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New Cross-Faculty, University-Industry, and University- Society Educational Encounters

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ARCHITECTURAL EDUCATION IN TIMES OF UNCERTAINTY

A SYMPOSIUM HOSTED BY THE
CIRCULAR BUILT ENVIRONMENT HUB

2-4 November 2022

BOOK OF SUMMARIES

Edited by Olga Ioannou

New Cross-Faculty, University-Industry, and University- Society Educational Encounters

MODERATOR

Remon Rooij *TU Delft*

PANELISTS

Olaf Oosting *Valstar Simonis*
Michiel Susebeek *Saint-Gobain*
Hans Wamelink *BK Launch, Faculty of
Architecture, TU Delft*
Emma de Wijs *Municipality of the Hague*
Indy van de Sande *Ministry of Infrastructure
and Water Management*
Helmut Thoele *Province Zuid Holland*

The objective of this panel discussion was to explore new directions for cross-faculty, university-industry, and university-society educational encounters and cooperation. Delft aims to offer more inter- and transdisciplinary* learning environments that focus on urgent and complex societal challenges. Transitioning towards circular buildings, a circular built environment, circular cities and regions, and a circular building industry are such new challenges. Circularity not only requires new ways of educating young professionals, but also new kinds of professional attitudes and behaviors in practice and industry. The main messages from the discussion are organized here in three subsections: [i] students being agents of change for a circular built environment, [ii] cooperation strategies for stimulating (knowledge on) the transitions towards a circular built environment, and [iii] educational changes for stimulating teaching and learning on transition strategies towards a circular built environment.

STUDENTS AS AGENTS OF CHANGE

Young professionals can be pivotal agents of change as they are the ones that like to take up a challenge, have the ambition to have a positive impact in society, and can use their entrance in the field to break through the rusted and unsustainable patterns of our (traditions in) professional practice. With the right mindset,

* Interdisciplinary education refers to a learning environment where students (and teaching staff) from different disciplines not only interact, but also together aim to integrate expertise in terms of (re)defining challenges and developing solutions with potential societal impact. Transdisciplinarity in education refers to a learning environment where students (and teaching staff) additionally also cooperate and co-create with various, other kinds of stakeholders from society, such as industry, governmental bodies, and civil society.

attitude, and skills early in their professional lives, they can grow to become impactful leaders and visionaries of change. For this:

- 01 They should be educated on how to change responsibly and entrepreneurially.
- 02 They should be educated that change and transition are not only technical and/or spatial challenges, but also social, economic, and political ones.
- 03 They should be educated that cooperation is necessary and that different roles and expertise are not 'nice to haves,' but 'need to haves'.
- 04 They should be educated on how to take others with you in processes of change. Vision and strategy-making are the cornerstones of good leadership. People need the imagining and visualization of desirable, possible futures that stir the blood. And at the same time, concrete actions and governance approaches pave the road of change.

To keep the wheel of transition rolling, curiosity and spirit need to be stimulated all the time in change teams. Good transition thinkers focus on history, present, and future simultaneously as all of those timeline's matter in understanding the meaning of (proposed) change. And young professionals should realize that in complex, uncertain contexts everybody – also the so-called 'seniors' and 'experts' – are learners, as the circularity transition is a new field of practice for everyone. It is they who can learn and adapt fastest who will have the most success and impact.

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COOPERATION STRATEGIES

An important condition for successful cooperation among stakeholders is sincere curiosity towards others, i.e., those other stakeholders in the transition process. Co-operation is catalyzed by co-creating shared imaginaries for a circular future: shared ideas about circular value systems. Therefore, we should teach students about this by connecting them to those various stakeholders via their involvement in societal debates, vision and strategy-making processes in practice, and political decision-making. Let the students 'feel' and 'live' the other perspectives. Students will automatically better learn to listen (they will get 'larger ears, smaller mouths') and better appreciate other disciplines, values, worldviews, methods, and approaches. Practitioners and academics can help students to share with them not only their expertise but also their network.

Connecting the needs of multiple stakeholders successfully is very challenging, but valuable as it helps to:

- 01 Develop a multi-perspective focus by creating communities of practice (e.g., policy makers, investors, owners, municipalities, designers, builders, suppliers, users) with an integral approach toward a certain (sub)segment.
- 02 Stimulate integral awareness by creating 'maps' or 'infographics' to get an overview of various, relevant aspects and to unravel the complex puzzles.
- 03 Use parametric tools by creating digital parametric design environments in which the different needs of stakeholders and other kinds of available project data can be made explicit. Conflicts can be traced; optimizations can be done iteratively.

Long-term cooperation among stakeholders is sustained by creating ecosystems that engage and enable them and in which capacity building (i.e., learning by doing and reflection) is key. Sharing expertise should be the social norm in such an ecosystem. This emphasizes the importance of open data approaches (FAIR data - Findable, Accessible, Interoperable, Reusable) and communicating, sharing, and discussing both practical and scientific knowledge (science communication).

Educating our next generation of professionals with a (more) entrepreneurial, responsible, cooperative, and long-term oriented attitude might be one of the answers.

But transitions don't come easy. Very often, stakeholders are happy with starting up cooperation and realizing the first idea(s): the low-hanging fruit. But in the long run, change is tough. Radical system changes are not easily done. Existing, larger organizations very often seem to lack the capacity, resilience, and eagerness for those more radical changes as they can be too risky for themselves as a company. Feasibility questions come in many forms: technical, spatial, economic, financial, social, cultural, political...all of them can individually frustrate transition. So, how to keep the momentum going? Educating our next generation of professionals with a (more) entrepreneurial, responsible, cooperative, and long-term oriented attitude might be one of the answers.

EDUCATIONAL CHANGES

One of the key messages here is to trust the students and teaching staff. Give them room and learning environments to experiment freely and safely. Student-centered education also means to involve students in the instructional design (process) of a course and/or classroom, perhaps even the curriculum. But it also means changing roles for the educators; from (only being) experts and assessors toward (also being) coaches, feedback givers, facilitators, critical friends, co-creators, etc.

Architecture pedagogies should stimulate entrepreneurial attitudes and behavior. Someone is 'entrepreneurial' when that person acts upon opportunities and ideas and transforms them into value for others. The value that is created can be manyfold: spatial, technical, financial, cultural, or social. All of this can take place in the private sector, public sector, civil society, and in any mix. It thus welcomes several types of entrepreneurship, including intrapreneurship, social entrepreneurship, environmental entrepreneurship, and techno/digital entrepreneurship, and not necessarily (only) via building a company.

We also see a lot of value in serious gaming as a learning and teaching approach. Students should be put with their feet in the mud, that is in (simulated) practice, but not always and not all the time. There is the 'danger' of too much reality in a course for students which might only freeze them into today's reality and conditions. And tomorrow (for which we educate them in particular) is not today...

MAIN TAKEAWAYS

Four messages here to conclude.

- 01 Teach students and make them fully understand the notions of societal complexity and uncertainty, and the multidimensional characteristics of complex systems (technical, spatial, social, political, legal). Systems thinking skills are a must, but an important lesson and advice is to learn to prioritize. Students should not want to solve everything at once. It is also allowed (and most of the time a necessity) to focus and choose one essential challenge at a time.
- 02 Teach students that transitions within complex systems are also social transitions. Entrepreneurial mindsets and value creation are key.
- 03 Never lose touch with your (disciplinary) home base, that is (for the field of architecture, urbanism & building sciences) the spatial integration and designerly modes of thinking and working.
- 04 So, should we educate our students to become 'problem solvers' or 'designers of shared circularity values and imaginaries'? BOTH, we think.