

Establishing citizen participation in real estate domain.

A case study of Campus & Real Estate division of Delft University of Technology

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The thesis is an ending chapter of a master student's life. It was a short journey in time, but a long one in terms of experience. Despite it being an individual path, many people had been walking along with me. Without a great deal of support from everyone, I would not have a project which I am so proud of.

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*"It is good to have an end to journey toward, but it is the journey that matters in the end."
-----Ernest Hemingway, novelist, Nobel prize winner*

Table of contents

Contents	Pages
Executive summary	1
Introduction	3
Project overview	5
Project background	7
Initial research	9
Participatory design	10
Definition	13
Level of participation	14
Participatory design in practice	16
Value of participatory design	19
Challenges in implementing participatory design	20
Conclusion	21
Citizen involvement in Delft University of Technology	22
Campus model	24
Campus becoming a city	25
Campus and citizens	26
Conclusion	27
Campus&Real estate division (CRE)	29
Campus and real estate management in theory	31
Campus real estate management in practice	33
CRE and citizens(user)	36
Challenges in implementing participatory design	38
Conclusion	40
Initial research conclusion	41
Design direction	43
Opportunity	45
Approach	46
Idea generation	46
Idea selection	50
Preliminary session design	51
Session design	51
Evaluation	53

Contents	Pages
Design experiment	55
First session	57
Session design	60
Session result	69
Lessons learned	72
Evaluation	74
Second session	80
Session design	78
Session result	80
Lessons learned	80
Conclusion	82
Value delivery	85
Final outcome	89
Implementation plan	93-116
Participation framework	95-115
Participation toolkit	108-112
Epilogue	117
Conclusion	118
Limitation	119
Future recommendation	120
Reference	118
Appendix	120

Executive summary

Universities in the Netherlands are challenged by the changing campus development landscape, as the number of students is outpacing the public funding and the role of universities is shifting towards a city. Universities could function as a city, or even become the city (Heijer and Magdaniel, 2012). They become an important driver for the economy in the city. Collaboration between the public sector and the private sector has become increasingly important in managing the campus. Therefore, the university is expected to contribute in a meaningful way to not only education, but also to society (Bokhari, 2017; TU Delft, 2017). The changing role of campuses challenges Delft University of Technology (TUD) to function as a city, governing and addressing its citizens in the same way as the city does.

The recent trend in public development is citizen participation. The central government of the Netherlands promotes a collaborative way of working between citizens and local authorities (Government of The Netherlands, n.d.). Several participation related projects have been presented, such as Omegevingswet, Delfts Doen!, and Delftenaren maken de stad. Corresponding to the need for a collaborative process in public development, TUD has to ensure to involve its citizens, students, and employees in the campus development. An attempt is presented, as Delft city and TUD signed the Covenant Gemeente Delft & TU Delft to develop the Delft city in the social and economic dimensions. However, to involve citizens in the campus development process is not straightforward .

This study aims to design a comprehensive implementation plan for the Campus & Real Estate (CRE) division of Delft University of Technology (TUD) to promote citizen participation in campus development. The initial research question was formulated: 'How to involve the citizens of TUD in the campus development process?'. In this context, citizens mean people who work, study, and live on campus. The main methodologies applied are literature review, interview, and research through design.

The research result shows that participatory design (PD) is relatively new to real estate domain. Several challenges of implementing PD were discovered. The TUD campus development process has limited citizen involvement, as it uses a conventional real estate management approach. The prominent challenge is the misconception about the concept of users, as well as the difficulty envisioning the value that PD can bring from a CRE's business point of view.

Therefore, the demonstration of participatory design conducted aims to deliver two values; to get CRE closer to citizens and foresee the value of PD through experimental cases with CRE.

The experiment cases brought CRE closer to users and showed how citizen participation could help CRE create a functional program; hence, a program of requirements in a relatively short time. The functional program that meets the needs and concerns of citizens can eliminate the chance to invest in the irreverent, undesirable spatial solution.

The comprehensive participation plan was developed to foster the implementation of citizen participation in CRE over a long timeframe. The ultimate goal of the plan is to gradually establish citizen participation in CRE. The plan consists of an implementation plan, participation framework, and participation toolkits. They provide a practical suggestion and guidelines to systematically follow.

The implementation plan provides a high level suggestions for real estate companies to set the stage of the implementation program by setting the goal, KPI, and evaluation plan.

The participation framework provides a holistic view of a participation program and an action plan in relation with actors, tools, and required action. It aims to enable replication of the participatory process.

The participation toolkit supports the execution of the participatory session.

On the basic level, it is recommended that CRE use the plan to start implementing citizen participation. Further research and experiments are needed to complete a detailed plan in of every steps. It is advisable for CRE to follow the implementation plan and execute a couple of cases to determine if the PD is a suitable approach for the organization, if the value is worth the investment, and if the organization should sustain the PD in the future.

Introduction

Universities in the Netherlands are challenged by the changing campus development, as public funding is decreasing and the role of universities is shifting towards a city. They are expected to contribute in a meaningful way to not only education, but also a society (Bokhari, 2017; TU Delft, 2017). Campuses are becoming cities and are expected to treat its citizens in the same manner as the city does. Thus, democratic practice needs to be promoted.

Delft University of Technology (TUD) is aware of these challenges and responds to them. TUD aims to create synergy with the municipality of Delft to tackle economic, societal, and environmental challenges. The plan aims to develop Delft City into a knowledge city, which attracts innovative businesses, knowledgeable workers, and ambitious students (Heurkens, 2015). In 2017, they signed the Covenant Gemeente Delft & TU Delft. The covenant aims to strengthen cooperation between the two organizations to sustainably increase the international competitive advantage of the city as a whole. The covenant covers three themes; 'City and campus, campus and city', 'Ecosystem for a knowledge economy', and 'University community, city, and resident'. Another attempt is shown in the strategic framework 2018-2024, as it encourages co-creation in the development of the campus.

Nevertheless, the current TUD campus development processes have limited citizen involvement. It uses a conventional real-estate management approach. For example, the Campus & Real Estate (CRE) office presented a plan, 'living campus', which emphasizes the public space design using a landscape approach, green and blue in design. The living campus plan aims to develop a campus that is pleasant to use and to be in. The plan aims to enhance connectivity and accessibility within the campus and across the Delft city by minimizing vehicle parking, increasing the park area and cyclist lane, and improving walkability. However, the perspective is tied with landscape design from a top-down view, with a limited attempt to ask for citizen's opinions. Citizen's opinions have the least influence over the design. In order to promote citizen participation, a new approach is needed.

The mix-used facility which encourages encounters and informal meetings is proposed.

Participatory design (PD) is noteworthy for its ability to involve citizens in urban planning which affects the lives of citizens. It engages citizens in a meaningful way and establishes trust between them and authorities. The involvement and close connection contribute a viable, feasible, and desirable outcome. For example, by listening to and understanding the problems of residents, a developer can create a functional program that addresses the real needs and concerns in a relatively

short time. It helps them avoid investing in an undesirable development or a failed investment and gains them a good reputation. TUD, with a new role of being a city, should adopt PD in order to promote citizen participation.

The Delft Design Lab (DDL) Participatory City Making, which is initiated by the Industrial Design Engineering Faculty, have the knowledge and expertise on participatory design processes. Therefore, the Lab is a perfect candidate to explore the possibilities of using participatory design processes and tools for the development of the campus. This graduation project will be a first explorative collaboration between TU Delft Campus Real Estate and the DDL Participatory City Making. The outcome of the project will help the TU Delft CRE to use participation tools to support citizen participation to create a better campus.

Project overview

The project can be divided into 3 phases.

The first phase is the initial research phase. This phase aims to clarify the context of the project and find the opportunity to adapt participatory design in CRE. The initial research question is 'How to involve citizens of TUD in Campus & Real estate development?'.

The second phase is the research through the design phase. This phase aims to develop the participation toolkit for CRE by using research through design approach. The scope of the project narrows down to 'How to ignite participatory design in the Campus & Real Estate office?'.

The last phase is the final deliverable. The result from research and experiments are analyzed and synthesized to design the implementation plan of citizen participation for CRE. The outcomes are implementation plan, participation framework, and participation toolkit.

Chapter : Initial research



Chapter : Design direction



Chapter : Design experiment



Chapter : Value delivery



Chapter : Final outcome



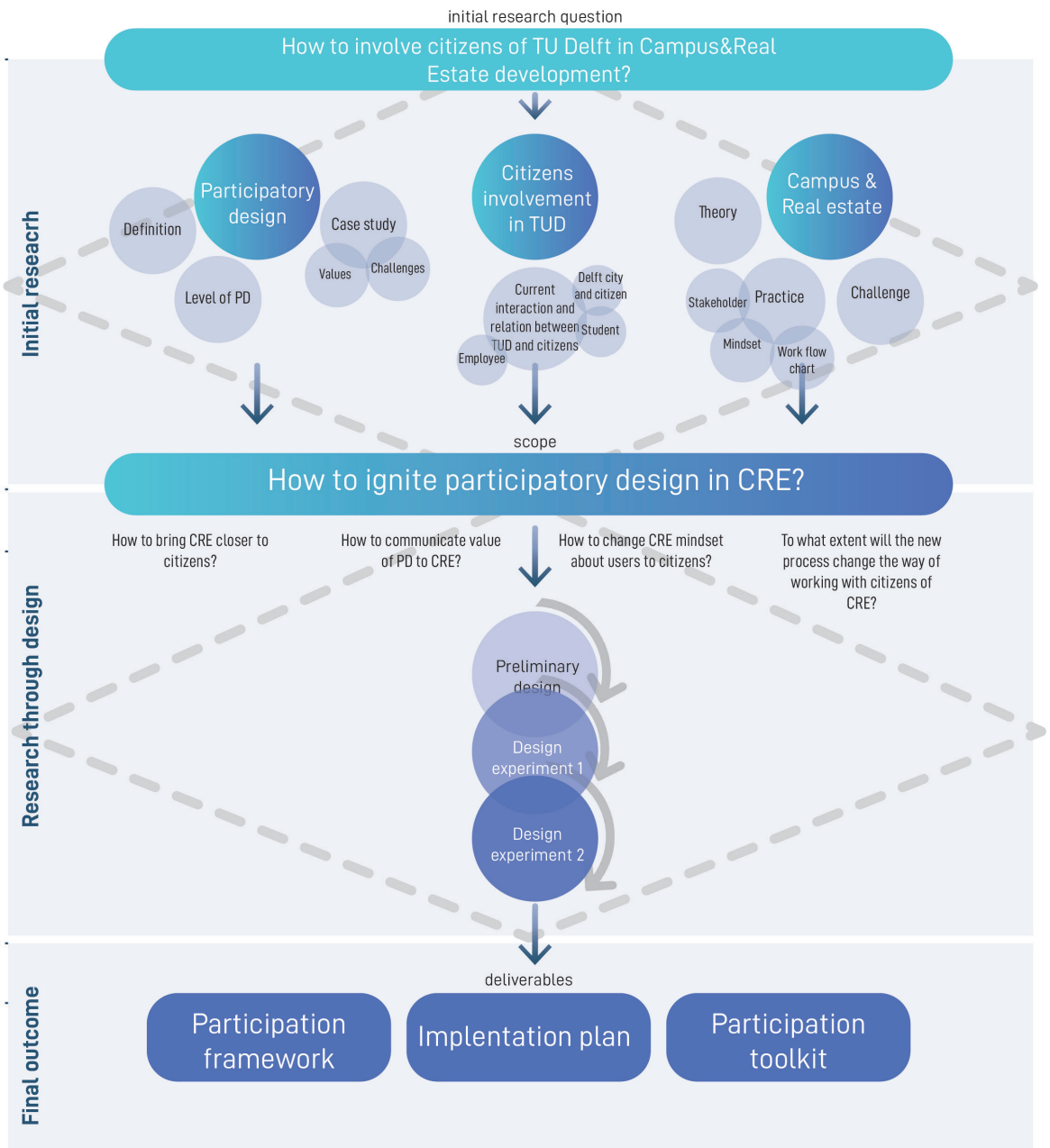


Figure 1: An overview of design process of thesis

Project background

In the Netherlands, the connection between the university and the city has been strongly reinforced. The city grows according to the growth of the university. The university's purpose extends beyond being a knowledge provider, to driving socio-economic factors and supporting sociocultural activities (Heijer et al., 2015). Collaboration between the public sector and the private sector has become increasingly important in managing the campus.

The role of the campus is shifting towards integration with the city. The boundary between university and city is blurred; the campus area will become a public space that everyone can access (Heijer, 2011). The exchange of the intellectual asset is enabled across local society, university, municipality, and businesses. The new way of working will become more collective and include all stakeholders. The future of university is that it could function as a city, or even become the city (Heijer and Magdaniel, 2012).

The changing role of the campus inevitably challenges Delft University of Technology (TUD). It has to function as a city and govern and address its citizens in the same way as a city does. TUD cannot just be an education provider, but has to be a supporter of campus livability and increase its accountability.

Citizen involvement or citizen participation is a new and collaborative way of working between citizens and local authorities. Recently, the central government of the Netherlands promoted a new and collaborative way of working between citizens and local authorities, named 'Do-ocracy.' The strategy emphasized citizen participation in the city development process. Instead of sanctioning policy from the top-down order, citizens and local authorities have to work together to solve a problem (Government of The Netherlands, n.d.). The solid citizen participation program is presented in the Omegevingswet plan, which will be officially active in 2021. The plan encourages citizens' initiatives to influence the environment that they live in, by, for example, turning abandoned space into a playground or converting an old windmill into a cafe. Correspondingly, Delft municipality runs the project 'Delfts Doen!, Delftenaren maken de stad' (Delfts Done!, Delft people making the city'), which encourage initiatives and collaboration between citizens, authorities, and organizations.

The rise of participatory design is compatible with high democratic awareness among citizens. Citizens become more proactive than ever. They want a voice in public development which affects their environment. In highly democratic societies, devising policy in a top-down manner cannot be sustained and might dissatisfy citizens, or even lead to protests in a worst-case scenario. The resultant resistance will pressure authorities to stop working on a project, resulting in a loss of effort and investment.

Another prominent challenge is the increasing number of students, which contradicts the insufficient public funding. The number of students is expected to rise to 25,000 in 2025. Space will become scarce and any investment decision has to be made consciously.

The design method that is suitable for this challenge is participatory design, because it is naturally based on a democracy which aims to engage citizens in the public development process and promote a collective way of working. Engaging citizens in an early stage of a project has proven to increase acceptance and ownership (Kang et al., 2015), hence reducing resistance over the changing environment. It creates a connection and trust between authorities and citizens. The involvement and close connection leads to an on-point investment and desirable outcome. For example, by

listening to and understanding the problems of residents, a developer can create a functional program that addresses the real needs and concerns in a relatively short time. It helps them avoid investing in undesirable developments or failed investments and gain a good reputation.

