

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.



January 2022: 'Can "tech" be an effective tool in community & planning engagement, and in learning about architecture?'

With the rise of the metaverse and immersive worlds, the digital and physical spheres are becoming ever more intertwined, a trend that has been magnified especially in response to challenges presented by the pandemic. Young people today are avid users and consumers of online games and other virtual experiences.

As well as being fun to use, virtual reality, augmented reality and gaming can offer huge potential to expand our understanding of how children and young people sense and directly experience the built environment. Harnessing this power of tech and integrating it with other digital tools could give designers, planners and decision-makers the means to make truly child-friendly – safe, sustainable and accessible – cities.

How can new technologies, including VR/AR and gaming, be harnessed to successfully engage young people in placeshaping? How can the lessons learned be integrated into urban decision-making to create real change? How can virtual engagement work with face-to-face activities? How do we harness the power of tech to design and create more child-friendly cities at all scales around the world?

This event featured short presentations from expert speakers, with a chaired panel discussion and Q&A. The panellists shared their approaches to engaging children and young people in the planning, design and delivery of projects, to creating child-friendly cities, how they have made a difference, and lessons learned.

Speakers:

- Simeon Shtebunaev, Doctoral Researcher, School of Engineering and the Built Environment, Birmingham City University (Chair)
- Dr Sara Candiracci, Associate Director, International Development Group and Lead, Inclusive and Resilient Cities, Arup
- Dr Bobby Nisha, Department of Urban Studies and Planning, University of Sheffield
- Blaithin Quinn, Curator of Learning, Irish Architecture Foundation

For more information, see speakers' biographies and links at the end of this document.

Key questions for discussion:

- What has the use of VR/AR or gaming been able to reveal about how young people and children experience urban space?
- What are the starting points for creating and/or choosing VR/AR/gaming tools to engage young people and children in co-design, neighbourhood regeneration, and sustainable city-making? Are some platforms and technologies better or more appropriate than others, broadly speaking? What are the challenges as well as opportunities? Are there concerns around privacy and safety and how might these be addressed?
- How can the use of immersive experiences support intergenerational learning and dialogue in city-making and place-making?

- How can the use of VR/AR and gaming be integrated with in-person learning for children and young people?

Summary:

Introduction

Simeon Shtebunaev introduced the topic, being a researcher who is interested in bringing in the perspective of young people in envisioning and imagining a future city. Innovative technologies offer a fantastic opportunity to expand the conversation about how we design, plan and deliver a built environment in a more meaningful and accessible way. What is encouraging is the criticality and ethical mindset with which young people approach many of these technologies. But there is quite a dark side of the virtual world. The emerging economy of the online world is one that is often driven by children and young people, but user-driven game development often operates as an unregulated industry.

So, whereas we might sometimes dismiss the virtual world as fad, it has real-life implications on the lives of its users, and those are often young people. As we adapt digital solutions across industries, we need to be very wary of the underlying logic that underpins many of those digital advances. However, the projects featured here show alternative ways of developing digital solutions to meaningfully and positively involve young people directly relevant to architectural and design practice.

Dr Sara Candiracci

Dr Sara Candiracci demonstrated how Arup has been developing frameworks, tools and methodologies, to understand how to create more inclusive cities that work for children – and for everyone. She and her colleagues have developed different tools and methods to engage with children on the one hand, and, on the other hand, to influence decision makers and planners on how to embed child-friendly design principles and approaches. YARD is an augmented reality (AR) co-design tool created by Arup in which people can use their mobile devices, tablets or phones to drag and drop elements into a virtual view of a place while on location, so that they can directly envision what the future space could look like, and then they can share opinions on it, with the ultimate aim of making interventions more relevant, user friendly and effective. Through implementation in projects in the USA and Jordan, among other places, Arup has learned that YARD would be a particularly useful way to get children to be more engaged in designing and planning.

Secondly, in partnership with the Bernard van Leer Foundation, Arup has developed an Urban95 virtual reality 'empathy' tool, driven by the key question: 'if you could experience the city by being 95 centimetres tall (the height of an average three-year-old child), what would you change?' This tool is a virtual micro-simulation of a living, breathing city, with a real-life soundscape, all seen from a child's perspective. This tool seeks to raise awareness among leading global decision-makers about some of the shared challenges that children are currently facing in cities around the world, by putting them 'in the shoes' of a young child, and to encourage them to take action. So far it has been demonstrated at major global events including the World Economic Forum, C40 Cities Summit and UNICEF Child-Friendly Cities Summit.

