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Tan, D., & Park, S. Y. (2025). Learning in the Field for Responsible Design. In J. Gonçalves, T. Verma, & J. Spaaij (Eds.), *Evolving Education: A Manifesto to Reimagine Higher Education* (pp. 200-211). TU Delft OPEN Publishing.

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Evolving Education

A Manifesto to Reimagine Higher Education

Edited by

Juliana Gonçalves
Trivik Verma
Jing Spaaij

TU Delft OPEN Publishing

Colophon

Evolving Education
A Manifesto to Reimagine Higher Education

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Keywords: Open Education, Higher Education, Reflexivity, Transdisciplinary, Equity & Justice, Access & Inclusivity, Pedagogy Innovation

Published by:
TU Delft OPEN Publishing
Delft University of Technology
The Netherlands

DOI: https://doi.org/10.59490/mg.223
ISBN/EAN: 978-94-6518-209-4

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Cover Design:
Nazanin Karimi

Interior Design:
Jing Spaaij

Copyright Clearance:
TU Delft Library copyright team.

Conflict of Interest:
No conflict of interest to disclose.

Funder Statement:
This book was funded by the TU Delft Open Science programme, Branch Open Education.

Data Access Statement:
This book brought together existing research data obtained upon request and subject to licence restrictions from a number of different sources. Full details of how these data were obtained are available in the reference list at the end of each chapter.

Peer Review clearance:
This book has been peer reviewed. The peer review was open. The Editors would like to thank the reviewers for their time and effort.
Reviewers are listed in the section "Commentators".

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Learning in the Field for Responsible Design

Written by:

Diwen Tan,
So Yeon Park

Abstract

This manifesto uses education as a medium to bridge research and practice in architecture and urbanism, while stimulating critical thinking and enhancing ecological and social awareness among students in the pursuit of responsible design.
Since the late 20th century, architects, urban designers, and planners have made efforts to address challenges associated with climate change, urbanisation, and environmental degradation. Researchers have proposed concepts, such as 'landscape as urbanism', to invoke a new way of understanding and intervening in urban and rural environments. For these efforts to have a wide impact, they require public resonance. On-the-ground projects must leverage existing networks and values and foster conscious behaviours.
However, numerous projects failed to achieve this by following the conventional practices, thus limiting their societal implications and sometimes proving counterproductive. A huge gap rests between academic research and design practice at different scales, from interior space to urban landscape.
In this regard, we argue that this gap should be addressed by reshaping education in higher education institutions, where researchers and current and future practitioners (students) naturally converge.
Effective design requires a sound basis of field understanding, which extends beyond merely visual spatial information to include the ability to recognise human interactions embedded in the context. In this manifesto, with a specific example, we detail fieldwork methodologies that illustrate key information to examine and how to tailor this information considering its applicability in the process of design. We then propose a transdisciplinary, hands-on curriculum focused on approaching responsible design through fieldwork in architecture and urbanism.

Keywords: fieldwork methods, design practice, responsible design, transdisciplinary education

1. Education, research, and practice

Since the late 20th century, architects, urban designers, and planners have made tremendous efforts to address societal challenges such as climate change, urbanisation, and environmental degradation (Avermaete & Gosseye, 2023). For example, some researchers have proposed the concept of 'landscape as urbanism' to invoke a new way of understanding and intervening in urban and rural environments. While being meaningful, these efforts often fail to have a broader impact or gain widespread public resonance, mainly because of the persistent disconnect between research and practice.

Researchers' ideas often remain within academia and are not aligned with the realities of practice, including cultural norms, community needs, and other aspects involving the human dimension; practitioners may prioritize immediate project goals and aesthetic concerns over incorporating research-driven insights. This gap results in projects that lack contextual sensitivity and thus fail to foster sustainable change.

This manifesto uses education as a critical medium to bridge research and practice in architecture and urbanism (Figure 1). Universities, as intersections of theoretical research and practical application, are uniquely suited to address this gap, bringing together diverse communities of students (future practitioners), researchers, designers, and other professionals. Through education, these groups can collaboratively engage in design and research. By stimulating critical thinking, encouraging immersive fieldwork, and promoting transdisciplinary approaches, education can provide future practitioners with skills and knowledge to translate research into context-sensitive solutions.

