

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

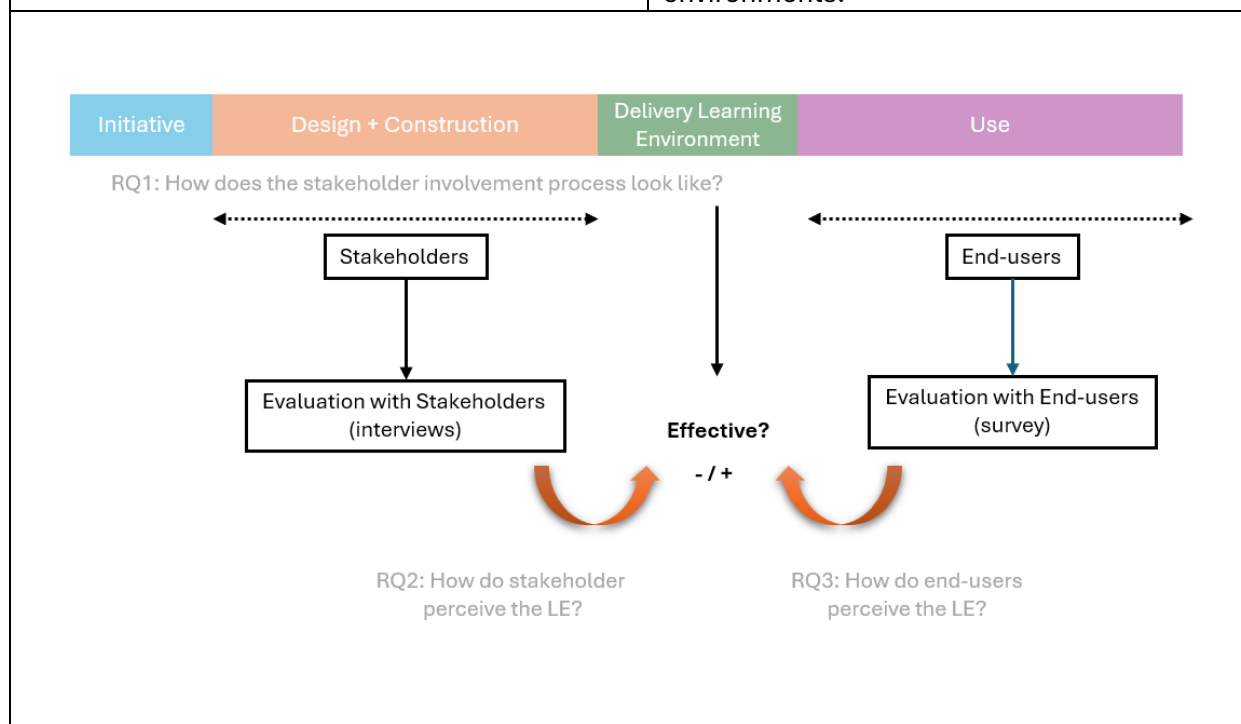
Personal information	
Name	Julie Tazelaar
Student number	5057698

Studio		
Name / Theme	MSc Graduation Laboratory Management in the Built Environment - Theme: Value in Corporate and Public Real Estate	
Main mentor	Monique Arkesteijn	Real Estate Management
Second mentor	Vitalija Danivska	Real Estate Management
Argumentation of choice of the studio	After a year of studying MBE and exploring all its courses and fields, I realized that my greatest interest lies in Real Estate Management. I was particularly drawn to the strategic aspects of managing large portfolios, such as those of public-private institutions, and the challenge of finding solutions that satisfy diverse stakeholders. How do you balance the needs and desires of various actors while still achieving the best possible result? This led me to choose the study of Value in Public and Corporate Real Estate, with a focus on stakeholder involvement. I decided to apply this research to learning environments, as universities also deeply interest me, partly due to my experience in the student council at TU Delft.	

Graduation project	
Title of the graduation project	Creating Effective Learning Environments: The Power of Stakeholder Involvement
Goal	
Location:	The Netherlands
The posed problem,	The creation of effective learning environments that align with the digitalisation and flexibilisation trends in contemporary education heavily relies on the involvement of stakeholders (Frelin & Grannäs, 2021; Könings et al., 2014; Pnevmatikos et al., 2020; Rudman et al., 2018; Victorino et al., 2022). Stakeholders play a crucial role in shaping these environments to meet educational objectives and user needs. However, there is limited understanding of how the stakeholder

