

## **Thornton Education Trust – TET Dialogues**

*TET's monthly informal webinars are an online space for professionals to share knowledge, learn from others and highlight good practice in engaging children and young people in urban design.*



**April 2023:**

### **Working Across Disciplines in Creative Learning: ‘What can architects learn from engineers and scientists – and vice versa – about innovative ways of creative learning for young people, and how can this make better places for all?’**

Today there are many concerns about the loss of creativity in the school curriculum. STEAM – Science, Technology, Engineering, Arts and Maths – and other methods are advocating a more holistic and transdisciplinary approach to learning.

What can architects learn from their engineer and science peers – and vice versa – about innovative and engaging ways of creative learning for young people? How might such methods be better built into education and engagement and professional built environment practice, especially in terms of social value strategies? How can these approaches help us build more sustainable, inclusive and equitable cities?

Our monthly TET Dialogue webinar highlighted examples of best practice from built environment and cultural and community engagement professionals who are leading the way in engaging young people, and creating spaces with and for them.

This event featured short presentations from expert speakers, with a chaired panel discussion and Q&A.

#### **Speakers**

- Neil Pinder, Head of Product Design and Architecture, Graveney School and TET Trustee (Chair)
- Kat Dewell, People & Culture Manager, Civic Engineers
- Heba Tabidi, Founder, Creative Director and Structural Engineer at Space Black
- Chris Wise, Senior Director, Expedition Engineering, and Researcher, University of Bath

For more information, see the highlighted weblinks throughout this document.

#### **Key questions for discussion in the webinar:**

- What experience of engineering and architecture have children and young people shared: do they see them as separate things? What links between these disciplines can be explored to develop new, engaging ways of creative learning? How can this support curriculum teaching in schools?
- What fresh perspectives can we build through exploring the intersections between engineering, art, design, architecture and other disciplines? How can this help in challenging preconceived ideas?
- How can professionals bring these new perspectives to bear in terms of wider policies and industry practice? How can they help support ambitions to create more inclusive, sustainable and equitable cities? What do engineers see as priorities in social value strategies? How can young people’s views about the built environment be meaningfully incorporated at citywide level?

## Summary:

*Kat Dewell*

Kat outlined the work of [Civic Engineers](#) and how this practice engages with young people. In terms of enabling a holistic view, the practice encourages engineers and technicians to focus on the quality of their sketches and drawings, as well as on their calculations and analysis and other tasks. In terms of structure, the business is divided into five key areas, and everyone within the practice is involved in one particular area to extend their skill set and shape the business and its strategy. The practice offers a variety of opportunities for young people including work experience, apprenticeships and internships, as well as mentoring, school visits and participation in design challenges. The practice aims to encourage and inspire the next generation from diverse backgrounds into engineering, challenging perceptions and creating opportunity for all and not just a select few. Engineering is often viewed as unfamiliar, complicated, and boring and traditional, when in fact engineers can find fresh solutions. In its work with young people, the practice invites them to notice everything in the environment that has been engineered – and that they've already participated in engineering throughout the games they play through childhood. The key is to get young people actively involved in real projects, problem solving, research and testing.

*Heba Tabidi*

Heba spoke about her work, inspiration and projects as an emerging engineer fresh out of education. She explained that she is a structural engineer, but from a very young age has had many other interests and skills – for example as a writer and DJ. This was one of the main reasons why she decided to study at the University of Bath. It was one of the few institutions that had a joint civil engineering and architectural degree course, which meant that it was easy to pivot between architectural concepts and language and engineering at concept design stage. This enables thinking about optimization, sustainability and efficiency very early on in a project. She also stressed that it is very important to look at the real impact and potential of diversity, that is, when you allow people to bring all of their whole selves to the table. Key to this is giving people space, opportunity, trust and confidence to be able to innovate and to safely explore ideas. Imagination is also critical. Innovation, exploration and imagination are the three main principles that lie behind the foundation of the [Space Black](#) design studio. Its ethos is to look at creative alternative spatial futures for marginalized communities through education, concept, design, and research, and through culture.

*Chris Wise*

Chris spoke about [some of the notable projects he has worked on, his research and his work with young people](#). He observed that people tend to think of engineering as very specialized – that you have to learn it all at university, or that it's all about mathematics, for example – whereas actually it is about making life better for people. He argued that the concept of regenerative design is fundamentally important in transforming thinking in the built environment, especially about sustainability. Regenerative design is designing for the possibility to enable the future and not disable it, so that people who come after us can use what we have designed and make it their own 50 or 100 years into the future. The underlying principle of regenerative design is that all human beings and nature are intimately connected and that making and reinforcing these connections are essential. If you are a designer or engineer, you can do things that join people together, for example by creating new bridges. People in university and people in practice, he suggested, need to get much better at joining things together to respond to what the world actually needs. Among other initiatives, Chris described the project that he developed for the 300th anniversary of Christopher Wren's death, reconstructing the dome of St Paul's Cathedral with students from all over the City of

London; as this involved using 2500 bricks, it was all about organization, teamwork, practicality and understanding whether things work or don't work.

**The presentations and audience Q&A discussion highlighted some common themes and lessons learned, including:**

- Teachers, families and professionals need to encourage young people to not pigeonhole themselves very early on – cross collaboration and innovation will happen only if you are able to think beyond boundaries. It is important to give time to hobbies and passions beyond the career that you decide to pursue; this should also involve visiting other places and opening up to different ways of living
- Young people should always maintain curiosity, questioning and thinking outside the box, as this is an essential part of engineering. It's also important to accept that sometimes there are failures and mistakes, but we learn from that, and to have the strength of conviction to try things
- With the speed of technological change in particular, practising engineers and architects will be increasingly required to take responsibility for what they are delivering, and not to leave it to others to define principles and values
- Education should enable young people to celebrate their whole identities and use that as a vehicle for their creativity, which in turn will generate excitement, imagination, innovation and exploration
- It is important to connect with and encourage participation from other professions in engagement programmes – not just engineers and designers but also, for example lawmakers, politicians, activists and finance professionals – to encourage much wider discussion and generate practical solutions.

#### **What next?**

How do we take this forward this discussion? Capacity building is a key goal of TET. TET encourages practitioners to encourage others to join the monthly conversations, to connect people in their own networks, to share knowledge and resources, and to contribute their ideas about how they can make change happen. TET is a platform to signpost best practice and show the value of architecture education initiatives to stakeholders. For more information and to get involved with TET contact:

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<https://www.thorntoneducationtrust.org/>

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