be the case. We also know that it contributes greatly to changing cultures, practices and challenging unconscious bias. It creates positive learning opportunities for a team, a division and a company.

Placement is often an optional addition to a course, or it can be a mandatory component, and may even take place after graduation. It is often credited (that is, part of the degree) but whether or not it is, the experience is invaluable. Industrial placement recruitment is competitive and involves company visits and interviews and while there is support from the faculty, careers and placement services in preparing CVs and refining interview techniques, and

projects such as WAM for employers, where a student with a disability is competing with their peers the view may be that they are somehow not 'the right fit', or there is someone 'better on the day'. While this may not necessarily be the case, it is unfortunately all too often a response which has not been fully thought through.

It might be helpful if we reviewed the benefits of placement for all those involved who face the challenge of making a case to prospective placement providers. Indeed these benefits are the same for all students but have particular currency for disabled students who may face additional barriers regarding perception of their abilities.

- **It is an opportunity for practical experience in an industry** - they can never be really clued up on what a job entails until they have been working practically in that role. Equally an employer can never really know how someone will perform until they engage in the work.
- **It is real world exposure to the latest technology.**
- **It is an opportunity to engage in work behaviour.**
- **It is also an opportunity to learn the 'language' of industry.**
- **There are improved job opportunities due to the fact that an employer likes to see work placements on a CV.** More importantly perhaps, there is an opportunity for mutual learning, that is, learning for the student, the HR team, the hiring manager and colleagues.
- **The experience of teamwork and development of interpersonal skills** – for all employees the ability to work in a team and with colleagues that might bring new ideas and new skills to a work environment can positively challenge the way they think.
- **There is an opportunity to also develop a greater awareness of current developments,** while at the same time facilitating an 'intro' for students with a disability who are hoping to work in their chosen career; gently challenging any unconscious bias in a real way.
- **It is thought that students who complete a placement go on to achieve higher grades and better degrees** - the additional skills and knowledge gained during a work placement can often be directly applied to studies and, applied correctly, can lead to better grades. Where a student with a disability misses an opportunity for learning it can impact on their grades.
- **There may be a chance of a firm offer of employment on graduation** - performing well on a work placement can often lead to job offers. The significance of this for a group of students that face greater challenges in seeking employment is not to be underestimated.
- The most significant benefits are often in areas of **personal development, confidence, maturity and self-awareness.**

This article is proposing that placement, while part of the journey, can also be part of the answer as STEM employers and particularly those in engineering seek to engage a greater diversity of future employees. We have learned from over 10 years of WAM that there is a strong argument for positive discrimination in placements by setting aside opportunities for a student with a disability, be they deaf, hard of hearing, dyslexic, visually impaired or with other impairments. This has to start when a student is studying, it is the only real way that companies and organisations can make positive changes. While it is important for an employer, there are many benefits for the student with a disability.

In conclusion, employers are key influencers when seeking to make engineering and STEM careers more diverse. Engaging with a student on placement should not be overlooked as an opportunity, as it is the first opportunity to create real links and relationships. Placement is about **real** engagement; it's about practical engagement and it's

about learning; not just about how a student with a disability best does something but also how they engage, how they share their story and make their own way. It's about considering, often for the first time, what might be needed if not just a student with a disability, but if a company is to realise their potential – it's about engineering in its truest sense.

Placement is most of all about opportunity. Every one of us can relate to 'opportunity', after all, if you never get an opportunity, you'll never know what you are great at.

References

Powering economic growth: attracting more young women into science and technology, STEM Accenture Research, 2014, Dublin.

[AHEAD Survey on Participation rates of Students with Disabilities in Higher Education in Ireland 2013/14.](#)

In education, AHEAD works with graduates and employers through the GET AHEAD Graduate Forum and the WAM Mentored Work Placement Programme.



Mary Quirke

Assistant Director, AHEAD

Mary Quirke, Assistant Director, AHEAD has a keen interest in mentoring and empowering people to attain their personal goals. Mary works with employers on the WAM mentoring placement programme for graduates with a disability, delivery of training and consultative work with employers on disability and inclusion in the workplace.

This article appeared in the AHEAD Journal. Visit www.ahead.ie/journal for more information