Dr Bobby Nisha

Dr Bobby Nisha highlighted that it is important to establish definitions, because when we talk about immersive reality, some terminologies are very interchangeably used. VR (virtual reality) creates a simulation of presence, where you get to experience a virtual environment in the first person. In AR

(augmented reality) you can overlay the physical world/reality and the virtual world. Dr Nisha then described how she and her colleagues have used VR and AR in their own teaching and work with young people and communities. They created assessment activities, for example, in which students peer review one another's work in VR, and create within the VR space itself and then 3D print the results. They saw a difference in module attainment and learning gain after introducing VR and AR as learning tools. They then worked on a project with a school in Sheffield using VR and AR, asking children to reimagine their play area. The children produced surprising and interesting ideas, such as a roller coaster with dinosaurs – completely unlike anything an architect might design. Feedback from the children indicated that they felt a real sense of agency and empowerment using such tools. Another project with Bolsover Council sought to engage with young adults to reimagine a rundown marketplace. The Sheffield team brought in eye-tracking analytics, creating an immersive game in which the young people had to find three hidden objects. This became a starting point for a conversation as to what they liked, disliked and wanted to change.

All these projects showed that there was a distinct pattern with which people engage with space: egocentric or allocentric. The traditional means of engaging with spatial representations – via drawing and 2D and 3D representations – are allocentric: the relation of objects to one another, outside the individual. VR brings in the egocentric spatial frame: the relationship that the person feels to objects outside of them. It is the latter that creates the sense of agency. By using VR, it was clear that the mind was able to retain exponentially more information. It also creates a more equal relationship between the 'expert' and the end user as the end user can decide what to look at or create, instead of the expert providing, and deciding from, a prescribed set of options.

Blaithin Quinn

Blaithin Quinn spoke about her work since March 2020 as Curator of Learning at the Irish Architecture Foundation (IAF), an independent cultural organization, based in Dublin, dedicated to the promotion of architecture as culture. The Foundation has an extensive youth and schools programme alongside its main public programme of exhibitions, workshops and events. Blaithin described how technology has played, and continues to play, a significant role in three of the IAF's many projects: Architects in Schools, Youth Manifesto and Open House Junior – Digital Design Challenge.

Architects in Schools is an initiative providing secondary school students with first-hand experience of the design process under the guidance of architects all over Ireland; student voice and empowerment are central to the programme. Blaithin's work on Architects in Schools was informed by an award-winning project she had encountered earlier with a college in Wicklow, in which a group of students created their existing school in a virtual world and then they reimaged it to align with the sustainable development goals using Minecraft. Through this the students took a fundamental look at the education system, and the ways in which students are currently educated. They challenged assumptions about school design and made changes on the Minecraft model to improve their own school, using Minecraft as a 'thinking platform'. The IAF then invited the students to teach architects and teachers how to use Minecraft as part of the Architects in Schools programme and to create films about the project. What was most interesting was to hear how they were able to collaborate virtually (pre-pandemic), how quieter voices became stronger in this virtual space, and how the technology gave the students an often easier way to communicate their ideas than creating drawings and model making.

'Youth Manifesto! Architecture in a Climate Crisis' was a project in 2020 (which also won a TET Inspire Future Generations Award in the Informal Learning category). Its key achievements included the use of technology in terms of adapting to an online space during the pandemic, and the changes

needed to design virtual workshops. Feedback from youth advisors helped to facilitate an open, engaging kind of space, and the virtual platform supported a balance between group and independent work. The IAF has also been running a digital design challenge, as part of its Open House Junior programme, for the last two years, and its programme has included some fascinating and innovative entries in Minecraft.