	involvement process specifically unfolds in the creation of learning environments within university real estate. While several general frameworks exist for stakeholder involvement, offering guidance on who to involve and how to engage them, there is limited research specifically addressing stakeholder involvement processes in the creation of learning environments. Although some studies explore how stakeholder involvement was applied in specific case studies, little to no research has been conducted on the stakeholder process within learning environments as a distinct field or on the optimisation of this process. It also remains unclear how stakeholder contributions are managed and whether these inputs effectively translate into spaces that fulfil the expectations and requirements of end-users.
research questions and	The main question of the research is as follows: <i>"How can stakeholder involvement be optimised in the creation of effective learning environments in university real estate?"</i> In order to answer this main research question, sub-questions are formulated. Those sub questions are listed below and help to make the research structured and insightful. SQ1: How does the stakeholder involvement process look like in the creation of effective learning environments? SQ2: To what extent do stakeholders perceive their input and expectations as reflected in the final learning environments? SQ3: How do end-users perceive the effectiveness of the learning environment, and does this align with what stakeholders consider successful?

design assignment in which these result.	The conceptual research model displays a timeline in which the process of creating a learning environment is simplified. It highlights the key phases of this process and maps the involvement of two distinct groups of actors: stakeholders and end-users. By identifying when and how these groups contribute, the model provides a structured basis for evaluating their roles. The evaluations will analyse the extent to which stakeholder input and expectations are reflected in the outcomes and assess whether these outcomes align with end-users' perceptions of an effective learning environment. This approach will ultimately help determine how stakeholder involvement can be optimized to enhance the effectiveness of university learning environments.
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Process

Method description

The research process began with formulating the problem statement, supported by insights from relevant papers and articles. Then the literature study was conducted, which made it possible to sharpen the research gap and problem statement. After the literature study, the empirical studies

The first empirical component involves conducting case studies to gain a deeper understanding of the stakeholder involvement process in creating effective learning environments, addressing sub-question 1. The analysis will include document studies, focusing on examining stakeholder involvement across all phases of the design process for the learning environments. The document

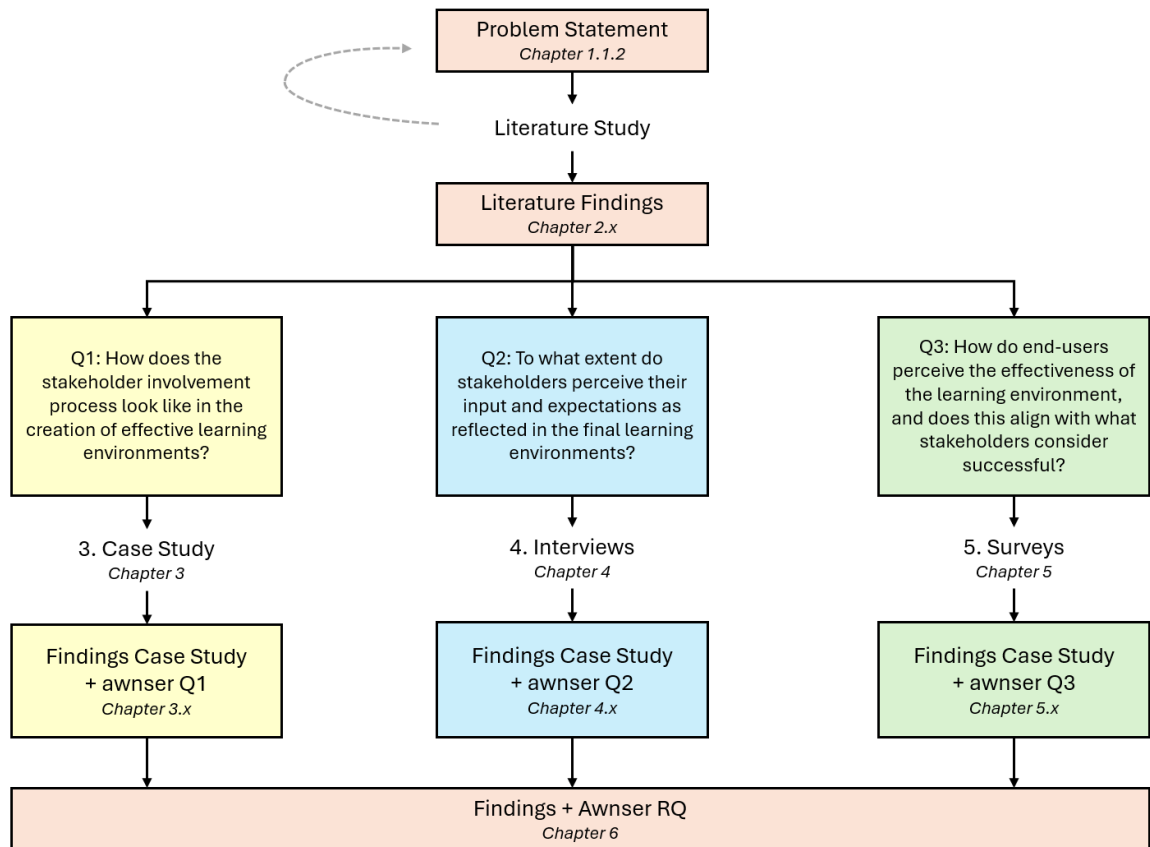
analysis will investigate documents related to each case, including project plans, reports, and records of stakeholder interactions.