Figure 1: Diagram illustrating education as the potential bridge between research and practice in the fields of architecture and urbanism

Our argument aligns with insights gathered from informal talks with students enrolled in master's programmes in architecture and urbanism at TU Delft[1]. These students generally exhibited enthusiasm for sustainability, often holding a strong position on contemporary paradigms, challenges, and design and planning practices. The research and design package at TU Delft includes design studios that run throughout the first academic year (one studio per quarter), complemented by lectures and workshops on theory and methodology.

However, a closer examination of the curriculum has revealed a certain limitation. For example, the mapping analysis primarily draws on the given GIS data and literature of contexts for each design project. Fieldwork, though always required, is conducted by students themselves intensively in 1-2 days, concentrating on a pre-chosen broad topic (often spatial elements such as public space or water). The talks with students imply a lack of full attention to the process of being in the field and potentials of the field, and that insights gained are limited to a small scale (e.g., street level) that is only concerned with space use, building function, and atmosphere. Thus, the analysis focuses more on aesthetic forms and composition than behaviours and spatial practices. This gap affects the design development phase as well. Designs are often developed by an intuitive vision and several strategies within the given method themes, yet they are not necessarily informed by historical contexts or in-depth analyses of the surrounding environment. This approach risks creating homogenous digital mappings and raises questions regarding the accountability and contextual relevance of design proposals.

This lack of comprehensive and careful understanding and investigation of the 'field', both in practice and education, often overlooks important aspects such as human interactions and the 'embeddedness' of place. In this regard, we argue that education in higher institutions must evolve. By restructuring curricula to emphasize immersive fieldwork, critical reflection, and integration of theoretical inquiry with creative application, education can foster greater contextual sensitivity and societal responsibility in future practitioners.

[1] The evidence is gained based on informal talks with students who graduated from MSc Architecture, Urbanism and Building Sciences, especially those in tracks of Architecture, Urbanism, and Landscape Architecture, in addition to the authors' teaching experiences. Though with limited numbers, we were able to extract coherent insights. The questions used include: "How do you come up with design strategies? How do you do the spatial analysis, based on what materials and information? How do teachers guide for and in the field? How do you read the study site? How do you integrate site analysis results into design?"

2.'The field': From reading to acting

2.1 Investigating China's urban villages: between tradition and modernity

Can 'the field' tell us the story itself and inform a more inclusive and responsible design? To illustrate how education can bridge the gap between research and practice, we introduce an ongoing doctoral research project at the department of Urbanism, TU Delft, which explores future inclusive urbanism by understanding the coexistence of tradition and modernity (social-spatial and ecological practices in particular) in China's metropolitan areas and their implicit values in a post-growth city. The fieldwork is an essential part of the research that invites the researcher to 'experience' the field (Okely, 2012) to understand the local reality of any space, territory, or landscape, which is a cultural construct consisting of contested layers and embedded in a wider context.

The rapid development and urbanisation in China are often facilitated by the planning perspective of a city without history, in a process of construction, destruction, and reconstruction. While building a 'generic city' with names like global city, eco-city, or innovative city, the reality shows more complex, varied, and even contested landscapes with the persistence of villages in a city like Shenzhen. These villages as a whole indeed carry the past and present of the city. Despite being labelled as problematic 'urban village', which implies being left behind of progress and modernisation and a negative connotation of crimes and urban poverty, they also generate opportunities endogenously as being outside of the formal regime.

2.2 Fieldwork as a method

With the preliminary topic on examining traditions and heritage values of villages in Shenzhen under the veil of rapid but uneven development, the researcher started her first 3-month intensive fieldwork in 2023. The fieldwork was purposive, but also flexible enough to allow the explorative process to take off, driven by the researcher's curiosity and plural perspectives of 'encounters'. Drawing on urban studies (architectural perspective) and anthropology, the fieldwork was carried out with mixed methods of observation, narrative interviews, and architectural ethnographic mapping. This multi-methodological approach is more than a simple combination of different methods; it aims to foster innovation and critical thinking.

Observation began with a general survey for an initial comprehensive understanding of the site, before gradually moving to a 'dive-in' status. Spatial configuration, demography, rhythms of activities (what, when, and

where people do), as well as self-experience (e.g., first impression) were elements considered as what constitutes a field. Ethnographic drawings (Kaijima et al., 2018) were used to visually map the observed spatial characteristics and interactions among individuals and their surroundings in an analytical way. Rather than focusing solely on form and composition, the drawing process allowed the researcher to mimic the production process of space and reexamine architectural typology from a spatial practice point of view.

