Reflection.

P4- Landscape Architecture Track
Liaw Su Xin 5091993

This document represents a reflection of the graduation project "Biodiverse. Resilient. Playscape" through the process, outcome and the relationships to other related fields. The discussion will be analysed from the product, limitations and further elaborated on the future plans of the project.

Relationship between research and design

The project aims to create a spatial framework for a biodiverse and climate adaptive playscape. The framework is applied to TU Delft campus as a test case. Design and research are the essential processes for the graduation project. During different stages, one might take more precedence than the other, but they are always influencing each other. The first part of the project involved intensive research on theoretical knowledge and subsequently transforming them into design toolbox through design process. The next part of the research is more about designing the campus through application of the research outcome in the campus. Throughout the entire project, the design-research process is not a linear nor straightforward one. But rather, research was also conducted by design while design was researched in the form of an iteration scenarios. The interconnected relationship between research and design is strongly represented in the process of this graduation project. It is an iterative process and hardly operated separately.

Approach

There is a systematic approach to the project. The theoretical research would generate a set of guidelines and toolbox which is to be applied to a test case site, TU Delft campus. The process is once again not a linear one as the designing of the campus would also generate feedback to improving the guidelines and toolbox. The non-linear process works to clarify and strengthen the spatial framework through trial-and-error testing on the campus.

For instance, the design toolbox, which was created from case studies and ideas for the site, provides a wealth of design approaches. However, it is still crucial to consider the local site conditions as some design toolbox cannot be applied to the context. Interestingly, adaptation of the design toolbox to the site limitation results in even more new design ideas.

design toolbox

new toolbox ideas

Also, there were plans to obtain thorough analysis of the site, but this depends on the availability of data. As such a mix of approaches were used, ranging from online research, documented books, site visit and QGIS analysis data processing software. For instance, in particular, the plan to perform a hydrology test on the campus and sites 1 and 2 did not work out. This is due to the difficulty in finding terrain models of the campus. With that, other approaches were used to understand the flood prone areas even though this does not reveal the sources of water accumulation.

There are limitations of the research-by-design. The project acknowledges that the water pattern experiment and spatial helophyte categorisation are not extensive. There are still unexplored iterations and endless possibilities. With that in mind, the research-by-design should not be treated as limiting options for other projects but rather, they serve as a starting point for the possibility of creating interesting water patterns and using helophytes to engage the 5 senses.

Conundrum

It is a blessing that TU Delft campus recognises the importance of sustainable design and the campus green manager Rene Hoonhout is also supportive of green initiatives in the campus. However, this might not always be the case. More often than not, there is a dilemma of the programmatic use of the space. Especially in cities, it is not easy to sacrifice practical spaces for human activities to nature needs. To solve this puzzle, it is important to first recognize the importance and value of nature. The valuation of natural capital and ecosystem services have been demonstrated by The Economics of Ecosystems and Biodiversity (TEEB) initiative. Win-win solution through multi-use programming that promotes sustainable usage helps to ease planning dilemma of urban space.

Mentor's feedback

It was really handy and helpful to obtain other perspective for the project and receive guidance for the research structure and direction. For instance, during P1, Nico suggested to define key terms in order to set out a common understanding since readers might have their own definition based on their own experience. This resulted in the development of the glossary which was mentioned early in the presentation. During P2 and the thesis consultations, Andy and Nico pointed out the missing steps of the project to ensure the coherence and flow of the project; when there was too much focus on details, the project was prompted to take a step back to establish a clearer link to the bigger vision

frame. They also prompted the consideration of other design options which translated into the design research by design scenarios. The engagement with the mentors resulted in a more holistic development of the project from the theoretical studies to framework application and designing.

Also, external commentaries were sought through consultation with guest lecturers, Anna Fink, Sjef Jansen, and Gabriël Geluk. Their expertise in play engagement, ecology and landscape engineering respectively provided guidance for representation and tips to fine tune the project across the scale. Working out the technical detailing of certain design features, such as the nature islands in front of 3ME, presented the opportunity to involve and engage people and nature in the island building process. Also, the discussion with Delfland Water Board reaffirmed the project's circular water approach and prompted the focus of site 3. With that, the next site design for TU South for P5 shall be about nature-inclusive and circular design of the buildings.