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

- Virtual reality tools can be a very powerful way of not only enabling adult decision-makers to view cities from a child's perspective but also to build more empathy and to create awareness to really make change happen in the design and planning of cities
- VR and AR can help to build a sense of empowerment, whereby participants feel like they have something useful to offer by being able to experience and understand a space from their own perspective and to feel that they have the agency to change it
- Engaging children is not something 'nice' to do, it is something that we must do as urban practitioners, if we want to design cities that meet their needs, ideas and expectations. To do that you must have the right tools, skills and training; we need to learn to find ways to engage them in a way that is meaningful, to be open to new ideas, and to really challenge ourselves as practitioners to find the right means; the process is as important as the tools
- Technologies such as VR and AR can potentially change the relationship of the architect to end user, making it more equal as the architect and end user can both experience space in the same, unrestricted way, whereas with traditional methods the architect is the one who communicates the design ideas
- Tools such as Minecraft can help students to explore their own definitions of architecture and what it does through diverse lenses; by learning from young people themselves we can potentially explore more truly collaborative ways of learning and understanding that are more meaningful to the young people involved
- We must bear in mind that while there is potential in using all sorts of virtual tools, we cannot yet take access to such technologies for granted, and tech is still evolving

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:

info@thorntoneducationtrust.org

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

Follow us on Twitter: @thorntoneducat1

Watch recordings of our events on our [YouTube channel](#)

Speaker biographies and links

Chair: Simeon Shtebunaev, Doctoral Researcher, School of Engineering and the Built Environment, Birmingham City University (Chair)

Simeon is a Senior Lecturer and Doctoral Researcher in Birmingham City University, researching how young people engage in the planning of future 'smart' cities. His PhD Project entitled: 'Young people's perceptions and awareness of the planning of the future "smart city". Engaging, connecting and empowering the roles of young citizens.' The research aims to appraise the perceptions, engagement and level of knowledge of young citizens towards 'smart city' developments in key urban areas in the European context and evaluate how such perceptions hinder or enable cases of co-production of urban spaces.

Simeon served as a trustee of the RIBA (2016–2019) and as a Vice-President for Students and Associates, co-founding the RIBA Future Architects initiative serving young professionals of the institute. Simeon served as Young Planner representative on the RTPi General Assembly and International Committee (2018-2019). He co-authored and launched the Youth Manifesto for Sustainable Urbanism at the Commonwealth Heads of Government meeting in London.

Twitter: @shtebunaev

Website: shtebunaev.com

Dr Sara Candiracci, Associate Director, International Development Group and Lead, Inclusive and Resilient Cities, Arup

Sara Candiracci is an urban planner and researcher with 16 years of professional experience working in the field of sustainable urban development and planning across Africa, Latin America and South East Asia. She holds a PhD in heritage led urban planning, with a thesis on the role of cultural heritage in social inclusion and place-making in East Africa.

She is an Associate Director in the [International Development](#) group and member of the Leadership Team and leads the work on Inclusive and Resilient Cities and on Child-centred Design and Planning. She joined Arup in 2017 and has been working and living in different countries in Latin America, Africa and South East Asia, with the UN (UN-Habitat, UNESCO), Development Banks (World Bank, Inter-American Development Bank), Local Governments (Quito/Ecuador and Maputo/Mozambique) and INGOs (CUAMM/Angola), in the sectors of urban governance, slum upgrading, urban infrastructure and municipal services, strategic urban planning, and cultural heritage led urban planning and placemaking.

Her passion lies in working with multidisciplinary teams, and using applied research and stakeholders' engagement and participation as entry point to innovation and sustainable transformation.

<https://www.arup.com/perspectives/design-and-implementing-child-friendly-initiatives-in-urban-areas>

Dr Bobby Nisha, Department of Urban Studies and Planning, University of Sheffield

Dr Bobby Nisha is Senior University Teacher and the Programme Director for MA in Urban Design and Planning at The University of Sheffield. With a background in architecture, her research focuses on impacts of spatial perception and uses immersive virtual reality and eye-tracking analytics in VR to understand how people experience and navigate through spaces. She also studies the pedagogic impact of learning with immersive realities such as virtual and augmented realities in maker-space settings.

