



# The Sustainability Debates: Built Environment Exchange 2016

## Generalist v. Specialist learning Debate summary:

The Generalist V Specialist Learning Sustainability Debate brought together a panel of five industry and education professionals to explore what type of learning can best inform and tackle the challenges of sustainability in the built environment.

The debate questioned if deep and narrow knowledge is more beneficial or if shallow and broad knowledge more desirable? How can we create graduates and professionals who have the skills and knowledge to create and maintain a built environment that is environmentally, socially and economically sustainable?

The pre-debate audience vote was overwhelmingly for the generalists, at 86% leaving just 14% of the audience for specialists.

The debate began with Satheesh Jacob, Head of Excellence, Building Services at Ramboll, setting the scene and preparing the audience for three courses of 'mind food'. He reminded the audience that we are in 2016, and spoke about the associated context and outside influence this has on the built

environment industry. We live and work in a complex system where we all hold many roles both professionally and personally.

Paul Tymkow, Director of Learning and Knowledge at Hoare Lea introduced the generalists' argument, describing the need for a more holistic outlook to provide an interdisciplinary design approach from all perspectives. He continued to say that innovation, necessary for sustainable development, is a result of a generalist connecting the dots and seeing beyond what is typical.

Robert Schmidt III, Senior Lecturer at Loughborough University spoke directly about his American education, which followed a generalist theme through longer undergraduate courses with electives to create a broader knowledge. He stated that this approach had allowed him to gain more flexibility and enabled variation, which is important for the built environment due to its complexity. Paul added that a generalist could champion sustainability, explaining that breadth of knowledge can change cultures, and cultural change is what the sustainability challenge requires.

Alex MacLaren, Assistant Professor of Architectural Design at Heriot Watt University firmly stated that

specialists are the key to drive the sustainability agenda and began by debunking the notion of the 'T-shaped professional'. She states that the horizontal element of the 'T' is not about education but attitude and being keen to collaborate, the 'T-shaped professional' is a myth. To solve wicked problems such as sustainability we should therefore educate specialists with a collaborative attitude. If everyone were a generalist, she said, nothing would get done, and more importantly shallow decisions can have large ramifications - a little knowledge is a dangerous thing.

Satheesh built on Alex's notion of developing the right attitude, noting that it is the collaborative mindset and the willingness to work as a team that is a gap. Paul agreed saying it is an interesting perspective but we have to educate to enable the right attitude to perpetrate the industry. The audience picked up on this point and asked: how do you teach for a collaborative mindset? Alex responded by saying that collaboration is a necessity and that the right attitude is instilled through education. Robert continued to use the Loughborough University course as a precedent, where architecture students are introduced to geographers, material engineers and fine artists creating

an excellent environment for innovation. An audience member built on the notion of innovation and stated that it is integral to drive sustainability and asked what approach should be taken to encourage change and insight innovation?

Satheesh expanded on the notion of mindset and attitude noting that the industry can create an environment to enable specialists to innovate. Robert stated however that the industry lacks collaborative leaders. Alex added that the industry has an obsession with process, traditional interactions, BIM, and that this can often hinder innovation. Paul continued to note that there is often a lack of confidence from the narrow professions as they are not equipped with the general knowledge necessary; we often confine ourselves by job role and let people down as a result of not stepping out of these boundaries. A generalist approach may lead to us thinking outside the box and finding answers that aren't traditionally visible. Alex responded stating that although the course at Loughborough is brilliant at connecting specialists not educating generalists, they don't teach the architecture students geography! Courses shouldn't change to become general; it is dangerous to teach with the aim to create a generation of generalists. The knowledge becomes superficial. Paul countered stating that broad education shouldn't be, or isn't, superficial – it needs to be modern and responsive to the challenges the industry faces today.

Paul stated that the current context dictates that we should rethink our boundaries. Existing disciplines are a thing of the past and he questioned if the current standard design team set up should be reconsidered. We should be asking what do we need to become and what roles do we need to fulfil to develop sustainability? Paul responded to Alex's comment 'A little knowledge is a dangerous thing' expressing that depth alone can also be risky. An audience member agreed stating that the industry cannot join up our expertise and that the 'VW moment' is just around the corner in the form of the performance gap. They asked: what approach would best solve this problem, generalisation or specialisation?

Paul expressed that design teams are growing and more and more specialists are involved, all with conflicting priorities. But whilst teams of specialists are growing, who is keeping it all together? Paul suggested that the generalist is suited to this and furthermore could see the systematic impacts of decisions? Alex responded stating that it is a misconception that specialists cannot respond to the context. To address the wicked problems the industry faces we need specialists with ability and a willingness to collaborate. Paul argued that sustainability currently needs a more modern generalist who can act as an interface between disciplines, and make cross boundary decisions within the considerations of the system. Likewise roles and responsibilities should not end at hand over. Paul

proposed a breadth of knowledge across subject matter and timescale, and a transition to a task based approach rather than the traditional linear 'start to end' of a project.

An audience member suggested that generalists are too narrow and specialists are too shallow and asked how we can create actual generalists and specialists? Perhaps this is the key, as the Chair, Nigel Tonks, Buildings London Leader at Arup concluded the debate. Summarising, he said that no one had suggested that specialists aren't important but asked how we can bring them together properly? How do we collaborate effectively? Are generalists finding themselves in positions of leadership because of their overview knowledge and skills? How can we address professional identity and value specialist roles, whilst embracing fluidity and responsiveness to the current built environment context that we are working in?

The post-debate online poll showed a swing of support from the audience to 54% for specialists and 46% for generalists. An interesting outcome showing that although the debate had presented engaging and persuasive arguments on both sides, the specialists won the audience over.

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