The act of drawing requires keeping looking for a relatively long time, which most people today have forgotten how to do it[2]. Drawing trained the researcher how to observe things with patience to be able to dig under the surface. What the researcher had overlooked became visible, such as Mao's portrait painted on the door lintel of a private house, which was used to replace the previous trace of religious beliefs, though being faded and partially obstructed by exposed electrical wires. This indeed demonstrates how history is layered and tradition seems lost but has left traces. Creating sketches and drawings on site also encouraged 'encounters' naturally with diverse population. Listening was the basic principle for interviews to probe a deeper understanding of spatial practices, everyday lived experiences, and their expectations. These casual talks were repeated to increase the reliability of the oral narratives.

The result of what you 'see' (which includes all sensual information) could transcend time and space. By combining different movements in time within one drawing, the researcher articulated simultaneity, revealing multiple meanings of a location (Figure 2). It was not about how many maps or drawings to create, but about delivering an analytical message and highlighting values of the site, which a photograph cannot achieve.

Data collection is never static. As fieldwork furthered, the researcher moved beyond the threshold of acceptance towards the understanding of what she was seeking, exactly as Rabinow (2007) reflected. It was time to question herself and the topic as to the state of data. The traditions, her initial topic, especially those conventional heritages such as fengshui practice and architectural materiality, have been lost in simplified memory. It turns out that villages themselves also pursued the appearance of modernisation. It was time to rethink what traditions are and what lived experiences mean. The questions were reformulated into: what are values of these villages as non-places, being neither urban nor rural? What are forms of tradition in the present and how do they interact with modernity? Gradually, by refining drawings as a reflection, a hypothesis arose that the past lives in the present with traditions embedded in forms of names, artefacts, buildings, and, more notably, daily practices. Villages are places where traditional and modern layers intersect and create a potential hybridity.

[2] The average time for looking at a graphic on small screen probably similar to the average shot length of 2.5 seconds.