Next, an evaluation of the created learning environments will be conducted. This evaluation will involve two different groups: the stakeholders who were engaged in the design of the learning environments and the end-users of these spaces. This will be done using interviews and surveys, focusing on the same cases as the case study.

For the involved stakeholders, semi-structured interviews will be used. This interview method is chosen to gather in-depth insights from stakeholders involved in the creation and design of the learning space and to understand how they perceive the resulting spaces. The semi-structured format encourages two-way communication, facilitating in-depth discussions on various topics, with flexibility to adapt questions to uncover new insights as they arise (Blaikie & Priest, 2019). The findings from the interviews will provide insights to address sub-question 2.

Surveys will be conducted with the end-users of the learning environments to gather insights and answer sub-question 3. Through a questionnaire, users of the space will be asked how they experience the learning environments, allowing an assessment of whether the goals intended by the involved stakeholders are realised in practice.

This mixed-method research follows an exploratory procedure, with the qualitative data collection phase occurring first, followed by the quantitative data collection phase. In this way, the initial qualitative phase can help identify unknown variables and serve as input for the quantitative research (Blaikie & Priest, 2019).



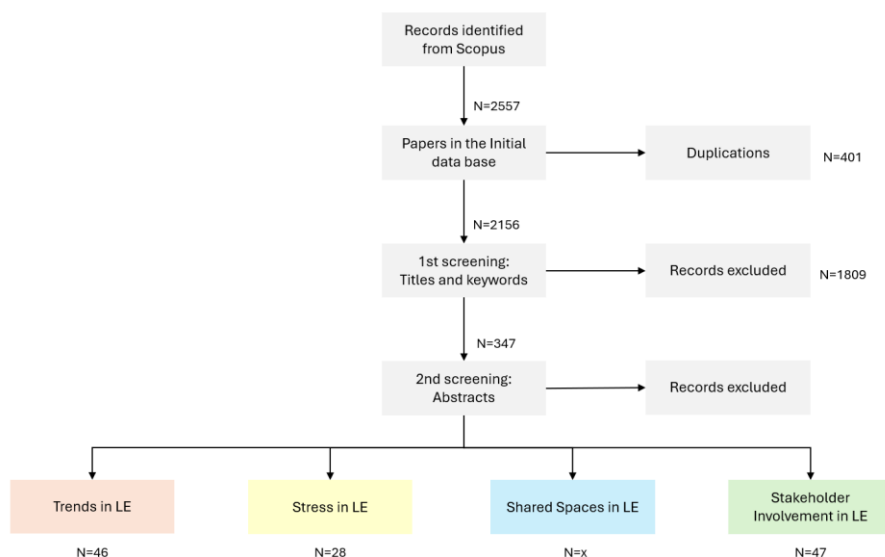
Literature and general practical references

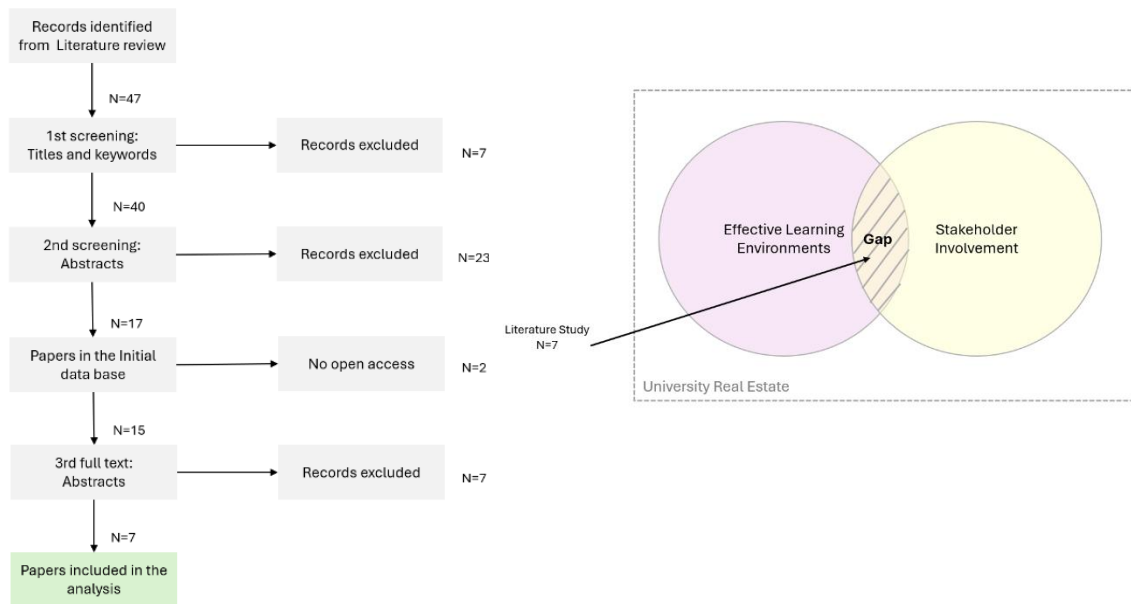
A systematic literature review has been conducted to explore existing knowledge on stakeholder involvement processes in the creation of learning environments. This review examines what is currently known about these processes, who has researched these topics, how they have been studied, and identifies any agreements or controversies in the literature.