Corresponding to the need for a collaborative process in public development, TUD has to ensure the involvement of its citizens, students, and employees in campus development. Thus, I formulated the initial research question as "How to involve the citizens of Delft University of Technology in campus and real estate development?"

Initial research

This chapter consists of the results of the research conducted at an initial phase of the project. The initial research addresses three main topics; participatory design, citizen involvement in TUD, and Campus&Real Estate division. The research aims to clarify the context of the project to find the opportunity to increase citizen involvement.

Participatory design

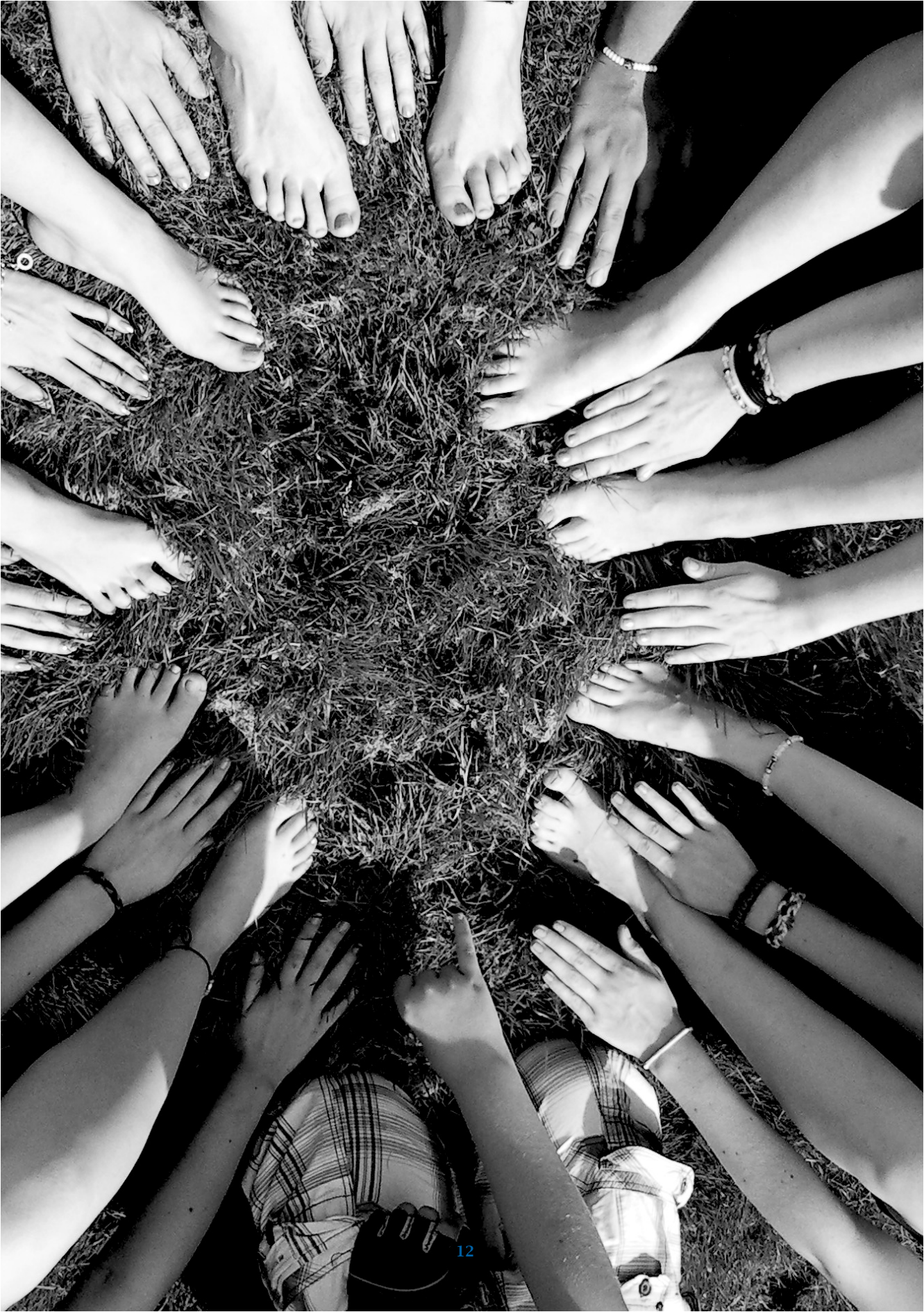
In the world of design, many user research methods are being developed. Emerging design practice is experiencing a shift from being product-oriented to being purpose-driven and from being user-centered design to co-designing for collective creativity (Sanders & Stappers, 2008) It is the role of a designer to choose a suitable tool for each project.

Participatory design(PD) is one of research methods. PD originated from Scandinavia in the 70s. Its belief is “the ones who are affected by design should have a possibility to influence the design” (Mattelmäki and Sleeswijk-Visser, 2011). PD encourages public involvement and collective decision making. Citizens can influence the planning and implementation processes of the environment that they live in. PD promotes a sense of ownership, acceptance, and ultimately the best outcome. (Kang, 2015)

This makes PD suitable for a project that concerns a change of public space which affects the life of people who live in the area, especially for a sensitive project that entangles an emotional issue.

A campus can be considered as a city with a significant public area, whether it is a facility for education or a garden. A campus is a place where its citizens spend a vast majority of the day in studying, working, and living. The change in environment will inevitably affect their life. Therefore, participatory design is selected as a central design method applied in this thesis.

This chapter will explore PD's possibility for application in the campus context. The discussed topics are what is participatory design, the level of participation, the value of participatory design and the challenged in implementing participatory design.



The foundation of participatory design

The foundation of participatory design (PD) is based on a democratic philosophy which stresses the critical role of citizens as an active citizen in changing the urban environment (Olsen, 1982). Citizens who are affected by a decision have a right to be involved in the decision-making process (Stuart, 2017) which determines the quality and direction of their lives (Sanoff, 2000). They have to be empowered and play an active part in public development. The primary goal of PD is to make solid decisions based on a shared vision (Heijne et al., 2018).

In practice, participatory design breaks the boundary between experts, researchers, and citizens. It involves citizens in the creation process (Sanoff, 2000). It treats people as an expert of their own experience (Sanders & Stappers, 2008). It is a collaborative process among different stakeholders from different disciplines.

***“Participatory design is an attitude about a force for change in the creation and management of environments for people. Its strength lies in being a movement that cuts across traditional professional boundaries and cultures. Its roots lie in the ideals of participatory democracy.”
(Sanoff, 2010, p. 1)***

In comparison with user-centered design, participatory design treats citizens as an active partner of design, whereas user-centered design treats them as a passive object of study. It is important to distinguish the difference between them, since many other design disciplines - such as urban design - refer to the user-centered design as participatory design (Sanders & Stappers, 2016).

The impact of participation should be more significant than just a slightly lower sale or slightly less competitive advantages. Therefore, it is essential to note that, in the context of the city, citizens should not be treated as 'clients', 'users', or 'customers' because it impacts a group's potential to participate in a democratic way (Heijne et al., 2018).

The following figure illustrates a difference between user-centered design and participatory design in practice.

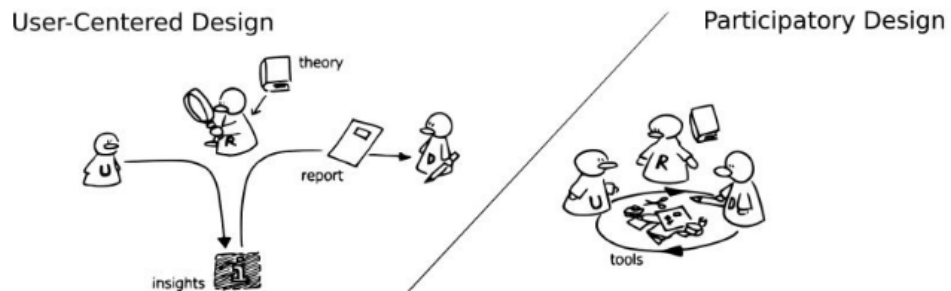


Figure 2: visual representations : user-centered design on the left and participatory design on the right (Sanders and Stappers,2008)

Level of public participation

The most mentioned question is what is genuine participation? How do you distinguish genuine participation and pseudo-participation? How much influence can the public have over decision or action?

According to the International Association of Public Participation, the level of participation can be divided by the level of influence that a citizen has over the project or decision-making process. IAP2 described five stages of participation; inform, consult, involve, collaborate, and empower. However, there has been debate regarding the model's practical benefits and the confused distinction between levels.

Heijne, et al. (2018) suggest a simplified version of the IAP2 spectrum, which has a sharper distinction and a more distinct categorization of methods. The spectrum is presented as follows;

Category	Information	Consultation	Collaboration	Empowerment
Description	Citizens inform themselves or being informed of current plans, decisions and actions.	Citizens are asked to give input and feedback. (e.g. User-centered design)	Citizens and other stakeholders actively work together in decision-making. (e.g. co-creation)	The authorities implement the decisions of the citizens.
Relation	One-way	Limited two-way	Advanced two-way	One-way (Citizens to Authorities)
Method category	Informational meeting, Consultation (online)	Consultative meeting, Consultation(online)	Collaborative meeting, Collaboration (online)	(no explicit tool mentioned)

Figure 3: Level of citizen participation in relation with categorization of participation tools and methods in Urban Design (Heijne, et al., 2018)

Information

Information is the most basic level of any communication. It is one-way communication in which authorities provide information to citizens to be updated without getting feedback (IAP2, 2018).

Consultation

A two-way dialog is enabled in this stage (IAP2, 2018). Authorities get input and feedback from citizens on a specific topic. Citizens' concerns, aspirations, and ideas are taken into consideration. They can contribute insightful local knowledge to authorities. However, it is still a choice of a planner to decide whether to include the information or not (Heijn et al., 2018).

Collaboration

Collaboration is the stage in which deep intensive conversation happened. Citizens and planners treat each other as partners leading to fruitful exchange, dialogue, and deliberation (Heijn et al., 2018). Collaboration requires an exceptionally open-minded attitude from all participants.

Empowerment

The highest participation is the empowerment stage. It is a stage in which citizens are genuinely involved in every decision-making process, including the development of alternatives and the identification of the preferred solution ("Core Values, Ethics, Spectrum – The 3 Pillars of Public Participation," n.d.).

In conclusion, the stage of participation provides an overview of citizen participation phenomenon. However, it is not a process to follow by order (Stuart, 2017). Its main benefit is for an organization who wants to adopt the participatory design to select the level of participation which best suits its context ("Core Values, Ethics, Spectrum – The 3 Pillars of Public Participation," n.d.) to start implementing PD. At the starting point of the project, an organization has to identify its own objective of participation, the level of openness to the community, and to what extent citizens can influence the project. It will help the organization avoid conflict with participants and wasted effort.

Participatory design in practice

A participatory approach is applied across various sectors such as policy making, urban planning, neighborhood development, and a medical domain. There are several attempts to pursue a participatory process by various actors. Many participatory initiatives have been developed in recent years, including an operational level, tactical level, and strategic level (Koning,2017). At the operation level, participation tools and the process can appear to be locally oriented. It depends on what the context and primary problem of each project is.

Although the participatory approach is applied widely in an urbanism domain, which is closely related to the real estate domain, it is vaguely initiated by the real estate domain. Authority and civils actor commonly initiate the participatory program. Real estate domain plays a supporting role in the implementation, which is design and construction.

An investigation into the case study of a participatory design project was conducted to understand its application and impacts.

In this thesis, U_CODE project is selected as the main case study.

U_CODE

U_CODE project is a collaboration between different institutes and organizations to clarify the phenomenon of citizen participation on a large scale of urban development. It aims to be the conceptual, organizational, and technical platform for enabling the creative participation of citizenship on a massive scale.

Several studies are conducted under U_CODE project. There are two projects where their findings are highly applicable to a real estate domain. They are 'Minimal viable process' (MVP) diagram and an '11 aspect from urban designer perspective'.

Minimal viable process (MVP) diagram

Minimal viable process (MVP) diagram suggests the stage of a design process that is suitable to perform co-design and can bring the most impact with minimum effort.

MVP suggests that a design brief creation is the most crucial step for co-design. Public, initiator, mediator, and authorities have to work together to create a project brief in order to set the design direction and design requirements. The result of this step is called a co-brief. A co-brief will be a shared vision for the design phase.

Further information of U_CODE project and MVP diagram can be found at their website: <http://www.u-code.eu>.

11 aspect from urban designer perspective

The second topic is an '11 aspect from urban designer perspective'. It is a set of key takeaways from urban designers who have performed citizen participation projects. These key takeaways will be a reference for the design phase of this thesis. One of the key findings is that citizens have to be informed throughout the whole process. It is essential to inform them of what could be expected before participation activities and how their input will be used to contribute to the project.

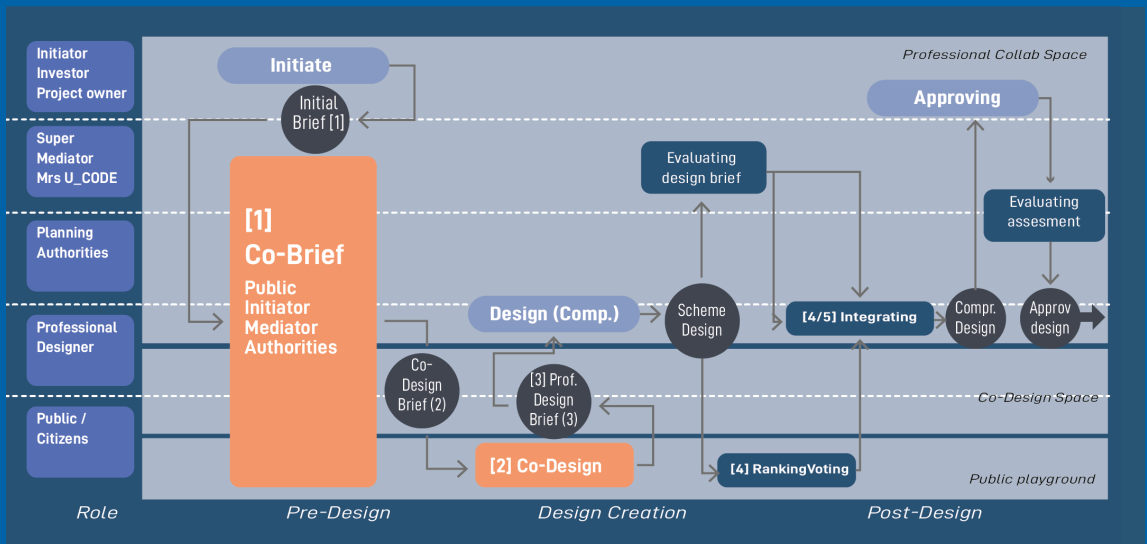


Figure 4: 'Minimal viable process' (MVP) by U_CODE. Re-colour by Parastha.

