

What is the Future of Design and Technology Teacher Education?

Lightning Talk Short Paper

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Abstract

This paper presents a reflective account of over two decades of experience in Design and Technology (D&T) teacher education in Wales, shared by Jason Davies, PGCE programme leader at Cardiff Metropolitan University. It explores the evolving landscape of D&T education, highlighting the impact of policy changes, curriculum reform, and recruitment challenges on Initial Teacher Education (ITE). The paper discusses the consequences of losing D&T as a compulsory subject, the narrowing of qualification pathways, and the implications for student engagement and teacher training. Davies advocates for a pragmatic and inclusive approach to curriculum development, emphasizing the importance of craftsmanship, access to traditional and digital tools, and critical engagement with emerging technologies. The discussion concludes with a hopeful outlook on the future of D&T education, grounded in community support, institutional resilience, and a commitment to pupil experience.

Keywords: Design and Technology Education, Initial Teacher Education (ITE), Curriculum Reform, Teacher Recruitment, Craftsmanship and Technology Integration

1. BACKGROUND

A little bit of background to my role and experience. My name is Jason Davies, and I have been the programme leader for PGCE secondary design and technology since 2003 at Cardiff Met. I have been teaching D&T since 1993 and prior to this I studied O level CDT which will probably give you an educated guess about my unwavering commitment to D&T and why this is so important to pupil's education for the 21st century. I am not going to include any quotes or references to academic literature in this paper because I am sharing with you my experience and views from someone who has over 20 years of working in this area. I am also responsible for primary D&T and work very closely with primary students and schools to support and enhance the subject. This includes sharing projects and equipment with staff and students.

We have all experienced fluctuations in student recruitment over this period of time whether we are a university or a school. My first few years were inundated with applications through GTTR. Of course, fees were very different, and bursaries were in place for secondary trainees, on average we were receiving over 80 applications for 25 places. Recruitment to all secondary subjects was buoyant. This has changed substantially over the last few years, and we saw a significant drop to recruitment which fell into single figures pre-Covid. A number of factors have contributed to this, some of which maybe regional others maybe to do with potential candidates (PGCE) perception of the subject and the wider opportunities available to them.

2. LANDSCAPE IN WALES

As a provider in Wales our curriculum has slowly and consistently moved away from the National Curriculum in England. The major changes taking place during devolution in 1999/2000. The biggest impact to ITE D&T at this time was the loss of D&T as a compulsory subject and without referencing this was not the intention of the group who proposed the formation of the subject area in 1986. Wales lost compulsory D&T in 2000, and I believe England followed in 2004. Scotland however have followed a very different route to technical education which would warrant a discussion for D&T academics and providers. These changes clearly impacted the number of pupils in school now choosing D&T for GCSE and consequently A level. As an As and A level examiner for an English board I observed numbers drop dramatically at this level from 2006 through to 2012.

These numbers were reflected in Wales and of course the impact on ITE and the numbers filtering through were starting to drop. In Wales we only have a Comprehensive system and a National Curriculum that is taught by all schools to all pupils. Our curriculum changed a little more in 2016 when we retained endorsed routes through D&T which include: Fashion and Textiles, Design Engineering and Product Design. Further changes have seen (as we all know) a reduction in specialist teachers and the carousel of teaching D&T at KS3 diminish in schools. The 50/50 split has also impacted pupil numbers in D&T at GCSE level. A curriculum review in Wales from 2016 (Curriculum for Wales) has also seen a review of GCSEs including a change in the marking split. Pupils will now sit a D&T GCSE exam that has a 70/30 split. We are hoping this will make the qualification more accessible for pupils who enjoy the differences D&T offers.

3. WHAT IS THE FUTURE OF DESIGN AND TECHNOLOGY TEACHER EDUCATION?

What a question and dare I ask can we agree on what design and technology represents or is? Academics and teachers have different views of what the subject should be which creates division and issues. It is important to debate this, but I firmly believe that pupils are on a journey of discovery and experience, and D&T gives this opportunity at an appropriate level in a school setting. Basics are as important as challenge. As we develop courses and curricula at the time, you believe you are making an impact and that you have to delve into research or draw upon your vast experience to make changes that will improve the subject. I often think about the range of qualifications we used to offer in D&T – Food Science, Textiles, Design and Communication, Design and Realisation, Built Environment, engineering etc. and where we are now. In a way I regret how we moved to Product Design as a D&T qualification which seems to have reduced D&T to a single qualification (in my view) which in turn has reduced the range of applicants we now have for D&T. In Wales we have also lost Food Science/Technology which now sits with PE in some schools which further impacts school provision and potential candidates for the PGCE course.

PGCE qualifications in Wales are only at Postgraduate level and we do not offer a Professional graduate option; all students train in an 11-18 environment. The Bologna treaty had a significant impact on the level taught and how practice was informed by research in institutions. The development of this has been a positive addition to D&T education over the past ten years. However, the changes to ITE programmes have significantly reduced the amount of subject time we can spend with students to focus on subject specific priorities and, the partnership model has changed in schools which also impacts the experience of all stakeholders in different ways.

In Wales we also face a lower bursary, a different curriculum (positive/negative?) and up until two years ago all students had to have a grade B in both maths and English. Despite all of these challenges student numbers remain within tolerance to continue D&T teacher education within our university system. Naively this is not down to just offering the subject as a PGCE instead it is a combination of teacher support, promotion of the subject within the community and a huge amount of work over many years building reputations.

So, what is the future of design and technology teacher education? This could be a question directed at any subject area. I take a pragmatic approach to developing the subject and students, during our recent curriculum change we have re-introduced craftsmanship explicitly into the curriculum, this was a choice guided by experienced teachers from all over Wales. This alongside the increase to NEA at GCSE level gives me hope for the subject and the experiences pupils will have as they go through the system in school. The use of new and emerging technologies are simply new tools to support creativity and the opportunity to iterate and develop ideas with the production of high-quality work. I also believe that it is important that pupils have access to traditional workshop facilities and have time to engage with materials and processes alongside CAD/CAM. The importance of criticality is even more important given the onset of ai and the ethical challenges teachers and pupils face when responding to authentic problems. These additions pose many new problems especially when there is a focus on 'originality' and creativity within our subject. Managing and engaging with this effectively and appropriately will be one of the biggest challenges for D&T educators both in school and university.

After 33 years of teaching D&T I am still very much excited about the subject. What that will look like for teacher education will be down to individual universities to manage their curriculum, alongside individual countries to develop their national approach and summative assessments for each examination.

RECOMMENDED READINGS

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