

Designing a Better World: The Future of Primary D&T Teacher Education Through the Lens of the United Nations Sustainable Development Goals

Lightning Talk Short Paper

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1. INTRODUCTION

In 2022, I spoke at the Learning and Teaching Festival at St Mary's University - my first major conference in higher education. I felt it was important to discuss how and why I had undertaken a full redesign of all my initial teacher education modules for primary Design and Technology (D&T). This redesign was both lengthy and necessary. Much of the previous planning for lectures and seminars dated back to when I had been a student on the course over a decade earlier. Coming straight from the classroom, with recent experience teaching Key Stage 1 and Key Stage 2 across three schools, I had a clear understanding of the challenges schools face when delivering D&T. Many of these challenges (such as professional development, teacher voice and identity and the interdisciplinary potential of D&T) are explored in my doctoral research and related work. However, one area stood out as requiring immediate attention in educating trainee teachers about D&T pedagogy: sustainability. At the Pupils' Attitudes Toward Technology (PATT) conference in 2022, while presenting my research, I listened to others speak about the importance of sustainability in D&T. In fact, it was a recurring theme throughout the event, and I sensed a strong collective agreement: a significant shift in how we approach sustainability within D&T education is urgently needed.

Currently, the term 'sustainability' does not appear in the English National Curriculum. However, it has become something of a buzzword in educational pedagogy. This presents a challenge; in planning meetings, I have often observed a lack of enthusiasm for teaching through a sustainability lens, dismissed with comments like, "we've done that already" or "let's think of something different". In reality, we are only beginning to scratch the surface of what sustainability education could and should be. I believe that D&T offers a powerful pedagogical framework for engaging with many of the United Nations (UN) Sustainable Development Goals (SDGs). In the face of urgent global challenges (climate change, digital disruption and social inequality) education must foster creativity, sustainability and citizenship from the earliest years. D&T provides primary teachers with a meaningful opportunity to teach in ways that reflect and uphold a future-focused vision for our world. It must be repositioned as a subject with purpose.

2. PRIMARY DESIGN AND TECHNOLOGY THROUGH KEY SUSTAINABLE DEVELOPMENT GOALS

Aligning D&T education with the SDGs (United Nations, 2015) offers an opportunity to reinvigorate its purpose and practice. It also supports the government's ambition to deliver a world-leading education in sustainability by 2030 (Department for Education, 2023). In this paper, I focus on several SDGs that I believe are particularly relevant to the future of primary D&T education:

- **SDG 4 Quality Education:** Every child deserves access to education that is inclusive and geared toward sustainable development. D&T embodies this through its hands-on, inquiry-led approach. It helps children develop essential 21st-century skills: creativity, collaboration, critical thinking and resilience. D&T supports the holistic development of learners.
- **SDG 9 Industry, Innovation and Infrastructure:** D&T nurtures the next generation of innovators. Through design challenges, prototyping and iterative thinking, children explore how things work and how they can be improved. This goal aligns with D&T's mission to inspire creativity, particularly in technological contexts. Teachers must be confident facilitating open-ended problem-solving and be supported to engage with new technologies.

- **SDG 11 Sustainable Cities and Communities:** Through locally rooted design projects, children can develop empathy and a sense of responsibility toward their communities. Whether redesigning school playgrounds or exploring accessibility issues, D&T empowers them to create positive change. Teachers need tools to connect classroom design challenges to real-world sustainability and citizenship themes.
- **SDG 12 Responsible Consumption and Production:** D&T can shift from a culture of consumption to one of sustainability. Teaching children to choose materials thoughtfully, reduce waste and consider product lifecycles encourages ethical awareness. Teachers should model sustainable practices and critically engage children in conversations about environmental impact.
- **SDG 13 Climate Action:** Climate literacy is essential, and D&T can provide an emotionally engaging, action-oriented space to explore climate challenges. Teachers need access to interdisciplinary resources and support to embed climate education meaningfully.

3. WHAT DOES THIS MEAN FOR TEACHER EDUCATION?

To prepare teachers for the challenges of a rapidly changing world, Initial Teacher Education (ITE) must go beyond technical skills and embrace values-driven approaches. Trainees should critically engage with the UN SDGs through design-led inquiry, explore their own values and motivations and see themselves as designers of change, not just curriculum deliverers. This ethos must continue through professional development opportunities, which should build communities of practice, support reflective and sustainability-focused pedagogy and promote the co-design of SDG-aligned resources. Central to this transformation is a shift in teacher identity, recognising D&T educators as creative professionals with the agency to lead change. Empowering them means valuing their lived experiences, facilitating professional dialogue and nurturing leadership in D&T across schools and networks.

In 2022, St Mary's University placed the SDGs at the heart of our postgraduate cross-curricular module, with each subject aligning its pedagogical approach to a specific goal. Trainee teachers developed presentations that critically explored an area of the SDGs. D&T emerged as a central focus in many of these presentations, proving to be a strong foundation due to its natural alignment with a wide range of the goals.

4. CONCLUSION: DESIGNING HOPE

Primary D&T, we can continue to marginalise it, or we can reimagine it as a space where teachers and children design more sustainable and hopeful futures. The UN SDGs provide not just a policy hook, but a moral imperative to act. By embedding sustainability, creativity and global citizenship into primary teacher education, we position D&T as a subject with purpose and urgency, something which the Design and Technology Association has agreed and stated in their newly published Curriculum Review (2025). Now is the time to design a better world, starting in the primary classroom.

5. REFERENCES

- Department for Education (2023, December 20). *Sustainability and climate change: a strategy for the education and children's services systems*. <https://www.gov.uk/government/publications/sustainability-and-climate-change-strategy/sustainability-and-climate-change-a-strategy-for-the-education-and-childrens-services-systems>
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