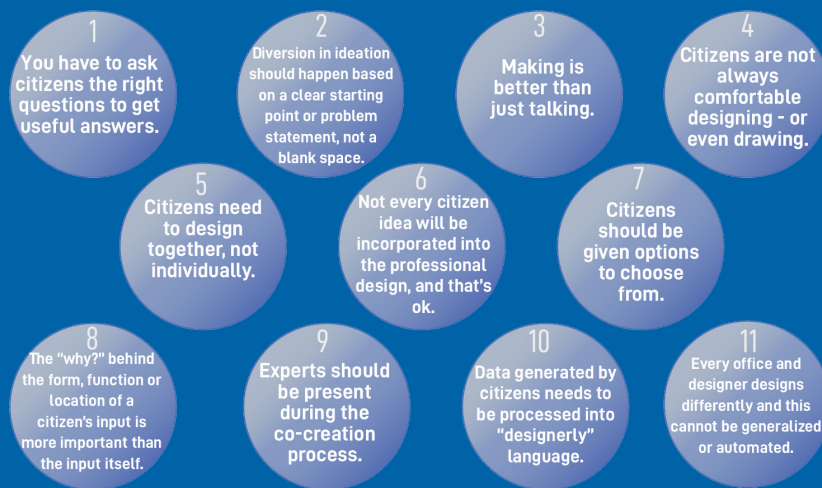


Figure 5: an 11 aspect from urban designer perspective.

Value of participatory design

Although the participatory design is applied across domains, the value that it creates is similar, especially on the social impact creation. This subchapter presents a summary of the overall value of participatory design from different views.

Improved interaction

PD promotes collective activity and decision making through two-way communication. Most tools used in PD aim to foster the discussion between different stakeholders. A meaningful conversation is one of the foundations of PD.

An increasing sense of ownership and community

Regardless of the content or design of a project, participants enjoy being involved in the process, which leads to increased satisfaction (Heijne et al., 2018). The improved interaction is not only contributing quality of production, but also a sense of community (Heijer, 2011). Kang, Choo, and Watters (2015) also stated that involving citizens in the development process is proven to increase a sense of ownership and community.

Acceptance/Desirable outcome

Citizens possess a 'local knowledge' which is generating over time as they live in the area (Heijne et al., 2018). Thus, they know about existing conditions or how decisions should be implemented (Creighton, 2005). Other stakeholders can use the information to develop a project that tackles the real problem, leading to a desirable outcome. Accounting users' opinions in an early process will increase the acceptance of the project (Kang et al., 2015)

Increasing credibility

As participation brings in people who initially had a lower sense of community than those who are usually politically involved. It strengthens the relationship between authorities and the public. A public organization can create a positive relationship with citizens, which leads to increasing trust and credibility (Heijne et al., 2018).

Challenges in implementing participatory design

Many studies also emphasize the challenge in implementing the participatory design. The challenges are different according to the context, readiness of authorities, and resources. Shared challenges are about the constraints of the process and existing relation between authorisation.

Institutional process

Participation processes should not be institutionalized, because institutionalized participation is pseudo-participation and tokenism (Arnstein,1969). It results in a narrow scope which addresses the loudest voice and leave out marginal people (Hou, 2011).

Misstrust

This tendency between actors; authorities, citizens, designers, and developers is a sensitive area. It can be collided with because of the mis-aligned understanding and desire to control the process of authorities (Hou, 2011). Citizens do not believe their participation will be seriously addressed and, likewise, others doubted citizens' ability to contribute to the project (Hou, 2011). An example of the desire to control a process is authorities' limiting of citizens choices.

Highly commitment

To fully reach mutual learning among actors, the PD has to go through the development and implementation, which means a long continuous process which requires high commitment from all actors (Robertson and Simonsen, 2012). The prolonged process might discourage participants from joining.

Conclusion

The results from the research provide an overview of participatory design, both in theory and in practice. Due to a related democratic origin, the societal value that it can bring is highly tied with the community's satisfaction, such as a sense of acceptance, enhancing the relationship between the organization and citizens. Furthermore, the business value is presented as the result of close collaboration with citizens to create a desirable and acceptable outcome. However, some challenges also unfold. Its collective nature requires an open-minded mindset and a long term commitment. An organization has to be prudent in implementing PD and listen to participants deliberately. It has to be careful not to try to structure the participation process until it becomes institutionalized, hence superficial participation.

Although the participation process is adaptive across projects, participation activity is heavily context-oriented. Therefore, it should be adapted in regard to contexts, goals, and limitations of each project. To implement PD, research into the context of each project is needed to decide if PD can be implemented and, if so, how to do it. In the next chapter, a context of the thesis will be studied to clarify the current situation of citizen participation in TUD and identify the opportunity for implementing PD in Campus & Real Estate division.

Citizen involvement in Delft University of Technology

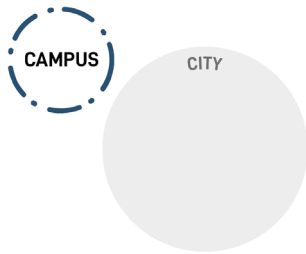
This chapter aims to reveal the current relationship and interaction between Delft University of Technology (TUD) with its citizens, students, employees and the city of Delft. This chapter presents a character of TUD in relation to the city and how TUD accounts for its citizens' voices.

Delft University of Technology (TUD) is one of the top tier universities in the Netherlands. It was established in 1842 with the Royal Academy and shifted the academic focal point to technology as the need for technical knowledge raised in 19 century. It evolved to a polytechnic school and Delft University of Technology eventually. The vision of the university is to solve global challenges by educating new generations of socially responsible engineers and expanding the frontiers of engineering science (TU Delft, 2018).

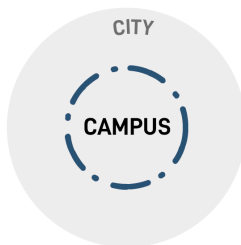


Campus model

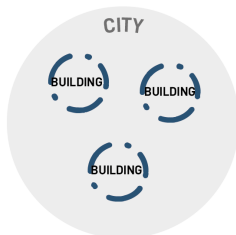
Heijer (2007) identified three models of Dutch campuses in relation to the city. The model indicates the differentiation of a physical location and function of the campus. The model has three categories, as follows:



The 'campus outside' is the campus situated outside the city centre completely. The campus has to provide all the facilities such as accommodation, restaurants, and public areas for citizens of campus.



The 'campus as a site in the city' is the campus situated in the city. The public space is shared between the city and campus. Students and employees can commute to the city in a short distance.



The 'campus integrated with the city' is the campus that has facilities scattered in the city. There is no clear boundary between the city area and the campus area. Everyone lives and interact organically. All facilities and spaces are shared.

The campus of TUD is located outside of the city center, hence it has a model of 'campus outside the city.' However, as TUD campus acquired a considerable space of the Delft city, it also shares characteristics of the model 'The campus integrated with the city.' Citizens who work or study at the university can go to the city and use public facilities. Likewise, citizens of the city can come to the campus and use the facilities. Thus, the function of the TUD campus and Delft city is a relative blur. This fact is corresponding with the campus development trend, 'Campus as a city.'

Campus becoming a city

In the Netherlands, the connection between the university and the city has been strong. The city grows according to the growth of the university and the university's purpose will not be limited to knowledge provider. It will play a part in delivering public value to society, such as driving and supporting socio-economic and sociocultural factors (Heijer et al., 2015). Collaboration between the public sector and the private sector has become increasingly important in managing the campus.

The role of the campus is shifting toward integration with the city. The campus area will not belong to campus exclusively, but become a public space that everyone can access (Heijer, 2011). Thus, it is crucial for the university to work with the municipality to envision a shared goal and development plan.

The unique characteristic of TUD is that it occupies a considerable part of the Delft city area and has a vital role in the city's identity and economic drive. Consequently, the value of the knowledge economy becomes an essential value for the city. In order to attract knowledgeable people and knowledge companies, the vibrant city is a key element. The campus is required to not only provide a study space, but also a living space. The space that supports leisure activity will promote a quality of life which is a foundation for a successful knowledge city (Heijer, 2011). Solely focusing on the education space cannot sustain the changing environment anymore; the university has to collaborate with stakeholders in the city to ensure the city's attractiveness and, hence, financial healthiness. The boundary between the Delft city and TUD is physically and functionally blurred.

As the university functions as a city, its role also widens. It is expected to contribute to society as a whole. The recent trend in city development is to include citizens in the development process and planning. The central government of the Netherlands promotes it in the term of 'Do-ocracy.' The concept is that local authorities have to foster citizen participation and dialogue between themselves and community residents to collaborate on challenges. Citizens and local authorities have to work together to solve a problem (Government of The Netherlands, n.d.). Correspondingly, Delft municipality apply a project 'Delft Doen!' which encourages citizen participation in urban development.

It is a time that TUD has to reconsider its functions and the way the campus should be developed to respond to the changing landscape of campus and city development. TUD, as a city, has to ensure that its development involves citizens, student, and employees in the process.

Campus and citizens

Campus and students

TUD is one of the most famous international universities in The Netherlands. In this recent year, TUD is overgrowing. The number of students is expected to reach 25,000 in 2025, and a significant number are international students (TU Delft, 2017). That is a challenge for TU Delft to provide sufficient facilities and accommodation to support the diverse lifestyle of international students.

What is the relationship between students and the TUD organization? The interviews were conducted with two students from the student council to clarify the relationship between students and the TUD organization.

Student council is an official channel that TUD executive boards use to listen to the student voice. They have a monthly meeting with TUD executive boards to be informed about campus plans and strategy and give feedback from a student perspective. They can initiate a project and propose it to the TUD executive board. For example, the XXL opening time during an exam week was initiated by the student council.

Thus, the student council is a vital student representative. Its primary responsibility is to ensure that student's voices are heard. It does not only work with the TUD executive board, but also other divisions in different topics to holistically improve the quality of life of students in the TUD campus.

There are three methods that the student council use to get input and feedback from students:

- It has a monthly meeting with the student association president and board members.

- It organizes the public work station at the faculties to get themselves close to students and reachable.

- It uses a survey to get preliminary input from the public audience.

Whereas there are several attempts to get input from a student, almost all activities are a response to TU Delft's primary strategy, which is education. There is limited open conversation to the public that could lead to undiscovered topics relating to other topics. Although student council claimed that its open for the initiative from students, there is limited attempt to encourage it. For further information about their work, please find appendix A.

Campus and employees

In this thesis, employees are people who have a working position in the TUD organization, such as a professor, a Ph.D. student, support operations, or a janitor.

Similarly to the student side, the employee also has an employee association called 'Prometheus Staff Association.' Prometheus aims to promote a harmonious relationship between staff members. It is not active in campus development.

On a higher organizational level, faculty is a crucial division. Every faculty has its organization tree, which indicates the power distribution at a different level. The Deans of Faculty have substantial influence over campus development. They work closely with TUD executive board and also Campus & Real Estate division.

Conclusion

Citizen participation in TUD is present, but limited to the selective group of people. There is limited direct public participation and initiatives. Students can raise their voice through existing organizational channels, a student association, and the student council. The input is received by order of hierarchy. Contrary, employees have a relatively limited channel through which to give input. The next figure illustrates the input flow from citizen to top management level.

Nevertheless, TUD showed an attempt to encourage citizen participation, but the topics of interest do not go further than education. However, the student council, who had been working following the university strategy, revealed concern over other topics such as mental health, student integration, and livability on the campus. Therefore, to improve campus, attention needs to be paid to other dimensions, as mentioned. New collaboration across division shows potential.

Another opportunity is to encourage citizen participation, as the direct connection between citizen and the top management level is missing. There is a possibility to explore this area. Furthermore, the student council's method can be improved by applying participatory design to ignite the open conversation among TUD's citizens.

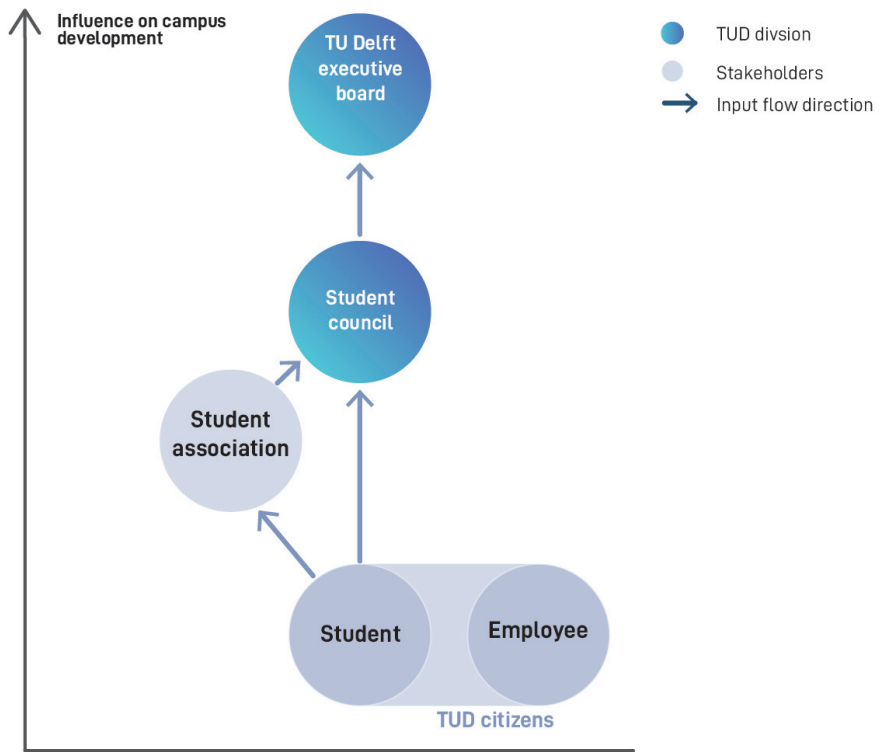


Figure 6: Visualisation of how the input flow from citizen to top management level.

Campus & Real Estate division

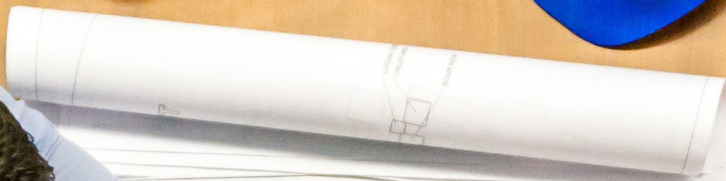
In the previous chapter, a study of the context is conducted. It reveals a holistic view of the project. This chapter zooms in the Campus&Real Estate division who is the main partner of this thesis.

Real estate management is an industry that has a unique characteristic. It has a mix of architect domain and commercial domain. Research into this industry was conducted to better understand their mindset and way of working hence how real estate management perceives citizens and an opportunity to apply PD.



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Campus and real estate management in theory

The research starts at the foundation of the industry, an academic domain. In real estate management domain, there are many framework invented. Most of the frameworks mentioned user as a factor in management but on a different depth. The preliminary insight is that the terminology 'citizen' is not presented in the study, whereas 'inhabitat', 'resident' and 'user' are commonly used.

