

Hello again, my name's Jude Pullen, and I'm a creative technologist, working with The Design and Technology Association to explore new learning contexts for D&T in Schools.

While working with MIT Media Lab in Berlin, I heard a great maxim about inclusive design:

“Nothing About Us, Without Us”.

It serves as a warning to not to design assuming others think or behave like you, a way to avoid assumptions is to be sure to include the end user in the design process from the start (and not just hastily tagged on at the end).

Before embarking on an Inclusive Design project with students, it's worth asking them about their preconceptions of what terms like Impairment, Disability, Handicap and Inclusivity mean, as even as someone who has worked a little in this space, the range of definitions and statistics are worthy of investigation and reflection:

The WHO estimates that around 15% of the world's population has some form of disability, of whom 2-4% experience significant difficulties in functioning.

As someone who is Dyslexic, I find the term 'Disability' a 'complex' label -- and many may well prefer 'Neurodivergent' as a modern update - by this metric 30-40% of the population are Neurodiverse.

And although arguably few people today consider short/long sightedness a 'disability', it is estimated that around 75% of the world needs glasses or contact lenses.

My point is to avoid getting into semantics or undermining anyone's personal choice of how they wish to define themselves - and rather, for young Design students, to engage in a worthwhile discussion about there being a 'spectrum of Ability', and to make clear that just as there is not a hard filter of 'abled' vs 'disabled', anymore than we have a specific definition of a so called 'normal' person.

What matters in the empathic design process - is appreciating someone who's life is different to yours and allowing these insights to guide your collaboration with them.

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Designing for ourselves is comparatively easy: We largely know our own particular strengths, weaknesses, taste, motives, environment and social/political ethics, etc.

Design for your Family and Friends is a little harder, as although you might share cultural and ethical similarities, your Grandparents for example may find things difficult that you do not.

Many student projects often create 'Assistive Devices' for the Elderly, and although these are laudable efforts, which build empathy and are often profoundly personal, and life-changing, there is fair warning from Industry not to simply 'go through the motions' and design for example a Pickle Jar Opener, when this item is available readily Online, with good reviews for around £5. Unless you truly have created a game-changer, you risk 'reinventing the wheel', and this gains the student and school little admiration from Industry.

Students might even like to consider 'Designing for their Future Selves' -- looking 30, 40, 50 years out? This has the effect of not 'othering' older people, and emphasising good design for all.

In TV there is a saying 'Avoid Kids and Animals' - as they are unpredictable, and don't always conform to adult expectations. This is often a signal of a good potential D&T project, as you have a meaningful 'user', who is somewhat wayward (like the squirrel in our previous learning context), and yet unlike the squirrel has an owner/parent who is an important 'secondary user' - to also factor into the design considerations.

Indeed, this 'layering' of design considerations, albeit small, is an excellent preparation of future industry skills -- where such layering's can become double figures. So, start young!

Lastly, I have worked on shows like BBC Two's The Big Life Fix - which helped people with various disabilities, through use of clever technology. I would say these are great projects for students to engage with, but a key 'acid test' is that the project should be designed 'with' the end user (i.e not 'for' them in isolation).

The reason Industry often considered these projects a 'higher pedigree', is that often as a Designer you are having to design for someone very different to you: Designing for Disability or shall we say Another Ability (to You) is a good starting point - and often students emerge from the process being inspired to explore 'Inclusive Design' - i.e to not just see things as 'other' or secondary to them, but to see it as part of a larger world view.

Indeed, this can be a perfect time to introduce students to what is referred to as The Social Model of Disability: The social model recognises that all people have different capabilities. People only become disabled when those capabilities are a poor fit for the world around them. As designers we can improve that world and so reduce the disability people experience.

To give some examples of this:

> My 3-year-old son was able to exit our kitchen and step down into the garden. But because of the step, upon his return, (being 8 inches lower down now), he was unable to grasp the same handle, and get back into the house. So, I created a hack to give him a 'lower' handle outside.

I should point out, this is a 'hack', (ie a quick fix), but it worked - and should I have found a large market appeal - and applied further design to it, might have made it as a product! Anyway, my point is that often a Design can start with a Hack. So keep that in mind.

> In 1990 LEGO released a 'Brick Separator Tool'. In hindsight, you might wonder why it took so long, but clearly small fingers cannot always pry similar bricks apart - so this is a great tool. It also makes the point about 'a Spectrum of Ability': My 5 year old son uses this tool as a necessity as his fingers are not as strong as mine, whereas I use it for convenience and to set a good example (and to avoid cracking a fingernail, or leaving bite marks on bricks!).

> When designing hairstyling prosthetics with Kyle Elson for Big Life Fix - these are certainly focussed design challenges from an individual's specific wants and needs. The process began with quick 'hacks' and rough prototypes, and became more nuanced with successive versions, and brings to bear the full spectrum of typical D&T skills from materials science to mechanism design, as well as aesthetics.

Many graduates often ask me, 'how do I get a job at LEGO, Dyson, Apple, etc..' - and if I were to give a somewhat overly simple answer - I would advise doing a project like this for two key reasons:

Firstly, generally speaking, most of these companies will value the integrity, humility and grit needed to design something for someone radically different to what you are familiar with. As brands that have value beyond the products, they know the sort of creative mind that can encompass more users, can create greater profits, (and help more people too).

Indeed, the term 'Research' in Design, need not be synonymous with White Lab Coats - it is as much about being curious and observant, and asking incisive questions...  
...again all great skills to cultivate.

Secondly, if you consider Creativity to be like 'fitness', or 'mental gymnastics' (i.e something you 'build muscle in through practice'), then designing for others with severe disabilities or very niche abilities is sometimes referred to as 'Extreme Use Cases' - is a way to 'push your limits' as a Designer.

The best of these companies find that whilst working on a 'tricky problem' for someone in an unfamiliar situation creates a 're-set' in the Design Team: They start to challenge their lazy assumptions, broaden their horizons - and get excited by seeing things with fresh eyes again - and find more opportunities.

Indeed, when you look back through history, some of the most remarkable breakthroughs have been either from people who were 'outsiders' or who worked in 'subcultures' or 'niches' which then became mainstream.

The best of innovative teams deliberately infuse this 'rebel DNA' and 'think different' mentality as a matter of hiring and culture. Design has and still is a sanctuary for the iconoclast.

Whether your students start at designing a game for younger children, solve a problem for an ageing family member, design a device for someone with a uncatered for need - these are all part of a mindset which makes the 'other' feel more included, and again, I struggle to think of many subjects which actively mandate this as both a skill to be mastered and an ethos to live by.

Ideally your students will have direct access to the user (or possibly via Video-calls or other virtual means). If this is not possible, short video clips from potential clients describing the problem and how it makes them feel when they cannot achieve what others take for granted are a good starting point. Demonstrate the problem and the joy that a working solution can bring.

Although cheap Marketing tactics will seek to create scarcity and them/us dynamics, the best of Design fosters new ways to bring us together. To be sure, the 'inclusive' route is a longer road, for students and teachers, but truly is at the core of what makes a good designer great.