Twitter: [@Bnisha](#)

Project Lead HEIF funded "CEE – VR"

[CEE-VR Eye tracking analytics with Virtual Reality](#)

<https://www.sheffield.ac.uk/usp/news/ar-city-exhibit-playful-tech-our-city-festival-mind>

Blaithin Quinn, Curator of Learning, Irish Architecture Foundation

Blaithin Quinn (BSc, BArch, BA, MA) has a background in architecture and visual art. After graduating as an architect (University College Dublin, 1995) she worked in private practice (1995–2010) while completing a first-class honours Degree in Visual Arts Practice (Institute of Art, Design, Technology, 2010) and later a Masters in Visual Arts Education (National College of Art and Design, 2013), both by night. This has informed her approach to practice, which is collaborative, interdisciplinary and site-specific.

She is currently Curator of Learning at the Irish Architecture Foundation, and runs programmes including the International Summer School, Architects in Schools, Open House Junior and the Youth Manifesto (Winner, Informal Learning Activity, TET Inspire Future Generations Awards 2021).

As an active practitioner in the area of public engagement with architecture, Quinn was a key contributor to the following collaborative projects (supported by The Arts Council's Engaging with Architecture Scheme):

Beyond Eye Level (South Dublin Co. Council, 2012)

Shaping Space (Galway Arts Centre & Red Bird, 2013)

Inter/Generation (DLR Co. Council, 2014)

Beyond Pebbledash (Dublin City Council, National Museum, 2014/15).

Other work includes 'Extending Architecture' (2016) with Create and the Arts Council of Ireland, Estudio Teddy Cruz (USA), Kate Goodwin (UK), Todo por La Praxis (Spain) and 'Engaging Places: Collaborative Praxis in Art and Architecture' (2018) with Create, Tate Liverpool and Culture Ireland. Quinn employs visual art strategies to extend public engagement with architecture.

In parallel with her own creative practice, she was a tutor in Architecture at Queen's University Belfast (2012-2018) and a visiting lecturer at Cork Centre for Architectural Education. She was a visiting lecturer at IADT, Dublin (2015).

Dissemination is integral to her practice and she regularly speaks about her work at events including an Irish Design colloquium at NCAD (ID2015), the All Ireland Architecture Research Group (AIARG) conferences (2012, 2013, 2014, 2015, 2016, 2017) and the 10th International Architectural Humanities Research Association (AHRA) in the UK (2013).

Quinn's awards include an Arts Council 'Architecture Bursary' (2015), an Arts Council 'Travel and Training Award in Architecture' (2013) and a Royal Institute of Architects of Ireland research bursary (Winner, 3twenty10 Research Competition, 2010), in addition to many collaborative funding awards.

<https://architecturefoundation.ie/learning/>

Additional information and links provided by Blaithin Quinn:

Minecraft Project:

'17 Goals. 1 School. And Minecraft' is a project by the students of Presentation College Bray, Wicklow, Ireland. As part of a whole-school initiative students collaborated to build a scaled Minecraft model of their school building. They then manipulated the base model to design a more sustainable school, based on the UN Sustainable Development goals. Their achievements include: Winners 'Most Innovative Award' **ECO-UNESCO Young Environmentalist Awards 2018**; they have also presented their ideas to the Environmental Protection Agency and Sustainable Energy Authority of Ireland and were a finalist in the **Global UN SDG Action Awards 2018**. Their work is architectural, spatial and visionary with regard to sustainability and the innovative use of Minecraft as a design tool. The students worked collaboratively, yet remotely, mainly from home, and student feedback highlighted how some voices that may not usually be heard were expressed more easily (and visually/spatially) via the platform of Minecraft.

Video (9 min): <https://www.youtube.com/watch?v=aNbebJxp8Ic>

Architects in Schools - previous videos / exhibitions - examples

- AIS Virtual exhibition 2020 - <https://architecturefoundation.ie/news/architects-in-schools-online-exhibition/>
- AIS Virtual exhibition 2021 (Instagram) - <https://www.instagram.com/irisharchitecturefoundation/?hl=en>
- AIS Galway exhibition 2019 - <https://vimeo.com/344977843>
- AIS Waterford exhibition 2018 - <https://www.youtube.com/watch?v=Bw0DpwY0nOM>
- AIS Promotional video 2017 - <https://www.youtube.com/watch?v=oHzdfcBIM3c>
- AIS Exhibition and workshops in schools - <https://www.youtube.com/watch?v=Rv8ynRXJmMU>