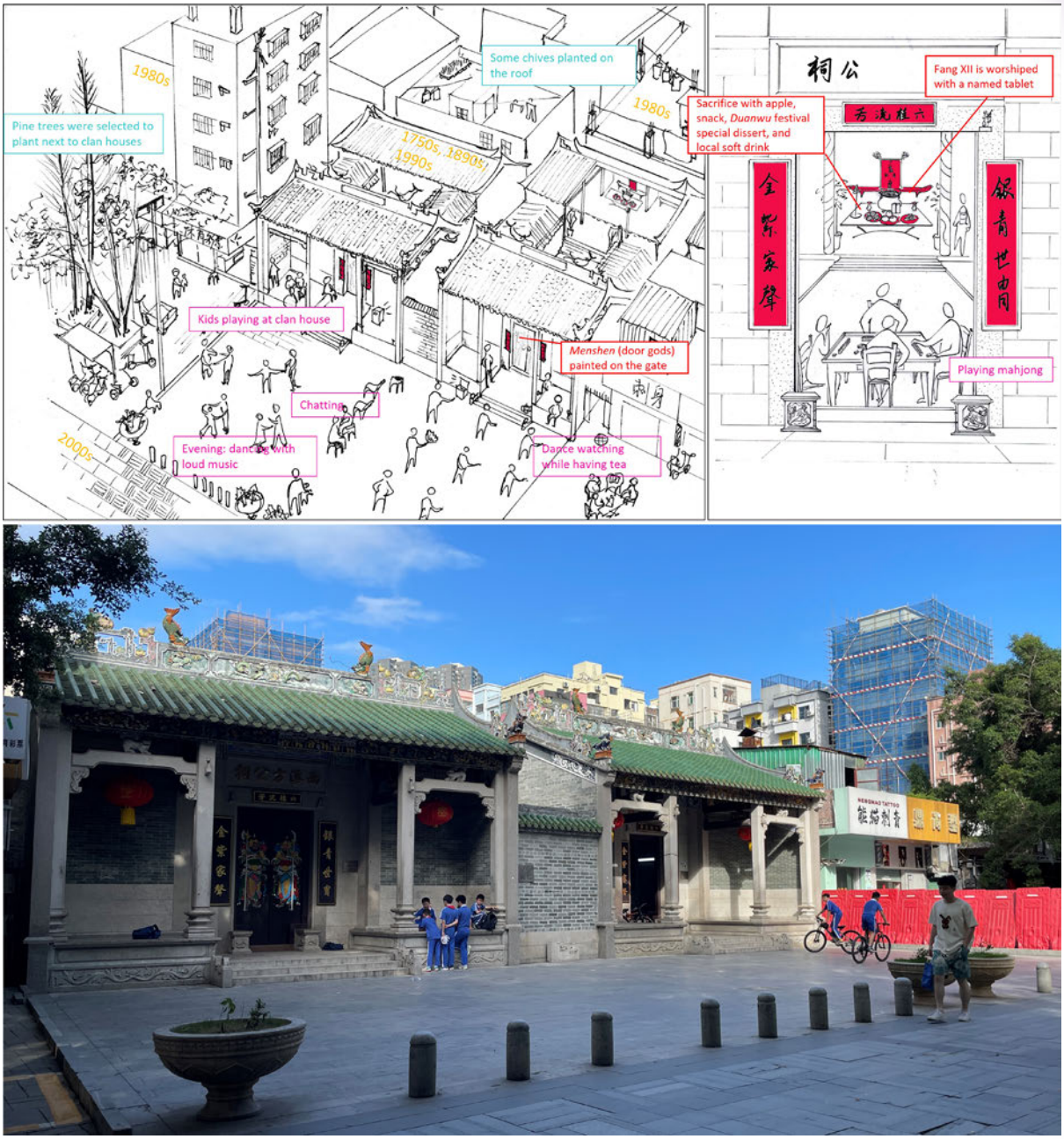


Figure 2: Using architectural ethnographic drawings to interpret and analyse data collected during the fieldwork. This research draws only qualitative data. Quantitative data can also be included, according to research objectives. Made by the authors.

2.3 Lessons from the field

Following a nuanced understanding and reflecting on the ongoing redevelopment project, alternative principles were proposed to guide future design and planning for a more inclusive approach. They are: step 1 reading a place as a network rather than from a zoning perspective; step 2 recognising the existing values; and step 3 (strategically) embedding or designing the state's vision of programmes and functions with consideration for the networks and layers of a place (Tan & Nguyen, 2024). Different from making a compromise among different or even paradox voices, this aims to mediate between state and local actors, and between formal regulative plans and informal practices.

Fieldwork is rather an explorative process. The preliminary topic and research questions help to focus, but 'being in the field' with an open mind, careful looking and listening allows you to be discursive in order to find a place's values. Fieldwork is not about justifying problems by collecting additional information from the field and adding it to the initial mappings and preproposed topic and theme(s). It is an important approach for reformulating problems, reframing themes, drawing upon what you 'see' and what you experience with encounters in the time and space, within the interconnected social, economic, and environmental contexts. It is these more nuanced and comprehensive readings of the existing in the field that bear the potentials for future actions towards socially and environmentally responsible design.

3. Fieldwork as transdisciplinary education agenda

We advocate that a transdisciplinary, hands-on curriculum focusing on approaching responsible design be developed through reintroducing fieldwork as a form of 'critical realism' (Ewing, 2011) and integrating it into design studios (Figure 3). The current curriculum is structured with a focus on knowledge and contextual literature (step 1) as well as design with visions and development of a toolkit for transformations (steps 6-7). Students are directed by the predefined themes (e.g., water, agriculture, and circularity) to dig problems, frame questions, and envision the future, rather than drawing from the field. Fieldwork is merely used for justification.

Thus, we emphasise the necessity of incorporating and strengthening four essential principles (steps 2-5). Reading and Encounters are what are missing from the current education and need to be added to train students how to 'see' and analyse what they 'see' in the field, using interdisciplinary methods. Practical knowledge thus engages with critical thinking over time. Themes and (Re)framing steps can be carried out

differently with a deeper understanding of the networked contexts and possible site values, which then lead to responsible actions.

We propose an optional hands-on session as part of the studio(s) during the first semester of the master's programme. This session may span three weeks for a quarter-long studio, focusing on methods for reading and being in the field while giving insights into site analysis. It can also be extended into a semester-long session that spans two studios, giving more emphasis on the reframing step. In both cases, intensive fieldwork will be applied. We anticipate that the educational approach, proposed through this manifesto, will not only bridge the gap between research and practice but also foster deeper contextual awareness and social responsibility among future practitioners.