The next figure illustrates the role of users in principle theory of campus management.



Figure 7: CREM model combined with an added value model.

Figure7 illustrates four fundamental aspects; strategic, financial, functional and physical.

The strategy aims to create a competitive advantage by focusing at a strategic level, such as supporting collaboration and innovation.

Financial focuses on profitability by balancing cost and revenue and managing risk.

Physical focuses on building technology that could promote sustainable development.

Function aims to increase the productivity of the user by supporting the user's activity.

It appears that the user is addressed numerically. The main objective of addressing the user is to calculate a square meter needed, hence space utilization. There is a particular guideline of how to address users — for example, the minimum square meter per person in space, the density of the place. Likewise, the KPI of user satisfaction is measured by quantitative aspects such as publication per academic space, student per square meter, and energy cost per square meter.

It comes into view that limited attention is paid to the needs of users qualitatively; there are no tools to measure user satisfaction in the same manner. One of the real estate strategists also mentions this as a challenge: "Yeah. Supporting user activities is a lot more difficult, you know? How do you determine if you support user activities well or not? So these are much more qualitative requirements, which you can our values, which you can try to make qualitative, but it's very difficult to actually do that."

However, why are the numerical facts so dominant in real estate management? The reason is that most real estate management frameworks and theories originated from the business economy, organization psychology, and urban planning (Heijer, 2007). Therefore, a developer tends to see things from a commercial viewpoint and a technical viewpoint.



Figure 8: World view of real estate management.

In conclusion, the real estate industry is heavily driven by profit. As theory and methodology have a business dominant, the decision-making is based on the most profitable investment. Consequently, it is inevitable for a developer to perceive and measure users in a numerical manner in order to put them in the framework and space equation.

Such a mindset is a polar opposite to participatory design. It is a challenge of this thesis to find a gap that PD can contribute to both real estate business and society.

Campus real estate management in practice

Interview setup

In the first part of the research, theory on the different topics this project deals with has been investigated. After a better understanding of the context of the project, different qualitative research activities, such as interviews, have been conducted as follow up.

Four interviews were conducted with the employees of CRE. Three interviewees are the Ontwikkeling Campus team. Another one is the Strategisch Campus Management team. The interview guideline can be found in appendix B. The research questions are;

- What is the working process of CRE?**
- How does CRE consider citizens' opinions when developing campus?**
- What is the perception of CRE regarding users?**

Organization tree

CRE organization has a hierarchical structure. The group is created based on the function. The top management level is the director. The grouping is divided into two groups; a campus and real estate project group and a back-office group. The first group is the focus of the thesis because they are directly responsible for the campus estate development project.

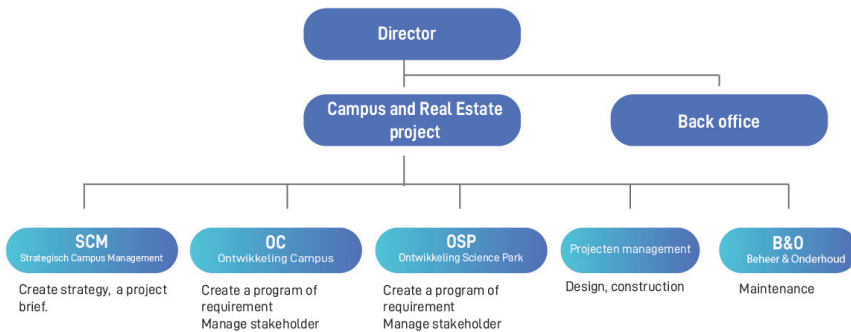


Figure 9: Organization tree of CRE.

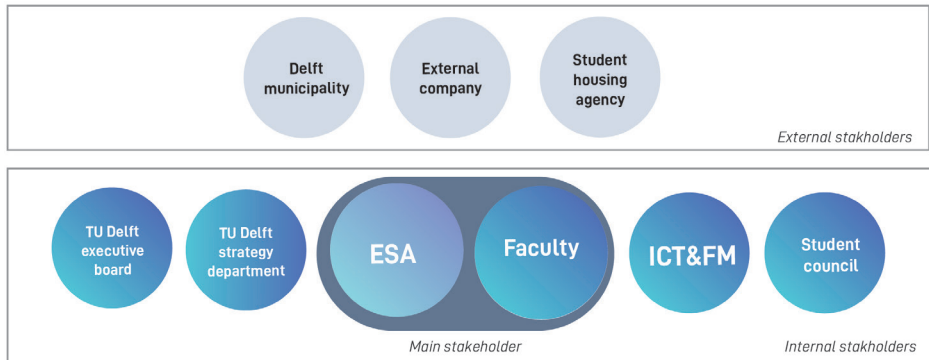


Figure 10: Overview of stakeholders of CRE.

Different divisions of CRE work with different stakeholders. However, their role and work often overlap. Divisions often work together to ensure the smooth transition of the process. For example, the strategy division of CRE works with a TU Delft strategic department to design a campus real estate strategy and also get opinions from a development team. The team works with a broader range of stakeholders, such as the student council, ESA, and faculty.

Working process

The interview result was used to create a working flowchart. The working flowchart is divided into five phases; strategy phase, initial phase, definition phase, project execution, and maintenance. The first three phases are the pre-design phase. The project execution phase is a design phase, and the maintenance phase is a post-design phase. The detailed explanation is presented in the next figure

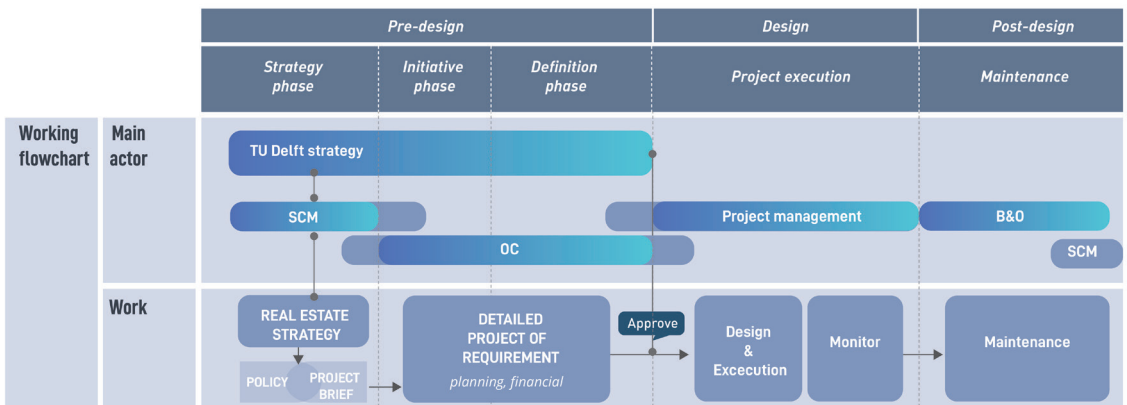


Figure11 : Working flowchart of CRE.

Strategy phase

Main actor : Strategisch Campus Management (SCM)

Function : Create strategy, a project brief.

Process : At the start, SCM creates a real estate strategy and policy which has to support and be aligned with the TU Delft strategy. The strategy and policy are long term plans which are generally up to 10-years-time. If the TU Delft executive board approves the strategy and policy, they will accordingly create many project briefs. The project brief suggests a direction of development and what needs to be built and managed.

Initial phase and definition phase

Main actor : Ontwikkeling Campus (OC)

Function : Create a program of requirement, manage stakeholder

Process : The project brief is handed to Ontwikkeling Campus (OC). The department consists of three teams who focus on different topics. The team leader will form a team, and the team create a plan and decide which stakeholder they have to get on board. After that, they start working on the project. Their primary responsibilities are detailing the scope, creating a program of requirement, and managing stakeholders.

Stakeholder means people whom OC have to work with and people who could be affected by the project, for example, an employee who has to move out of their working place, or a private company who is located in the are of building.

Program of requirement is a detail version of a project brief. OC works together within the team to define the project scope, planning, budget, and a type of building. Then they create a proposal and ask for financial support from the TU Delft executive board. If the proposal is approved, they will elaborate the project brief further to make sure that it contains sufficient information for Projecten Management (PM) in the further phase.

Project execution

Main actor : Project management (PM)

Function : Design, construction

Process : A new design is developed according to the program of requirement. Projecten Management (PM) is the main actor in this phase. They have to work with an architect and a constructor to design and build the facility. The architect and constructor are commonly outsourced. Besides, PM has to monitor the project in six topics: money, information, time, organization, quality, and risks.

Maintenance

Main actor : (Beheer & Onderhoud) B&O

Function : Maintenance

Process : After the construction is finished and ready for use, the Beheer & Onderhoud (B&O) are responsible for maintenance. They have to evaluate if a space serves the intended purpose or if there are any unforeseen situations occurring, then report the result to SCM. SCM will evaluate the situation and make any further decisions.

CRE and citizens(user)

This subchapter will take a closer look into the citizen aspect. How CRE perceive citizens and how citizens (users) are involved in each step of CRE's working process.

So who is actually the user or citizens from CRE's perspective?

The prominent and valuable insight which becomes apparent from the interview's result is that CRE perceives users differently from participatory design's viewpoint. They perceive the user as an organization user. Users are not required to have direct experience with the physical space. They are not directly affected by the changing environment. Instead, users are the selective persons who are assigned to be the representative of all. In most cases, they are a faculty secretary or a dean of faculty. Thus, the concept of users from CRE's viewpoint differs from the definition of citizen as stated in participatory design theory.

It is important to note that the rigid selective user can deviate the actual voice. In this thesis, I decided to use the term 'citizens' to address the group of people who work, study, and live in the TU Delft campus.

How CRE connects with citizen

There are two formats of how CRE works with other stakeholders. The first format is a formal/informal meeting, which is the most common format. The second format is a workshop which is applicable only on a case that involves a big construction or a radical change, such as designing a whole new building or relocating a big group of employees. The following figure illustrates which citizens connect to CRE at a different stage, as well as the level of participation.

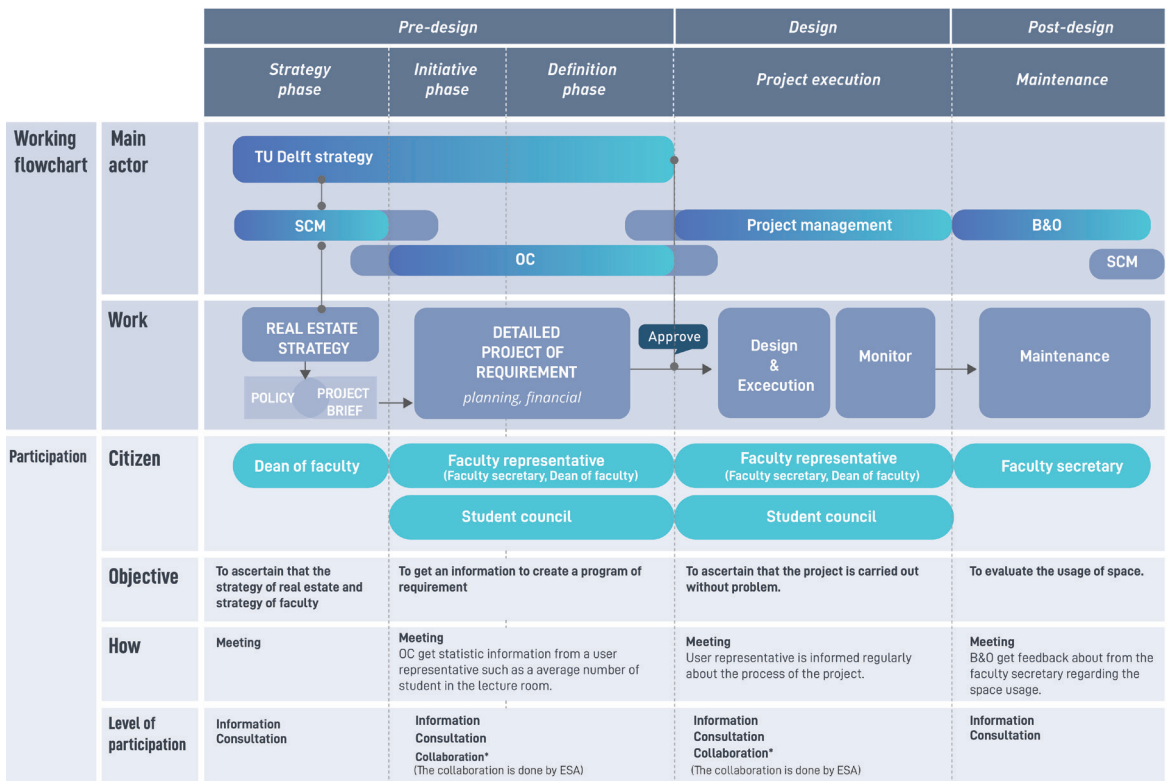


Figure 12: Figure 12: Working flowchart of CRE in relation with citizens

The figure shows that citizen involvement is limited to a selected group of people. They are people who are existing in the organizational structure (faculty secretary, dean of faculty). They do not live in the actual environment. Therefore, the information gathered can be altered from reality.

The phase in which CRE are closest to citizens is during the initial phase, definition phase, and design phase. The level of participation is high (collaboration) but only for an exceptional case. Therefore, there is an opportunity to improve the relationship during these phases.

In general, citizen involvement is on the level of inform and consult, according to IPA2. There is a limited involve stage presented. Only in an exceptional case will CRE involve citizen, thanks to the cooperation with ESA.

Exceptional case - ECHO

The example case is a new faculty building. CRE works with ESA and ICT/Facility management to create a program of requirement. CRE is a supplier of space. ESA provides information about education place demand. ICT&FM is responsible for technology support.

ESA and an external research company researched the needs of the employee and created a conceptual requirement for the building. The requirement focus on a space relation, functional requirement, and space preference style. For example, deciding which departments should be near each other. Is the space to be open or closed? The research was conducted through several workshops with a workgroup. The result was used to create a program of requirements and preliminary design of a new faculty building.

Challenges in implementing participatory design

The result of the interview reveals the insights of why involving citizens in the process is limited. There are various reasons both internally and externally. The challenges are as follows:

Trust

CRE has never had direct contact with citizens. They always connect with selective user representatives, such as faculty secretary, which have established trust among citizens and citizens feel at ease to share their story with them. Besides, it requires less effort to use the existing organizational structure than reaching out to the public audience. However, positioning themselves away from users results in a limited chance to build trust with citizens. To establish trust, the challenges lay in how to be closer to the citizens.

Hierarchical organization structure

In some cases, the selection of user representatives is based on the hierarchy of the faculty. In a faculty that has a strong hierarchy, only people in the high level of management can attend the meeting.

Architect dominant

In general cases, an architect has the right to decide if they want to involve citizens. However, it is not common to highly involve people who use space in the campus development context. The most popular way to get input from people is through a public hearing. The only reason that they will have an in-depth interview with citizens or users is when space needs a particular requirement, such as an operating room in the hospital.

