

## Intro Video 1: D&T Killer Projects.

Hello, my name is Jude Pullen, and I'm a creative technologist. I've been working with the Design and Technology Association exploring exciting new learning contexts for the subject, using approaches that take on board some of the critical feedback from teachers, industry and government - about what could help save the subject from disappearing to the curriculum periphery in UK schools in a matter of a few years.

To me, professional Design, is possibly one of the most exciting and impactful creative professions out there:

You are paid to fix real problems in novel ways.

You get to build, test, and refine your ideas - working directly with those who are using it.

Often you work at the cutting edge of materials, manufacturing, and technology - whilst also considering the ethics and philosophy of what you create and whether it is sustainable - in the broadest sense of the word.

Ironically, in schools, students are taught about polymaths, but not how to become one.

Educators will often cite Leonardo Da Vinci, who designed everything from Machines of War to Machines for Irrigation. The Mona Lisa is not just a triumph of enigmatic portraiture but contains a profound mastery of chemistry and application of paints, as well as a deep anatomical understanding of our bodies.

I'm fond of saying, to younger students, that if Da Vinci was alive today, his workshop would certainly have a few 3D Printers, some VR Headsets, and probably a CRISPR Gene Sequencer too...

He was curious about everything around him.

And yet even a cursory look at a D&T Exam Paper will tell you that our Government demands that students can describe what a switch is used for, to recognise types of fabric, and if they can identify a pulley or gearset...

...all of which are fine - but these attributes really come to life when tasked with building a real thing that solves a real problem. Design is not about simply 'identifying a pulley' - it's about specifying the right combination of solutions to a given problem.

In the UK, a D&T student can pass a GCSE qualification with 50% Exam work, and perhaps only 20% of the NEA mark is occupied with 'Realising the Design'.

Is it any wonder then, that an overworked teacher and an overanxious student will bolt for the 'easy win' of cramming for a mostly theoretical exam.

Industry professionals are rightly frustrated and cynical - that a supposedly A-grade D&T student may have spent less than a matter of weeks actually doing \*Design\*, and testing and 'going back to the drawing board', etc.

- It seems like we struggle to 'grade' Creativity, Ingenuity and Resilience - yet these are the very traits and qualities Industry consistently ranks as vital not just in graduates, but in their company's future.

Being honest, can you imagine Da Vinci taking on an apprentice, one who's never built anything more complex than a basic wooden jointed container, or a laser-cut decorative clock face, or a tasteful LED desk lamp -all of which are current 'viable' D&T projects today?

On a more serious note - it is not hard to imagine that Dyson, Rolls Royce, LEGO, Apple, Pixar or Tesla would also hope to hire a hands-on, problem-solving, young mind!  
Yet the statistics from industry show a decline in the subject's status that needs to be radically improved.

In contrast to D&T; Art subjects seem more provocative and expressive,  
Engineering seems more ingenious and industrial,  
Science seems more focussed and systematic  
- so Design really is the last refuge of complex multidisciplinary problem solving.

Good design paradoxically is never defined by one categorization or subject - and ironically this is exactly why it is hard to 'grade' at its very best.

Thankfully, Industry does not expect a young apprentice or graduate to have matched Sir James Dyson's 5127 prototypes, but they do expect that they have designed, built, and tested an idea AND re-tested it - such that V1.0 became V2.0 after realising a mechanical design flaw, and that that V2.0 needed reworking because of user feedback, and V3.0 needed to be more sustainable/repairable... and so on.

The Design process is never done, and that is part of the thrill of being a Designer  
- the pursuit of better, with less.

Through working with DATA, we have selected 3 learning contexts or case studies for;

>> Unlearning A Fear of Failure.  
(A deceptively simple and fun challenge to shake the Fear).

>> Breaking the Catch22 of Gaining User Experience.  
(Help students find "Their First Design Client").

>> An Empathic Design Process.  
(Designing with Someone Significantly Different to You).

We hope that these 3 learning contexts are the first of many more,  
- and we'd value your feedback on what makes these fun for students, pleasurable for teachers, respected by parents, and admired by Industry/Government as a subject that contributes to Society both Economically and Ethically.