

'We need to challenge unconscious bias from a very young age': STEM champion Alexandra Knight

07 Sep 2022

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STEMAZING Founder Alexandra Knight in the classroom

Award-winning engineer, presenter and diversity advocate Alexandra Knight on empowering women in STEM to be confident role models.

I didn't always want to be an engineer. It was hardly mentioned at my all-girls school, let alone recommended as a career path by any careers adviser. I wasn't naturally good at maths or science, but was encouraged by my parents to study these subjects at A-level, and then attending a Summer Space School for a week sparked my interest in pursuing these subjects further. One of my physics teachers said that an engineering degree would open doors, and that is what made my mind up.

Despite not getting very good grades at A-levels, Brunel University London still offered me a place on a mechanical engineering course specialising in aerospace. Halfway through my degree I switched to medical engineering. Unlike school, where the subjects often didn't make much sense to me, the freedom of university allowed me to figure out how to learn in a way that worked for me and I ended up top of my year. With that boost in confidence I went on to do a masters in medical engineering at Imperial College London.

My first job out of university was at a medical engineering start-up. It was fast paced with all hands on deck. I enjoyed it and it ignited an interest in entrepreneurship. But at that early stage of my career I felt that I first needed to get a breadth of engineering experience. So I left the start-up after a few years and moved into engineering consultancy.

For the following 14 years I grew my engineering expertise and skills by working in a range of industries. From mechanical engineering I moved into systems engineering and then asset management. I worked on some incredible projects, from improving the asset integrity management of submarines to Internet of Things predictive analytics for the Forth Road Bridge.

I faced many challenges being a woman in a male-dominated sector and had to very quickly learn to build my own confidence. I am by nature a very optimistic person, always trying to see the opportunities rather than the barriers. But the barriers can sometimes drag you down and eat away at your confidence. I received comments about only being in a particular role because I was the token woman. This obviously made me question my own ability even though I had a first-class degree and knew that I nailed the job interview for the role.

These experiences started to ignite a passion in me to drive increased diversity and inclusion in engineering. I learnt the importance of having diverse and visible role models. Not just to open the eyes of young girls to what engineering is all about but to give young boys a more equitable view of girls and women in STEM. We need to challenge unconscious bias in children from a very young age about what is a "boy's job" and what is a "girl's job".

I wanted to use this passion burning inside to help empower and support women in STEM to be confident, visible role models for the next generation. This led to the founding of my own social enterprise called [Stemazing](#) in 2019. Initially it was as a side hustle alongside my day job, but as it gained traction I realised this is what I am meant to do and so I took the brave leap to leave my role as a technical director in a London engineering consultancy to focus on it completely. Since then Stemazing has grown in influence and impact. Through our Inspiration Academy we have already empowered over 150 women through our online training and delivered 30,000 StemazingKids sessions to primary-school children. In 2021 we won a Diversity Impact Award in recognition for this work.

I've learned the importance of stretching your comfort zone to seize the opportunities in front of you. And yes, it will feel uncomfortable and painful to begin with, because it's outside your comfort zone, but you must do it so you can go on to bigger and better things. I learned this myself and through Stemazing I'm empowering other women to learn it too, and to become even more vocal and visible role models.

I've also discovered that you gain a lot from giving back. Finding opportunities where you can accelerate your own growth and personal development through helping others is so valuable. For instance, I think everybody should have a mentor and everybody should be a mentor. It's a win-win.

Championing yourself and others is another important lesson. However, this is something that women struggle with. We shy away from raising our own profile and championing our own wins. But I believe we hold ourselves back if we do that. We should be putting ourselves forward for awards, for promotion and for stretch opportunities. In doing so we're also role modelling to other women that it is OK to do that. We can all rise together by being more visible.