Afraid of expectation

Having a dialogue with citizens can raise expectations. Architect and construction projects usually take a long period to realize. There is a relatively high chance that a plan has to be changed or stopped in the middle of the project. The change of plan will dissatisfy citizens. The more dialogue they have with them, the more difficult it is to manage.

Time

CRE is afraid that the PD process is a time-consuming process. Getting citizens involved requires too much time and effort.

Political constraint

Politics is a prominent challenge. The constraint occurs when an individual who is at a top management level does not agree with the change and intentionally hinders the implementation process. The reason is that a participation process requires the affiliated actors to open up to citizens and let go of some power. Its nature, which lets citizens influence the project, is a polar opposite of a conventional management style in which control and power are firmly in top-level managers' hands. Thus, an individual might feel threatened by the feeling of losing control and uncertainty, assuming that the result of participation could eventually affect their initial planning and/or KPI. The political constraint has a stronger presence at the top-level management than at middle and low level.

Reactive mindset

According to the way of working of CRE, all works are ordered from a top-down manner. Top-level managers design the strategy and planning upfront, then the lower-level employees execute the plan. Consequently, the working process appears to be a passive form.

Unforeseen value

Having a developer's world view, it is almost impossible to foresee the value that participatory design can bring to the company, because the root of thinking is based in the business mindset, which is explained in the subchapter 'theory'. The value of participatory design in contributing to society contradicts with the developer's mindset.

Conclusion

Research in real estate management gives a holistic view and a deep understanding of this industry. It presented their mindset and way of working, hence how real estate management perceives citizens. Real estate management uses the term 'user' and 'resident' to refer to people who use and live in a particular place. The terminology 'citizen' is not typically presented. They perceive users in a numerical manner and address and measure them in the same way. There is a limited qualitative approach to the user. Furthermore, the generated insight indicates why CRE is restricted to connect with citizens. Those challenges are trust, hierarchical organization structure, architect dominant, fear of expectation, time, and unforeseen value.

The opportunity to implement citizen participation is laid on the initial phase, the definition phase, and the design phase.

According to the MVP model, the initial phase and definition phase is comparable to a pre-design phase; and a program of requirement is comparable to a co-brief. Thus, participation during the creation of a program of requirement promises the most potential outcome. This thesis will focus on the creation of a program of requirement.

Initial research conclusion

The research result is used to create a stakeholder map. The stakeholder map shows how stakeholders connects on a different level of influence on campus estate development. The higher position in the organization, the greater the impact on the campus development.

The figure 13 shows that the leading campus development influencers are TUD executive board, TUD strategy department, Delft municipality, and a group of leading campus developer, CRE, ESA, and faculty.

It comes to view that the way of working in real estate management is still conventional. It has a highly hierarchical manner of management. There is no direct communication from the citizens to campus developer groups. The voice of citizens is delivered through an existing selective representative concerning hierarchy.

Implementing PD will inevitably interrupt the hierarchical structure and the working process of CRE. It will bring in the new connection between citizens, CRE, and TUD. The next chapter discusses the most potential opportunity to implement PD in CRE and defining a scope for the design phase.

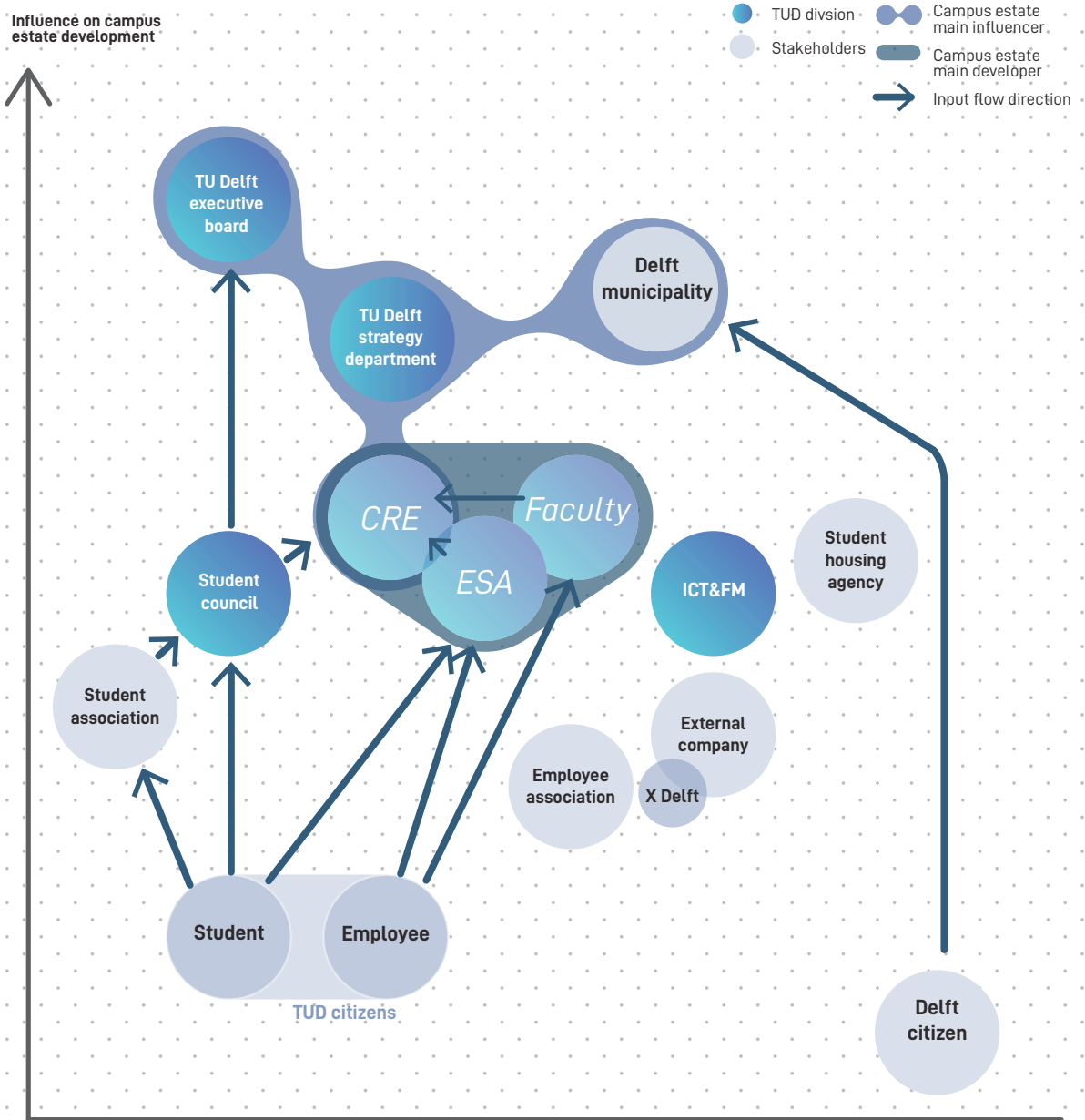


Figure 13: The stakeholder map shows how stakeholders connect on a different level of influence on campus estate development.

Design direction

There are many opportunities in which PD can be used to improve the working process at a different level. The effort can be ranked from an incremental change in the meeting to creating a new collaboration across domain. It is also possible to create a comprehensive strategic plan that covers various dimensions. However, the question is what is the best way to implement PD in CRE?

Opportunity

Rethink about citizen

One of the noticeable results is the misconception between the user from CRE's perspective and citizen in participatory design. This misalignment has to be solved since PD is not just about a design practice but also the mindset. Thus, to start the change, CRE has to be open-minded and change their mindset about the user. CRE has to be close to the citizens who are not a selective group of the current user representative and be open-minded to a change in their working process to be able to implement PD.

Therefore, in this thesis, citizens mean people who live, study, and/or work on the TUD campus.

Refine the connection

We have to step back to the objective of participatory design. The core purpose of participatory design is to support citizen participation. Therefore, the design focus area must be the area that allows the participatory approach to shine and delivers the highest value to the CRE. It has to deliver both societal impact and business impact.

According to the stakeholder map, there is no direct connection between citizens and CRE. This valuable area is an opportunity to establish a connection by applying the participatory design. By closing the gap, it will contribute a societal impact as it strengthens the relationship between high hierarchy organization division with citizens. The connection will lead to trust in the long term relationship, which could open the door for other possible projects in the future.

Remodel a way of working

Changing an organization's way of working is a long term commitment. I propose to gradually change the company, and gradually establish PD in CRE. As PD is a relatively new method for CRE, and the concept of user and citizen can be easily mistaken, attention needs to be paid to the very first step of application to prepare the ground and ensure the smooth implementation. Thus, the best way to start implementation is to show how to do it. I will demonstrate participatory design in the next phase of the project to ignite participatory design in CRE.

'Demonstrate participatory design
by conducting experimental cases
with CRE so that CRE get closer to ^①
citizens and foresee the value of PD. ^②
Thus, contribute to the ultimate goal;
gradually establish participatory ^③
design within Campus&Real Estate"

- ① ② Goal of demonstration
- ③ Ultimate goal of thesis

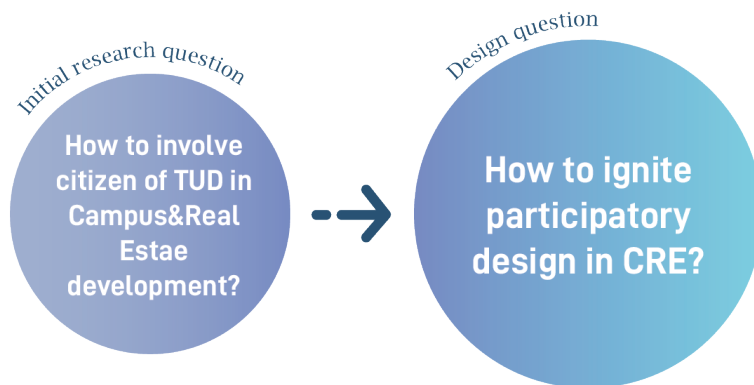


Figure 14: Initial research question evolve to design question.

Sub question

- How to bring CRE closer to TUD citizens?*
- How to change CRE mindset about users to be more like citizens?*
- How to communicate the value of participatory design to CRE in order to persuade them to use a participatory design?*
- To what extent will the new process change the way of working with citizens of CRE?*

Therefore, the demonstration will be the focal point in the design phase. The demonstration consists of a participatory session and tools. The result of the experiments will be developed to a participation framework, participation toolkit, and implementation plan in the further stage of the thesis.



Figure 15: Final deliverable 'Participation framework', 'Participation tools', Implementation plan

The working phase that I will focus on is the pre-design phase: initial phase and definition phase, as a result of the interview conducted with CRE, indicates an opportunity during these phases. Likewise, MVP model suggests that the project phase, at the minimum effort, promises the maximum impact in a pre-design phase. Therefore, the creation of a project brief will be the main outcome of a demonstration.

Approach

The research through design (RTD) approach is applied in the design phase. RTD is a practice-based design research - a constant act of designing is where the knowledge is generated.

The iterative nature of RTD provides an opportunity to test and develop session and tool designs. Also, it provides CRE a chance to have first-hand experience of participatory design through participation in an experiment. By showing the process in a practice way, people will receive the message, understand the new process, and foresee the changes. Hence, they are likely to adopt the new process. The experiment itself will create a diffuse change in an organization. The results learned from all experiments will eventually be used to create a participation framework.

Idea generation

This chapter presents how ideas are created, evolved, and combined into a session design. Several ideations, such as brainstorming and positioning axis, are conducted to generate the ideas. All ideas were categorized by using different criteria multiple times in order to find the best ideas for the session. The following information is an overview of the idea category based on the value.

Expectation management

The expectation management group responds to the key takeaways from the project 'U_CODE' and the insights from the interview session with CRE. The core value is to manage the expectations of stakeholders before and after the meeting. Always inform them about the project process. Participants want transparency. They want to be informed about know how their input is used and the status of the process

Defining the future

Defining the future group is mainly based on the current process of CRE. There are some cases that the development team have to ask users about their tacit needs. The current order of question depends on how generic the question is. However, to get to the tacit need the order of the question should concern the time. The question must be asked about the present, past than future

Broaden the view

Broaden the view is the category that benefits the internal process of CRE. They focus on [understanding the context and setting the team before appointing any meetings. They provide an overview of campus development and relevant context. The development team will be able to work together and also explore new possibilities from mapping different trends, factors, and stakeholders.

Two way dialog enabler

is a tool to provide a focal point of discussion and constructive feedback form. They encourage the participants to be actively involved in the session. They can be used in different cases regardless of the involvement of end-users. The current way to facilitate the workshop/meeting is that one facilitator responsible for raising a topic one by one and use the whiteboard for taking note and write opinions. Participants who are not active can get away from the discussion very easily. Or the participant has to choose a design from the provided choices.

Soft politics

Soft politics is to use external actors to emphasize the need for participatory design. The idea is to introduce PD to the influence group, people who have an influence in the campus development process e.g. student council.

New lens

Encourage CRE to look at the user as a citizen. Changing the mindset of CRE.

Transparent enable

To understand other stakeholders and be transparent about agenda.

Public playground

A fun way to get citizens on board or give input for a general view of the issue.

Prioritization

To help participants making a decision.

Visualisation

Visualise a possibility at different levels such as mood and tone, color combination, interior design by using a different method such as 3D rendering, collage.

For detailed information of each idea, please find appendix C.

Ultimately, it appears that, to implement PD, an individual idea cannot achieve/reach/create a comprehensive effect that CRE needs, considering that implementation is a process design (which lead to a framework, eventually, at the end of the thesis). To create a comprehensive effect, the design has to tackle multiple problems in various dimensions, such as the mindset dimension, the functional dimension; adaptable, the momentum dimension; impactful.

Idea selection

Emerging challenges and insights from initial research are translated into idea criteria. The idea criteria are clustered into groups according to the goal of the demonstration. Following the design criteria will ensure a comprehensive systematic design.