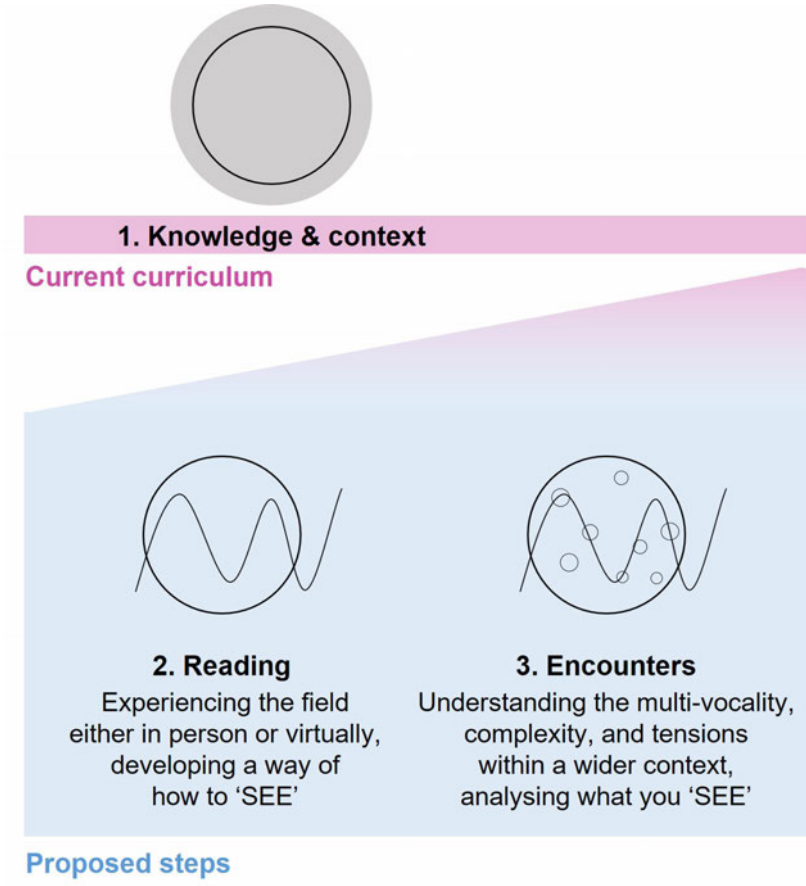
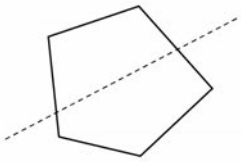
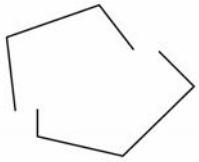


Figure 3: Hands-on course curriculum redeveloped by reintroducing and incorporating fieldwork. Image created by the authors based on Dorst et al. (2016).



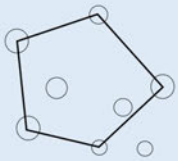


6. Futures

Exploring possibilities:
what qualities to intensify?
what could be the outcomes
?

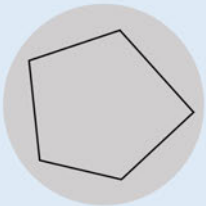
7. Transforming

Investigating design strategies
for community's collective ima
gination



4. Themes

Recognising values
of a place, based on the criti
cal appraisal of contexts



5. (Re)framing

Reframing questions and fo
rmulating hypothesis based
on the existing knowledge p
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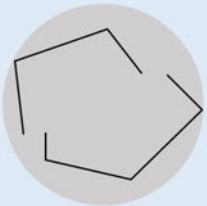

8. Learnings

Drawing lessons
in a long-term perspective

Acknowledgements

We thank our respondents, alumni and current students from MSc Architecture, Urbanism and Building Sciences, for giving unstintingly of their time.

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Diwen Tan, based at the Department of Urbanism, TU Delft, is an engineer, environmental and cultural geographer, and urbanist. Such backgrounds are obtained through education and professional development at UN Environment Programme. She obtained an MSc.Ir in Sustainable Energy Systems at the University of Edinburgh, the United Kingdom, and an advanced MSc. in Human Settlements at KU Leuven, Belgium. Her on-going PhD research integrates the disciplines of urban studies and anthropology for a better understanding of space, place, and landscape.

So Yeon Park is an assistant professor at the School of Architecture, Seoul National University of Science and Technology, South Korea. She earned her PhD in Architecture from Korea University and worked as a postdoctoral researcher at Delft University of Technology. Her expertise lies in analysing human behaviour in built environments using various methods, including VR experiments, surveys, interviews, systematic observations, and simulations. Her research provides evidence-based design strategies to enhance individuals' physical, emotional, and psychological well-being.