

P4 Reflection

Student: Laetitia Devi Augustyniak (5852293)
Theme: Public Building Graduation Studio 2023-24 /
The Vertical Campus: A public hub of the future in the Hague
Title: Campus of Wellbeing: The Biophilic Knowledge Hub

1st Mentor: dr. Stefano Corbo
2nd Mentor: ir. Florian Eckardt
3rd Mentor: dr. Sang Lee
Delegate: ir. Christian van Ees

1. *What is the relation between your graduation project topic, your master track (A, U, BT, LA, MBE), and your master programme (MSc AUBS)?*

Architecture is an interdisciplinary profession consisting of art, technology, philosophy, natural sciences, engineering, and sociology. It operates on various scales, in terms of size and user numbers, and concerns every human, particularly those who live in dense cities. In contemporary societies, people spend most of their lifetime inside buildings. Moreover, architecture requires a lot of common goods such as materials and financial resources, and also, an architect always designs for others. Hence, they have great responsibility for how these finite resources are spent, especially when designing a public building. They need to be spaces that serve a diverse user group, coming from different backgrounds. This requires openness, inclusivity, and the need to offer space that benefits this variety of users and the society where this public building is located.

The Public Building Graduation Studio topic to design 'The Vertical Campus: A public hub of the future in the Hague' already consists of the aspect of mix-use and programmatic hybridity. It aims to connect and be inclusive to different user groups by proposing a campus that not just includes higher education, but also offices and public program. Based on this, my research is adding to the studio assignment by investigating how space can be designed with biophilic design principles to support the wellbeing of its users inside, and the urban fabric outside on an architectural level. Additionally, by choosing a building site on the edge of the park in the Hague (the 'Koekamp' in front of the Hague's central station), with my graduation project, I wanted to challenge to not just design a building, but a green hybrid, a typology that merges architecture and nature to blur their boundaries and dissolve this urban 'Green Border'.

2. *How did your research influence your design/recommendations and how did the design/recommendations influence your research?*

The research for my design was divided into two aspects: Literature research and the method 'Research by Design', the general approach of the Public Building Graduation Studio.

In the beginning of the design process, the literature research gave me the needed theoretical framework and foundation to assess the relevance of my initial ideas and settle them into a broader academic and societal context. I've found a variety of research on the three components that my topic consists of:

1. The current state of mental health of students in higher education especially during and after the COVID-19 pandemic,
2. Studies that investigated how nature can promote human's wellbeing, and
3. How the implementation of biophilic design in general can benefit the urban fabric in regards of biodiversity or heat stress.

Thus, the literature research laid the foundation for my overall design goal to focus on wellbeing in correlation to biophilic design, when approaching the assignment of the Vertical Campus.

Simultaneously, I was following the studio's method of 'Research by Design'. Since this method unites research and design, and doesn't divide it into two successive steps, it enabled the possibility of integrating these both aspects because research and design were constantly influencing each other.

For example, during the process I was researching the aspect of how a typology would need to be physically expressed when building on a site like the 'Koekamp' park in the Hague. It had different requirements and constraints because of its location in a natural environment but still being in direct contact with the urban fabric of the city center.

Thus, when I began to approach the first conceptual massing ideas, I recognized that a linear method of starting with a site analysis and then going into the design process wouldn't work with this project. I noticed that my design options in the beginning weren't reacting to the site conditions and didn't fit. They were too compact and looked like conventional buildings that were imposed on a natural environment. It showed me that I needed to shift my research focus in that part on how to become more permeable with the design, and that I would need to design a project that goes beyond a building, a hybrid typology that merges nature and architecture. These insights then influenced my design approach in the following massing studies, which eventually led to the final design.

Even though my overall focus on wellbeing and biophilic design always stayed as my guiding principles, research and design were constantly and mutually influencing each other when creating this project.

- 3. How do you assess the value of your way of working (your approach, your used methods, used methodology)?*

The chosen methodology of combining literature research and 'Research by Design' created the possibility to tackle the complexity of the general studio assignment of a Vertical Campus in the Hague and my research on how biophilic design could promote mental health and wellbeing in a vertical structure on various layers. The literature research gave the theoretical foundation and the method of 'Research by Design' enabled the possibility to investigate how these ideas could be translated into actual space and architecture. Finally, this methodology allowed me to achieve a result that aligned with my overall project goals.

When approaching the structural configuration of the project, I started by setting guidelines that were aligned with my overall design objectives. These were developed from the building program, theoretical research and chosen building site, and consistently evaluated and adapted during the process. For example, in the beginning of the design on the urban level, I was looking into the

movement of users, sun path, the environmental constraints of the site such as the vegetation, topography and location of the creek, and its location of being in direct contact with the urban fabric in the center of the Hague. These considerations resulted in guidelines such as taking the position of the existing trees into account, having a low building-footprint, to design a building which would react to the various axes the building site offers compared to a rectangular street layout and especially the goal to merge city and nature.