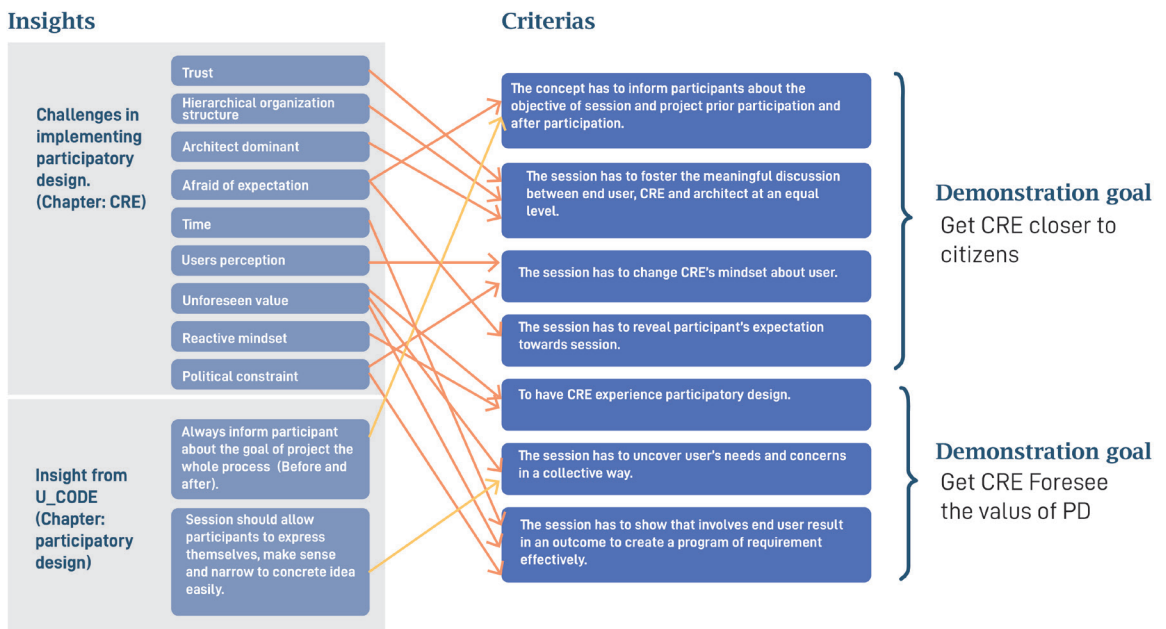


Figure 16: The figure illustrates how the insights are translated to criteria in relation with goals.

The idea categories that meets criteria are the expectation management, two-way dialog enabler, new lens, prioritization, and visualization.

Ideas from selected categories will be applied in the session design. The next subchapter presents an overview of session design and the preliminary session design. The detailed session design will be presented in the chapter Design experiment(s).

Preliminary session design

Session design

The session is designed based on the principle of participatory design and creative facilitation. The session is divided into three parts; sensitized, think and act.

!	Sensitized part stimulates participants to think about the topic before joining the session. This way, the participant will gradually recall their experience.
☁	Think part stimulate participants to recall their past, present experience, and imagine the possible future step by step. This way of thinking will help participants understand themselves (needs and concerns), then be able to imagine the future easily and express it in a logical way (Sander & Stappers, 2016). The thinking exercise topics are activity and identity of the place.
✍	Act part is a making exercise that participants translate their needs and concerns into visual. They have to design a possible outcome based on the idea and information that they had been generated. The visuals consist of 2D visual; a styling exercise, and 3D making; zoning exercise.

The figure 17 shows an overview of the preliminary session design. There is no sensitize part in this version. For a session planning please find appendix D.

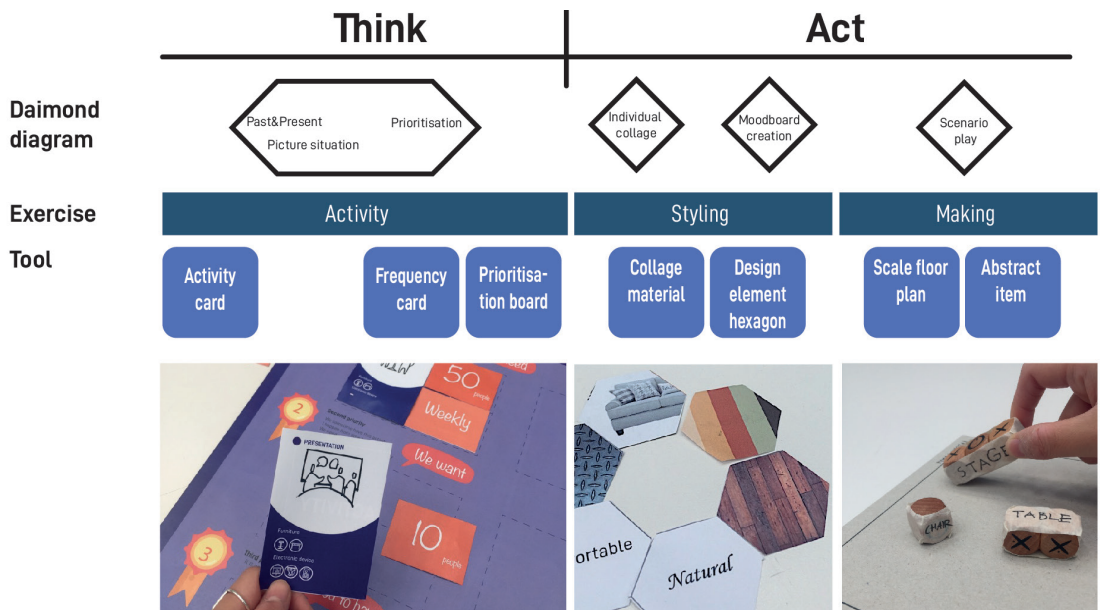


Figure 17: An overview of the preliminary session design.

Prioritisation board



First priority

It is urgent.
It is not main activity
It happens a lot.
The current space doesn't support this activity.

We need

DRINKING

50 people

Weekly

Furniture
Electronic device

PRESENTATION

2 times/month

10 people

Furniture
Electronic device



Second priority

We sometimes have this activity.
I happen from time to time.
We need more space for this activity.

We want

COOKING

Furniture
Electronic device

NAPPING

Furniture
Electronic device



Third priority

It is good to have

Good to have

Material

Style

Fancy



portable

Natural

Evaluation

The preliminary session design was evaluated by one interior designer, two architects, and one developer (Rob) by face to face interview. The interesting insights are listed below;

Activity card is too specific

It appears that the activity card will limit the imagination of participants. This exercise will change to an open question format.

People who are not trained to design might have a limited design ability

Architect and interior show concern about the acting part because they believe that participants have a design ability which is too limited to do so. Participants who are not trained to design cannot imagine the outcome due to the lack of understanding in the principle of design, especially on a human scale. However, this perception is contradicted with the foundation of generative design, as everyone has the ability to design if they are supported. The interesting question is to what extent can people who are not trained, design the spatial solution, functional design, and aesthetic design?

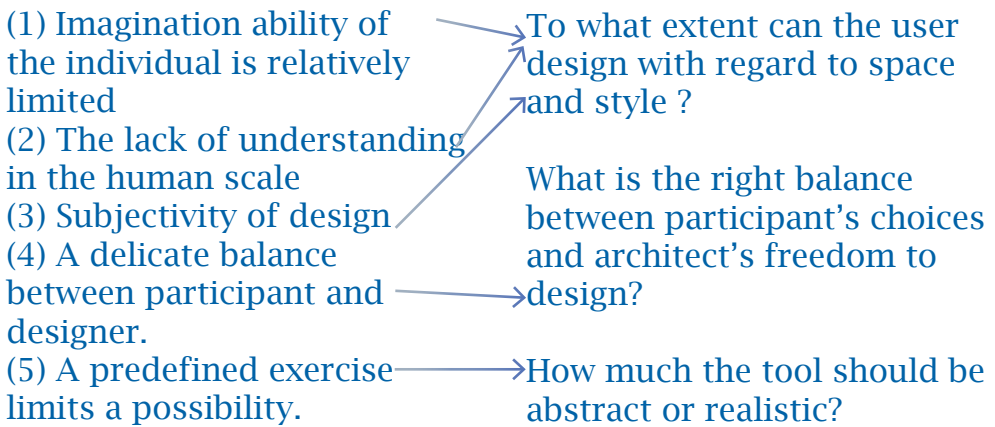
Aesthetic design is a subjective topic.

Design is a subjective topic. Not everyone has good taste in design. Participants might do not know which color combination is appealing or unappealing. However, the choice of color or material does not necessarily have to be used directly. Instead, they can be used as a conversation starter to reveal the unspoken reasons or concerns.

A delicate balance between participant and designer

The most challenging part is to find a delicate balance between a participant's role and a designer's role. To what extent should participants influence design? To what extent do designers need room to design and be creative? Designers need the freedom to design. They might feel too restricted if the brief is too specific. It should open for interpretation and creativity.

In conclusion, the key takeaways are as follows. They are translated into three questions for improving tools further.



In the next step, the design is developed according to the feedback. Some exercises are removed or adjusted. The second version of the design was used in the first experiment. The next chapter presents the experimental session.

Design experiment

The experiment is conducted two times. The experiment will be referred to as participatory session in this thesis. The aims of the session are to:

- 1. Test and develop participation tools.*
- 2. Show the value of participatory design*
- 3. Get CRE closer to citizens*

This chapter presents detailed session design, session result, and lessons learned from the session.

First case: Lagerhuysch

The first case is a new Lagerhuysch. It is an ongoing project which was at the stage of creating a program of requirement and feasibility plan. This case is an exceptional case which does not follow the usual workflow of CRE but was initiated by the project leader.



First experiment: Lagerhuysch

Project back-ground	3ME is one of the faculty in TUD. 3M stands for Mechanical, Maritime and Materials Engineering originally. It has a student bar called Lagerhuysch. Lagerhuysch is managed by a student board of Lagerhuysch. It is a small student bar which provides an affordable beer for visitors every Wednesday. Sometimes, a professor and a company rent the space to host an event. Currently, it is located at the back of the faculty building and shares some space with meeting area CRE has a plan to transform a parking area at the back of the 3ME building into a green space and new entrance to 3ME and IDE. Thus, there is an opportunity to relocate and build a new Lagerhuysch in this area.
Setting	Session name : Lagerhuysch, a student bar? Think again! Number of participants : 11 (2 architect students, 1 developer, 1 interior designer, 3 users, 4 students board of Lagerhuysch) Number of facilitators : 2 Time : 4 hours 30 minutes Group of participants : 2
Expected outcome	List of activity, mood and tone, zoning
Note	In this session, participants are divided into two groups. Each group has at least one citizen, one developer, and one architect. There is some minor difference between how two groups were facilitated. For example, one group might use a different material to make a mood board while another one chooses a mood board from a predefined mood board. Those small differences aim to test which way works better. (information in appendix D)

Session design

Similar to the preliminary design, this session design has three parts; sensitized, think, and act. Each exercise gradually pushes and prepare participants to be ready for the making exercise at the end. Tools are developed according to the feedback.

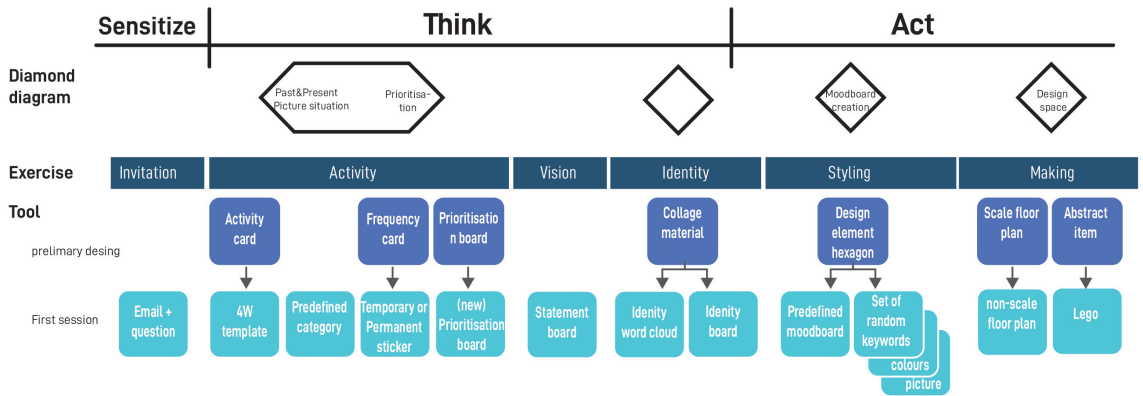


Figure 18: Figure shows how tools change from the preliminary design.

The following pages provides a detailed explanation step by step. The contents consists of an exercise explanation, a purpose, and a challenge of each exercise in the session. Session planning can be found in appendix D.

Introduction

Purpose: To introduce the session

Challenge: -

Explanation:

Facilitator(FC) opens the session. Then problem owner give a 5-minute presentation about the objective of the session and a context of the project.

Ice breaker

Purpose: To get everyone to talk, to manage expectation

Challenge: -

Explanation:

Participants(PP) participate in ice breaker game : human knot

FC divides PP into two groups. In a group each PP introduce yourself by present the answer in the invitation letter that they prepared beforehand.

- What is your expectation toward this session?

- What do you like best about your current working place?

- What do you think should be improved?

Past and present

Purpose: Recall past memory, to share experience with others.

Challenge: Participants are hesitant to share ideas.

Explanation:

PP have to do brainstorming by using post-it. They have to answer the questions in order; Who, What, When, Why. The example of questions are as follows;

- Who : Who use this place? Who did you meet at this place? Who did you work with?

- What : Think about the last time you were there, what did you do? What is the way you working?

- When : Think about when did you spend your time at this place? What occasion?

- Why : What is the reason that you come to this place?

Future

Purpose: To share ideas with others, to go out of the box.

Challenge: Participants hesitant to go wild.

Explanation:

After letting the obvious ideas go, PP can explore the other possibilities by stepping out of the boundary. FC stimulate them to generate wild idea by giving scenarios. The scenario force them to think from a different perspective. Exploring the wild idea can unfold a new possibility and checks the boundary of the obvious answers.

Activity list

Purpose: To compare ideas and find similarity.

Challenge: Participants hesitant to go wild.

Explanation:

PP categorize activities that they generated in a pre-defined group. They can add more activities/ categories if needed. The predefined group is suitable for an inexperienced participants to distinguish the ideas and find similarity among other's ideas.

Detailing activity

Purpose: To truly understand others' ideas.

Challenge: Participants have to truly understand others.

Explanation:

PP categorize which activity is a permanent activity or temporary activity by using dot colour sticker. Each colour represent each meaning. This activity forces PP to read through every ideas and understand all aspects. (The temporary / permanent information can help design space.)

Prioritisation

Purpose: To make choices, to identify the degree of needs.

Challenge: To let go what they like but they don't need it.

Explanation:

The prioritisation board visualise the degree of need of different activities.

- PP prioritize activities that they generated

- Each person pick activities that they like most and put on the prioritise board. There is no limited amount of choice that they can pick.



Styling

Purpose: To transform thinking into visual

Challenge: To understand what is the idea of the moodboard.

Explanation:

FC provide a set of predefined-moodboard, a set of keywords, a set of colour and a set of random picture. Each person get stickers to vote the predefined-moodboard and an element that they think it represents an identity of Lagerhuysch best. It is their choice if they want combine all element and create a totally new moodboard or not.

Play time

Purpose: To get participant to not afraid to move items around.

Challenge: -

Explanation:

Who make the tallest tower win!!! FC divide PP into two sub groups. Each group has to make the tower in two minutes. Who make the tallest tower win.

Making

Purpose: To visualise space relation, To visualise way of working, To foster the discussion between participant

Challenge: To translate the rich generated information into visual.