Final plans for graduation period

Between P4 and P5, the final part of the project of the design of the wetland cluster will be developed. Currently TU South has yet to be developed but there are plans for it to become an educational-business park. The design shall serve as a possibility of the architectural style on a wetland landscape. There will be a focus on the integration of water resilient solutions and nature-inclusive in buildings. In addition, there are plans for the modelling of the habitat mound in site 1 and the resurfaced creek in site 2. Lastly, there are plans to further the plans of the Christiaan Huygensweg Canal with Rene Hoonhout. The construction of the canal is planned to start in 2-3 months in the summer.

Relevance

The project is situated in the theme of sustainable ecocities. As cities expand rapidly throughout the world, the importance of urban ecology becomes more urgent than ever. The project aims to promote a new way of transforming and designing our cities and discover new ways of approaching urban nature through an ecological perspective. It bridges across different disciplines of hydrology, landscape architecture, sociology, environmental engineering, climate design and sustainability. With the case studies, the project supplements the research data on ecological and resilient playscape. The project aims to generate a framework which becomes relevant as a guide to be applied to other areas when striving for a biodiverse, climate adaptive playscape. Using TU Delft site, the project provides an insight on the application of the framework and showcases how a biodiverse and resilient campus might look like together with the potential of it. The project's research and the design component approach landscape architecture as an interdisciplinary field with many interacting components of complex relationship between entities. The project employs a multi-layered understanding of landscape, by accounting for the design across time and scale, the palimpsest layers and the spatial structure. The project respects and builds upon the Genius Loci and translate relevant ecocity principles and biodiversity challenges into the specific site in TU Delft. A university resembles cities on a smaller scale and hence the design principles and spatial frameworks would also be relevant to cities.

Landscape architecture- 4Ps

The project is part of the Flowscapes studio, the graduation studio of the MSc Landscape Architecture. There are four essential perspectives on analysis and design—perception, palimpsest, process, and scale continuum.

Perception focuses on the link between people and the landscape through a physical experience of the environment. This is most visible in the smaller and zoom-in area design scale. The project designs from the users' perspective through engagement of their five senses and creating relatable spatial variation of enclosure and openness through tools such as the spatial helophytes categorisation. The human's perspective is especially important in 'playful' design and the project explored different configuration of elements (natural materials and existing materials onsite) to provoke creative interpretation, a range of affordances and relation to the natural environment. The physical experience of the different landscape clusters is also unique. The forest cluster is characterised by multi-layered dense canopy with rich tiered undergrowth and short hindered view lines. Meanwhile, the wetland cluster has sparse trees and an open unhindered view and restricted but elevated accessibility.

Palimpsest builds on physical traces left behind. It is highly related to the specificity of the site. The unique topography gradient of a higher TU North to lower recessed TU South is key to the different landscape types within the campus. The physical historical trace is also revealed through resurfacing the 250 BC creek in delft. The creek design was elaborated in the river cluster and emphasised through interesting water patterns. Also, the history of the campus's landscape was studied, and it informed the development of TU Delft's landscape vision.

Process is about changes with time. The project considers process through the development of a three-year short-term plan and ten-year long-term plan of the Linear Aula Park along the Christiaan Huygensweg Canal. On a smaller scale, for instance the quiet nature islands in front of the 3ME building, there is consideration of how a design is executed with time and how the vegetation changes with time. The process of how water flow in the campus is also redesigned to become more circular with longer detention in localised areas and purification.

Scale-continuum. The design principles of ecology, resilience and play are applied through the scales from meso city scale to macro campus scale and micro specific site design and detail design. Each cluster specific elaboration aims to improve and expand its unique landscape characteristic. At the same time, they work together to form a larger network of patch connectivity within the campus. The concept of connecting green-blue corridors and patches means that the impact of the campus expands beyond its boundaries. The campus vision aims to strengthen nature infrastructure and integrate its surrounding: the Schie, residential areas and wet meadows/ wetlands of Abtswoudsehoeve. Together with green plans of the Delft municipality, the green and blue ring around delft shall be interweaved and connected into the city core.