My primary supervisor, who is part of the Campus NL research group, is conducting research on trends within learning environments. Alongside supervising my thesis, she is also guiding two other graduate students, one focusing on learning environments in combination with shared spaces and the other exploring their relation to stress. To maximize efficiency and ensure a comprehensive review, we collectively decided to conduct an extensive literature search as a team. By pooling our efforts, we broadened the scope and depth of the search, enabling a more thorough understanding of the diverse aspects of learning environments.

The search process in Scopus focused on trends within learning environments, guided by a brainstorming session in which the team identified key search terms. These terms were categorized into four main aspects. The first aspect focused on the educational theme, using keywords such as "education" and "learning." The second aspect addressed the context of the environments, incorporating terms like "university" and "higher education." The third aspect captured the physical dimension of learning environments, with keywords including "space" and "real estate." Lastly, the fourth aspect emphasized contemporary relevance by including terms such as "trend" and "innovation." To ensure reliability, each article was reviewed by two individuals during both the title screening and abstract screening phases. The articles were assessed for relevance to the four research topics within the Campus NL project: research on learning environments, shared spaces, stakeholder involvement processes, and stress in learning environments.

This systematic evaluation process resulted in a refined selection of articles for each topic. For Stakeholder involvement processes within learning environments, the number of relevant articles was narrowed down to 47. After doing a screen process on these, I kept 7 papers which fit in the gap of my literature search .





Reflection

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

The topic of my graduation project, *"Optimising Stakeholder Involvement in the Creation of Effective Learning Environments in University Real Estate,"* directly aligns with the studio theme, "Adding Value in Public or Corporate Real Estate." My research focuses on stakeholder involvement as a means to enhance the effectiveness and value of learning environments in public real estate, such as university campuses.

My topic is also really relevant within my master track, Management in the Built Environment (MBE), which emphasizes value-driven decision-making, stakeholder engagement, and strategic management in the built environment. By investigating how collaborative processes can lead to spaces that better meet the needs of both stakeholders and end-users, my research contributes to understanding how to optimize value creation in complex real estate projects.

At the program level, the MSc in Architecture, Urbanism, and Building Sciences (AUBS) encourages interdisciplinary approaches to address societal and environmental challenges in the built environment. My project reflects this by integrating insights from design, management, and user experience to propose strategies that align stakeholder processes with desired spatial and operational outcomes.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

Scientific Relevance

This research is scientifically relevant as it addresses the current gap in systematic knowledge regarding stakeholder involvement processes in the creation of university learning environments. It examines not only how, when, and which stakeholders should be involved but also how these processes can be optimised to enhance their effectiveness. By focusing on both the structure and

optimisation of stakeholder involvement, this study aims to contribute to the development of processes that lead to the creation of more effective and user-centred learning environments.

Moreover, this research explores the optimisation of stakeholder involvement processes, shedding light on how these processes can be structured to enhance the quality and functionality of learning spaces. By situating its findings within the context of higher education, it expands existing theoretical frameworks on stakeholder involvement, integrating learning environment-specific objectives. This evidence-based approach contributes to the development of more effective and adaptive learning environments that respond to the evolving needs of contemporary education.

Social relevance

The social relevance of this research lies in its potential to enhance the quality and effectiveness of learning environments within university real estate by focusing on stakeholder involvement. Involving stakeholders in the design and development of learning spaces ensures that these environments better reflect the needs and preferences of their users (Gatlin, 2021; Victorino et al., 2022).

Furthermore, by examining the perceptions of stakeholders and end-users, this research can provide insights into how these groups define and experience the success of learning environments. Optimizing this involvement process and gaining a better understanding of the needs and preferences of stakeholders who benefit from an effective learning environment can lead to spaces that are more inclusive, accessible, and conducive to collaboration. Ultimately, this can improve user satisfaction, educational outcomes, and the overall campus experience.