Explanation:

LEGO time. FC provides situation to PP. PP have to create a space by using lego and non-scale floor plan. At first round, architect is asked to act as a consultant and not interfere with the game. After ten minutes architect will take part as an consultant and help PP elaborate on their design.

* At second round with architect, architect is expected to help participant make sense of the design.

* Architect had to be informed beforehand that the suggestion they give should not concern the realistic building technology.



Presentation preparation

Purpose: To share the outcome with others

Challenge: To tell a story in a short time

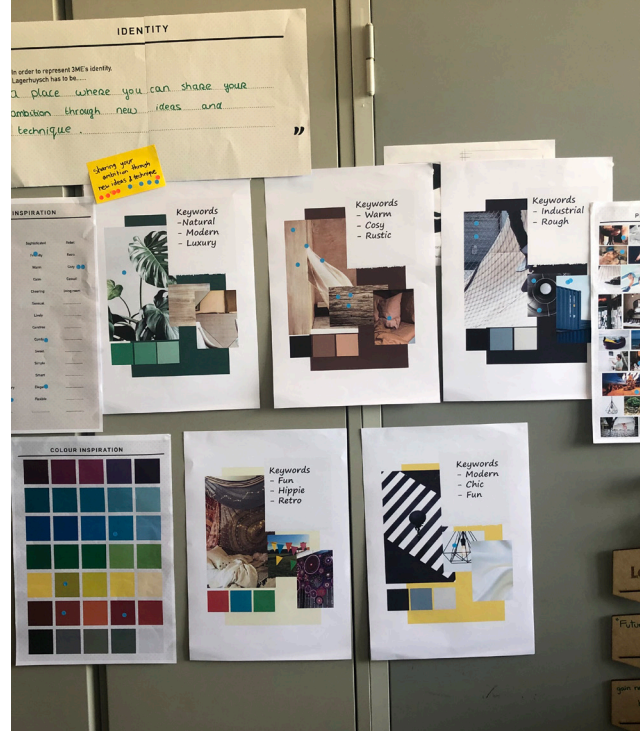
Explanation:

Architect draw : One exterior perspective , One interior perspective

Presentation

Explanation:

Each group presents the result to all (5mins/ group)



Session result

Overall

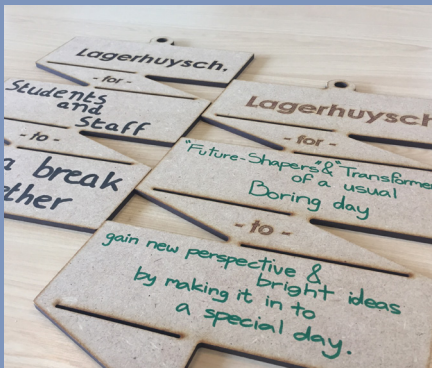
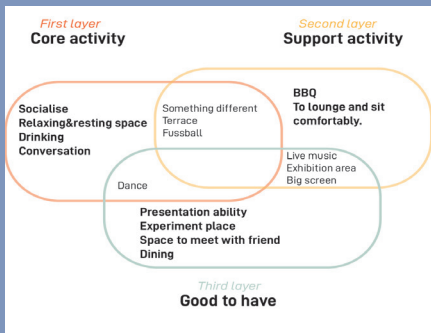
Participants mentioned many activities besides the bar activities. They don't see Lagerhuysch as a student bar but a place for multipurpose gathering. For example, a casual presentation, a place to gather with friends, a place to be creative and a place to relax. Therefore, a new Lagerhuysch will not be a place for drinking activity but a place for relaxation and casual education activity

Activity

The activities are divided into three layers regards to the priority. The first layer is the core activity 'What we need'. The second layer is the support activity, 'What we want'. The last layer is activities that are 'good to have'.

The figure fixme shows the overlapped area of two groups at different layers. (Please find appendix fixme for all activities list from both groups). Sometimes, each group prioritized the same activity at a different level. However, the prominent aspects which had been brought up during the discussion are the socialization, relaxation, presentation and outdoor space.

If choices have to be made, the priority should follow the layer.



Vision

After generating activities, participants were asked to make a conclusion of how they perceived the future of Lagerhuysch by forming a statement. To form a statement, participants have to answer the questions; (1) Lagerhuysch is for whom (2) What they want to do at the new Lagerhuysch. The notable shared element is that Lagerhuysch will be a mood changing point of the day. Group A's focus covers the inspiration place for study and aspect (new perspective and bright idea) and leisure (boring day to special day) whereas group B focus on leisure (take a break together).



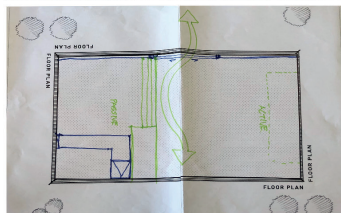
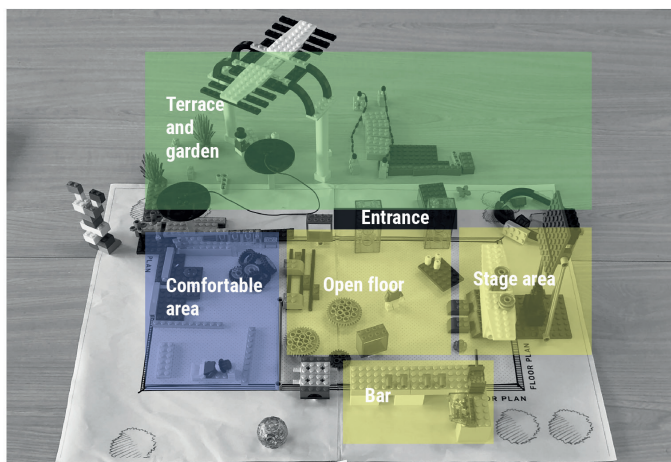
Making

The zoning shows how participants pictures the Lagerhuysch. Participants made model from Lego to express their ideas. The main insight from this step is about the space arrangement, zoning.

The common zoings are listed below;

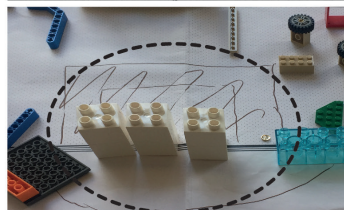
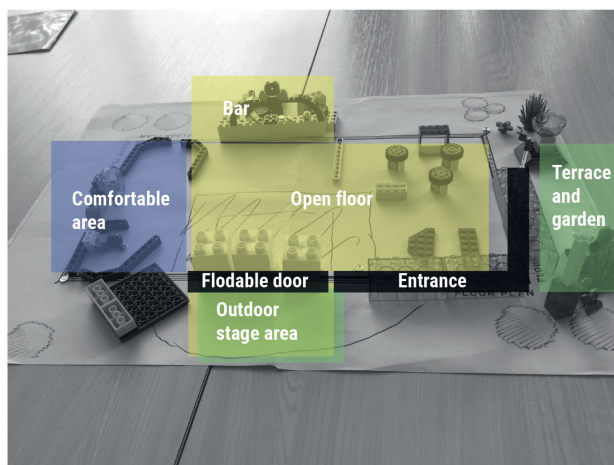
- A highly flexible semi-open space for multipurpose use.
- Relaxing areas which have a comfortable couch to sit
- An outdoor area with green and a sitting area.
- Transparent entrance which blurs a connection between indoor and outdoor spaces and attract people to come.

Next figures provide a picture of models that participants built together. The models served as a tool to help participants express their needs and concerns and explore the possibility. It shows how participants pictured space at a zoning level. Therefore, when viewing the models below, it is important to keep in mind that they are not the actual design. They do not include dimensions of spaces, precise locations of spaces, shapes of spaces and the building. Please use it as information for interpretation and inspiration to develop a design.



◀ Floorplan show the different level of the active and passive part.

- Active area
- Passive area
- Outdoor area
- Stage area
 - Big screen
 - Stage
- Open floor
 - Highly flexible space for multipurpose use.
 - Stand table
 - Exhibition stand (moveable)
 - Fussball
 - Beerpong
- Bar
 - Beer taps
 - Small kitchen area
 - Cashier
- Comfortable area
 - This area has a higher steps
 - Couches
 - Beanbags
- Terrace and garden
 - Small framhouse
 - Bridge across swamp
- Entrance area**
 - Seamless transition from outside to inside
 - Sliding glass door



◀ Stage space indoor+outdoor.

- Active area
- Passive area
- Outdoor area
- Open floor
 - Highly flexible space for multipurpose use.
 - The middle area has a lower step for two steps to create a casual stage area.
 - Stand table
 - Exhibition stand (moveable)
 - Fussball
 - Beerpong
 - Movable screen
- Bar
 - Beer taps
 - Small kitchen area
 - Storage space
 - Fridge
- Comfortable area
 - Couches
 - Beanbags
- Terrace and garden
 - Small framhouse
 - Bridge across swamp
- Entrance area**
 - Seamless transition from outside to inside
 - Sliding glass door
- Foldable door**
 - To expand the stage area to outside. Create a connection between inside and outside.

Mood and tone

Mood and tone represents the spirit of the place visually. The feeling that the participant wants in the place. The common element are listed below;

Keyword; Natural, Cosy/comfy

Pictures: (blue container),(old wood),(plant),(fabric)

The result can be use as an inspiration to design the space.

Topic	Group A	Group B
Identity statement	'A place where you can share your ambitious through new ideas and technique'	'Diverse yet unified'
Keyword	Open, comfy, natural, friendly, power	Warm (5), Industrial (4), Cosy(3), Natural(3), Rustic(2), Modern(1)
Explanation	Group A create a mood board by themselves. They choose the keywords and pictures individually and then combine them. It would be insightful to ask the reason behind each picture. They want the new Lagerhuysch to have a home feeling and also be an innovative and inspiring place.	Group B selected the mood board from a <u>pre-defined</u> mood board. There are three selected mood boards. The main mood board which got the highest vote is the second one from the left. The first and third mood boards come in second place. The participants indicated that they want the interior of new Lagerhuysch to have a feeling of the second mood board while they wanted the exterior to have a feeling of the third mood board mixed with the first mood board.

lessons learned

Participants are capable of conveying a mood and feeling through a designed object.

At first, I was very hesitant to include the styling exercise, since the architects are not in favor of the exercise. However, I gave it a try and it worked out better than I thought. Participants get the concept of a mood board very quickly, and one of the groups was even enthusiastic about creating a new mood board by themselves. It proved that participants have a design ability to the extent of conveying the feeling they want.

A making exercise can foster discussion about the activity and zoning, but not the detailed design, which needs the knowledge of human scale.

The discussion during the making process is insightful and fruitful. Listening to participants discuss with others and asking 'why, how, question' reveals the reason behind their needs and detailed information of their needs. The answer allowed architect students to elaborate on the design further. For example, participants wanted a kitchen, so they created a huge counter. However, when they were asked about how they cook, it appeared that they only cook basic foods, such as bitter ballen, which only require a minimum cooking space.

An architect is reluctant to sketch.

An architect is reluctant to sketch because of two reasons. The first reason is that they want time to digest all generated information and carefully create a design that covers all needs and concerns. The second reason is that they are afraid to overpower others.

Architect help elaborated the making part.

For example, they encourage participants to think about common sense, or they elaborate on the design and make sense out of it. For example, how to make space seamlessly connect to the outside.

***"The information that we had been generated were so rich. The time was too limited to conclude everything into a drawing."
- Architect student***

***"If I had to conclude everything at that moment, the final design will not be their creation but my creation."
- Architect student***

An architect feel excluded

Including architect students in the process helps participants make sense of their thinking during the making exercise. However, architects feel excluded in some exercises. As most of the exercises focus on citizens' experiences and it is not an architect's role to contribute this information, they feel excluded.

A transition process is needed

Architects need practical information to sketch e.g., a real floor plan, surrounding area information, number of citizens, etc. Therefore, follow-up activity is needed to help the architect feel confident to sketch, such as providing a fact sheet (number of people, sq.m.)

Other reflection

- Balancing gender has to be taken into account.
- The prioritization board allows too many answers. It should limit the number of answers that participants choose.
- The prioritization board kills creative ideas.
- Although participants were very enthusiastic about using Lego the result is too vague to be directly translated into an actual design.
- The statement board works very well. Participants mentioned that it forced them to make a consensus conclusion after they had generated many individual ideas. It becomes a shared goal that everyone agrees upon.
- Participants feels positive about the session. Participants agree that the session helps them express their needs and concerns.

Clear start and clear follow-up is crucial.

The objective of the session is not clearly stated at the beginning of the workshop; problem owner or facilitator should have made it clear. The conclusion of the workshop was lacking. Participants want to know how their input will be used in further steps.

"Somehow, it is not like a final step towards design but a good step for all to think in the same way."
- Participants

"The conclusion part really forces me to think and make a decision."
- Participants

"Eye opener in possibility."
- Participants

"Writing down all thought help me discuss with others."
- Participants

" It was a morning full with creativity"
- Participants

Evaluation

The evaluation is conducted by having participants fill in a feedback form and conducting interview with architect students. For the feedback form, please find appendix E.

Get closer to citizens

Three out of the four criteria are met. It is not clear whether CRE changed their mindset about users or not. Nobody showed a sign surprising of participants' ability to contribute to the design.

Foresee the value of PD

All criteria are checked. However, the depth of a program of requirement is met at a level of 'overall design' and 'look and feel', but neither 'functional design' nor 'feasibility plan'. Although the problem owner aims to get sufficient information to create a feasibility plan in the further phase of the project, the session could not deliver that quality. Architects agree that the results from the session can be used to design the space at the level of overall design and mood and tone.

In the next session, the level of feasibility and realistic design will be increased in order to test the possibility of achieving a more realistic result.