Furthermore, I was developing a systematic approach on the architectural level based on the requirements of the mixed-used building program consisting of public, university, and offices, linked to my research on biophilic design in correlation with wellbeing. This led to the design of a 'Biophilic Space Catalogue' that reinterprets the given design brief and proposes specific spaces that aim to enhance the wellbeing of the students and users based on biophilic design principles. Furthermore, taking the diversity of the building program into account influenced the design of programmatic clusters which are then partially overlapping and connected to create hybrid spaces. These give opportunities for different user groups such as the public and university to exchange and meet.

In general, this approach of defining certain objectives or guidelines during the process, from urban, architectural to technical scale, has contributed to systematize decisions and create an understandable framework.

4. How do you assess the academic and societal value, scope, and implication of your graduation project, including ethical aspects?

As I stated in my Graduation Plan, many students in the Netherlands experience mental health issues, which prevents them of reaching their actual academic potential (RIVM 2022). Furthermore, individual health is a foundation for a functioning society. Besides that, due to the reason that the urban populations are globally growing, and the United Nations' prediction is that by 2050 about 68% will live in cities (United Nations 2018), there is the question on how urban densification can be done and planned not just horizontally, but in particular vertical. One of the challenges hereby is on how this can be achieved without decreasing the quality of life in cities, health of humans and in general ecosystems, animals, and vegetation in correlation to climate change.

Thus, with my graduation project 'Campus of Wellbeing: A Biophilic Knowledge Hub', I'm contributing to two overarching themes: (Mental) Wellbeing in higher education and urban densification in the vertical dimension. Thus, it's adding to the question of how a Vertical Campus can be nature-inclusive by benefiting its users and environment without decreasing the quality and amount of horizontal green spaces. It's also contributing to the architectural profession by proposing spatial solutions on how urban fabric and green spaces could be merged in verticality. Additionally, this project shows another possibility on how the public can be directly included into a (Vertical) Campus.

5. How do you assess the value of the transferability of your project results?

While the actual physical articulation of my design of the 'Campus of Wellbeing' can't be transferred because it specifically designed for the site and the Dutch and international society

from The Hague, there are overarching ideas, concepts, and a way of thinking that can be extracted from my graduation project which could be transferred and adapted to other projects.

In terms of 'way of thinking', one of the transferable results I gained was how I can approach a project differently. The idea is to perceive challenges and the choice of constraints as a driver for not immediately obvious architectural solutions. In this case, it started for me with recognizing the social tension, when proposing ideas of building in the park and the strong response to protect the public green areas. This topic became a focal point in my group's P1 presentation and the questions we received regarding our urban proposal to merge city and park. Even though I did and do understand the perspective and worries regarding that topic, it led me to question why it seems to be common ground and a widely agreed opinion, and by challenging that, how we can get to unexpected results.

Besides that, I can transfer the general knowledge that I've gained through the research on architectural references, the theory of the concept of biophilic design and its correlation to wellbeing, and the variety of design options on an architectural, structural, and technical level.

6. Debate around biophilic design, the use of greenery in architecture and 'Green Washing'

One of the aspects that my tutors challenged me to reconsider constantly during the different phases of the project was to critically question the concept and articulation of biophilic design and the relationship between architecture and nature. It shifted my attention to the possible issues of using greenery in architecture, when it's just used as a marketing strategy to let a building look more appealing by adding plants and trees, hence 'Green Washing'. Because due to the raising awareness of climate change and the effects on cities such as heat stress and a high number of sealed surfaces which can cause water management issues, biophilic design and adding greenery became a kind of trend in architecture.

The discussions with my tutors and these considerations led me to focus and delve deeper into reading various research papers of studies that are aiming to scientifically prove that certain biophilic design principles can enhance for example wellbeing, academic performance or even creativity. However, some research papers were also stating that even though there seems to be evidence that nature and biophilic design can improve wellbeing, there is still the need for more research and studies on that topic (Zhong et al. 2022).

7. General conclusion

The Graduation Project was a process to reconsider what I have learned during all of my architectural education. It was an opportunity to recognize certain design dogmas, concepts, values, and patterns that I had established during the recent years of my studies. They were valuable knowledge during the process of learning and take an important place in the architectural knowledge that I have right now. However, when I was starting with the graduation project, I realized during the process a drive and wish to challenge myself to develop ideas that I couldn't think of and imagine in the beginning and to go beyond my current capabilities because I was aware that there are always more possibilities.

Finally, I can see in the result that I was able to go beyond what I could've imagined at the start of my graduation project. In this context, I'm grateful for my tutors because it was only through their support, discussions, input, feedback, and questions that constantly challenged me to look further into the various design aspects and topics, so that I was able to develop this graduation project.

8. References

- RIVM: Rijksinstituut voor Volksgezondheid en Milieu (2022). *Monitor Mentale gezondheid en Middelengebruik Studenten hoger onderwijs. Deelrapport I. Mentale gezondheid.* <https://www.rivm.nl/publicaties/monitor-mentale-gezondheid-en-middelengebruik-studenten-deelrapport-1>
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- Zhong, W., Schröder, T., & Bekkering, J. (2022). Biophilic design in architecture and its contributions to health, well-being, and sustainability: A critical review. *Frontiers of Architectural Research*, 11(1), 114–141. <https://doi.org/10.1016/j.foar.2021.07.006>