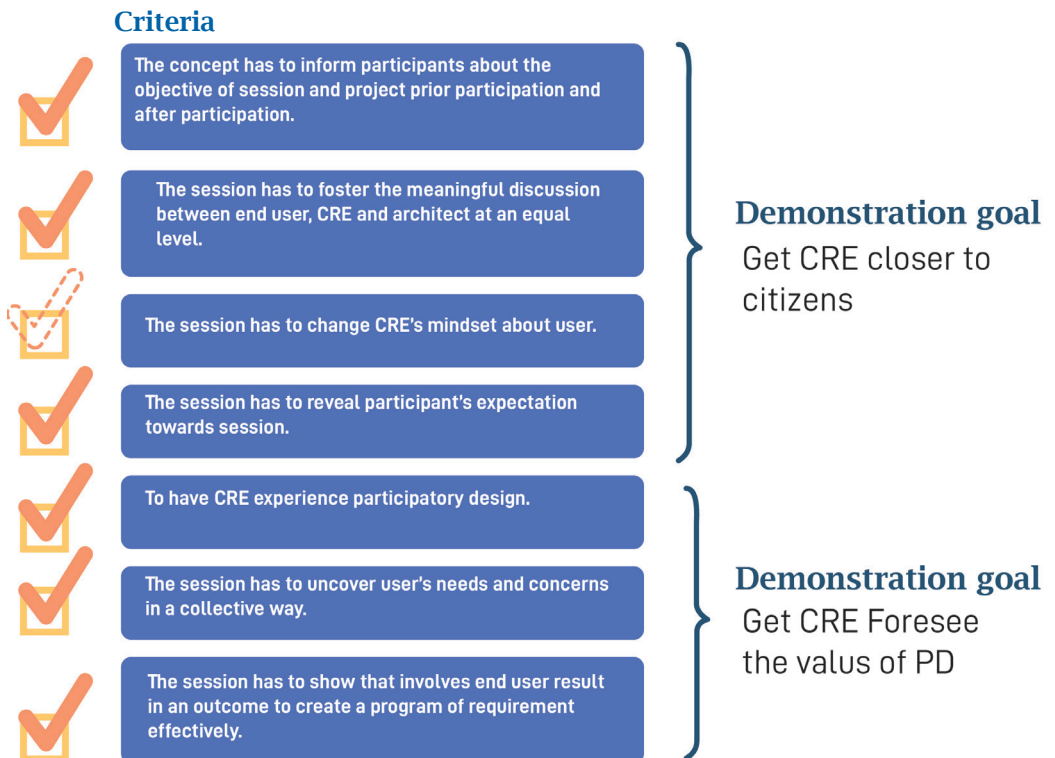


Figure19: An overview of evaluation.

Second case: EWI

The second case is a relocation of faculty of Mathematics. CRE has to accommodate the relocation of employees from current newly-build facility to a yet-to-be renovated place at EWI. (highly sensitive issue)



Second experiment: EWI

Project back-ground

About one year ago, people were relocated from the EWI building to the new building. They like the new building a lot and are about to settle. However, due to the fast-growing number of students, the new building will soon not be able to support everyone. Therefore, the dean of EWI decided to move the mathematics department back to the EWI building. Campus & Real Estate department is responsible for renovating the EWI building and accommodating the relocation. They decided to arrange this session with the users to discuss about needs and concerns regarding a new (renovated) working space.

Setting

Session name : Renovating EWI working space for the Mathematics department. The setting of the session is roleplay. Each participant has a different role and agenda. The session will be run at a faster pace than usual due to the time limitation. At the end of the session, there will be feedback and open discussion time.

Role:

1.Problem owner(CRE developer) : My users have needs, in what way I can express those needs in the best possible way: I want to create a project brief

2.Developer(CRE-developer): I need more detailed information about those needs of the user with which I can investigate the different possible solutions that match the needs that are mentioned in the project brief.

3.Users (two PhD student from IO) : I want to have my dreamed-of working space. How can I make this clear? How can I understand which changes there are? How can I make the right decision among possibilities?

4.Facilitator (Parastha)

Expected outcome

List of activity, zoning

Session design

This session used the same structure as the previous session. Three changes are applied according to the feedback from the previous session. Firstly, the prioritization (2) is added. In this exercise, participants have to make a consensus decision on the top five activities for each layer. Secondly, there is a new tool for a making exercise. The new tool was developed to substitute the Lego. The new design incorporates a human scale aspect of the model. Thirdly, a floor plan element changed to a predefined plan which is designed according to the minimum space requirement and maximum space requirement.

Due to the time limitation, some activities were left out. Those activities are the identity exercise and styling exercise.

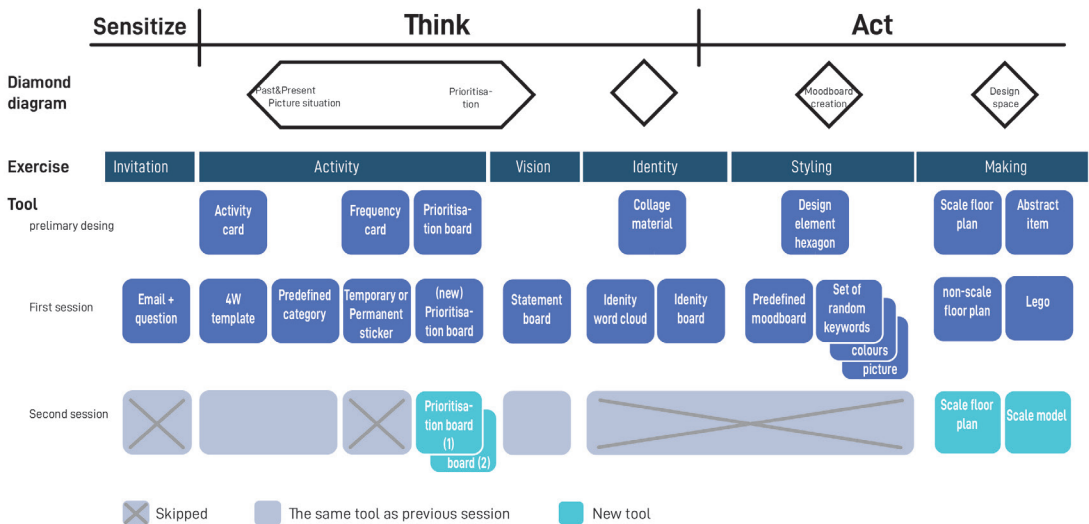


Figure 20: Figure shows how tools change from the preliminary design and first experiment.

This chapter will only explain the new tool. For the full detail of session design, please find appendix D.

Prioritization (2)

Purpose: To identify the degree of needs, to draw a conclusion.

Challenge: To make a consensus decision

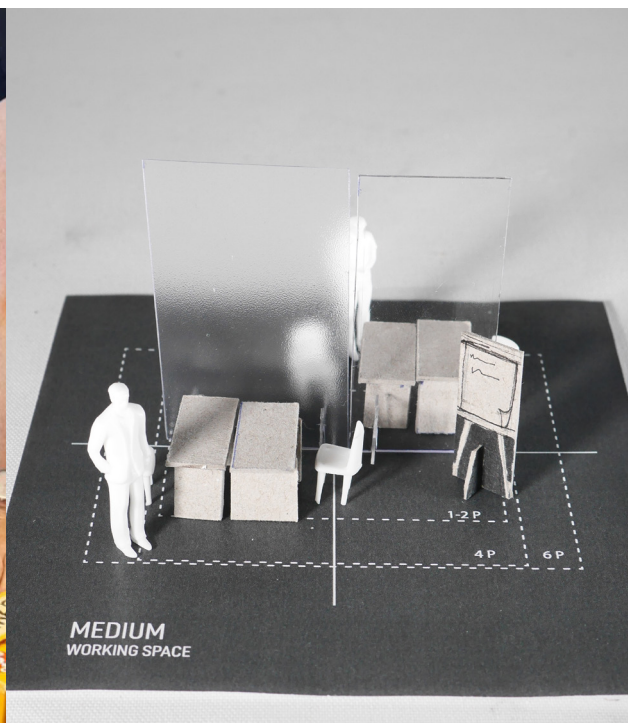
Explanation: After the prioritization exercise, participants have to choose top five activity for each layer as a group.

Scale model

Purpose: To identify the degree of needs; to draw a conclusion.

Challenge: To translate rich information into space design.

Explanation: PP have to design a space by using scale model and predefined plan. The scale model is simplified to focus only on the functional aspect. The floor plan is created according to the theory of space.
The scale model consists of basic office furniture, panel wall, semi-transparent panel wall and transparent panel wall.



Session result

The result of this session focuses on the new tool's limitations. A feedback moment was conducted right after the session. All participants shared feedback and ideas to improve the session and tools together.

lessons learned

Making consensus decision stimulate discussion

The rich and insightful discussion happened two times during the session. The first time was during the prioritization (2) because participants were forced to make a consensus decision by choosing the top five activities for each layer. Prior to the prioritization activity, there was minimal group discussion. The second time was during the making session. Participants tried to explain what they want while designing space.

Delicate time for a conclusion

In contrast to the Lagerhuysch session, the vision exercise was not as successful as it could have been. It might be because of the time pressure. Participants had a limited time to formulate the sentences. However, the vision exercise is a beneficial exercise as it creates a shared goal for everyone. Therefore, a generous amount of time should be dedicated to it.

Scale and simplified model restricts expression

The model limits the participant's ability to express feeling. Due to its simplicity, there is no room or element for interpretation or imagination. Every model has one meaning, such as a chair is a chair, a table is a table. Participants cannot convey the feeling that they want to create in the space.

The models focus solely on the function and square meter. Moreover, the realistic model made participants link back to the typical working space. For example, when they start making a model, they think about the size of a table rather than the way they collaborate with others. All the generated ideas are forgotten, surprisingly.

Spatial reasoning cannot be acquired in one workshop

Expecting participants to decide the square-meter-space relation is out of their expertise. They only know what their top priority is.

However, the top priority activity does not necessarily mean the most significant proportion of space. It is up to the architect's and developer's ability to design and utilize the space to cover all needs.

The step between a prioritization board to a making exercise is too big. Participants were not sure how to start. They were hesitant to play with the model.

Other reflection

Before going to the session, there should be some steps to get people on board e.g., a public data collection about the topic in general.

Participants mentioned that they could not convey the feeling that they wanted by using a simple scale model. This is reasonable, since the scale is not designed to communicate a feeling but a function. The exercise in expressing feelings is a styling exercise, which was not conducted during this session. This result stated the importance of the styling exercise.

A dominant mindset of a developer

Developers clearly tie with the developer view; the logic of always thinking based on a square meter, such as the proportion of space and actual space needed. The ideas that were suggested during the feedback forum revolved around the proportion of space.

Conclusion

The research result has answered the question from the preliminary phase .

To what extent user can design regarding space and style?

Participant as designer? Yes!

The result of the experiments shows that users could express their needs and concerns clearly, thanks to the structural question during the session. Then, based on generated ideas, they can visualize the space that served their needs and concerns at a fundamental level. Participants can convey the feeling that they want by using a design subject, such as mood boards and Lego. The rich insights emerged during a making exercise, both 2D making and 3D making.

Preserve the abstractness of the answer

The most challenging part in designing tools is to find the perfect balance between an abstract level and realistic level; developers tend to seek realistic and calculatable outcomes, but participants can express their needs and desires at a tacit level which is not necessarily linked to a space estimation. Although multiple exercises guide them to think about their own experience, they only connect to the activity and not space.

How much the tool should be abstract or realistic?

Preserve the abstractness of the tools

Therefore, it is vital to keep the question and tool open and focus on how participants interact with space. The tool should be abstract that participants can interpret. It should be rich in detail, constructiveness and inviting to play. It should not be accurate, nor to scale, to avoid limiting imagination.

Other numerical information that can help an architect or developer create a design should be accumulated

separately. This quantitative data should be collected from a broad public to get the most accurate number, such as the average number of people who use this space or the minimum and maximum number of during a group meeting.

At which stage is crucial for users to work closely with professional or making a decision?

Balancing commitment and power

However, every project has a different purpose and each organization has different readiness. In the case of CRE, PD is a new approach for them. It is not usual for them to have direct contact with citizens. It is even more challenging to let them have control of the creation of a program of requirement and design. Nevertheless, space design is relatively complicated, as it involves various activities which need different requirements. An expert needs to deliberately support participants during the session by helping them make sense out of the making and ask 'why, how' questions to reveal the needs and concerns behind it. The expert could be an architect or developer, as long as they possess a basic level of knowledge about spatial design.

Architect's attitude matter

From the observation over the first experiment and feedback interview with architect students, it comes to view that the architect's attitude affects the quality and direction of the session. If an architect has a building-oriented mindset, they are likely to dominate the group to get the design outcome they want. On the other hand, if an architect has a human-oriented mindset, they will try to help participants express their needs through elaborated questions and confirmations. Therefore, it is important to select an architect or expert that is open-minded.

What is the right balance between user's choices and architect's freedom to design?

Leave excel sheet to expert.

The results of the experiments show that users could express their needs and concerns clearly. However, it comes into view that, in the matter of feasibility - which accounts for a perception of space - actual color, material, and square meter, the professional should be in charge. They are experienced in balancing the design and cost. They know how to utilize resources and space efficiently. They can balance the needs and resources, then generate multiple possible designs.

Look further

Get public on board

Getting the public on board prior to the session is essential - especially if the project affects a vast majority of citizens. CRE should reach out to get a general input from the public and get them on board. It is crucial that the method has to be transparent and highly accessible. A digital platform is one of the most used tools for those purposes.

Case applicable

The question for CRE is, what kind of project needs participatory design? Considering a core value of PD in enhancing interaction, increasing a sense of ownership, and creating an on-the-point program of requirement, it is suitable to apply PD with a sensitive project that involves emotional issue and specific needs. For example, the case that citizens feel misused, a new function laboratory. The EWI case is applicable with PD.

Value delivery

**This chapter explains how the work reaches
an ultimate goal of the project 'Gradually
establish participatory design in CRE'**

Gradually establish participatory design in CRE

One of the key successes of organizational change is to make use of the momentum effect. The momentum effect happens when a project successfully creates an impact in the organization. People who participate will receive the positive energy and enthusiasm to carry on the project.

Experiments conducted create a ripple effect within the organization. Many employees became aware of the existence of PD. Some have first-hand experience with the participatory sessions. The organization has to seize the opportunity and continue to support employees to initiate new projects. Multiple projects will create a ripple effect that disrupts the bureaucratic structure of an organization.

Involving employees from CRE in the experiments is a strategy to diffuse the PD into CRE organization, as well as preparing a PD ambassador who will spread ideas and inspire others in the future.

The real case experiments conducted is a way to demonstrate how to do PD to CRE in a practical way. By showing the process in practice sessions, people will receive the message and understand the new process. Hence, they can foresee the change and are likely to adapt the new process. It will reduce the resistance to change in an organization.

Nevertheless, an initiative from one employee alone cannot create an impact, nor sustain the changes. The top management level has to support the change in an organization, too. It is important that the support will not institutionalize the process. Otherwise, the project will end up as pseudo-participation.

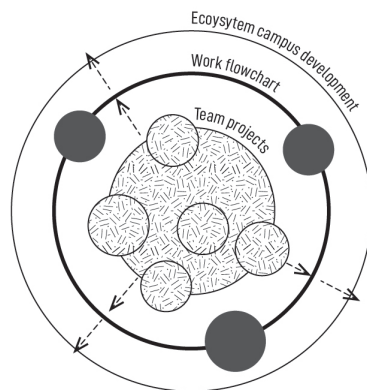
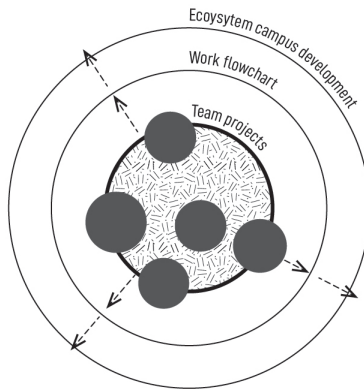
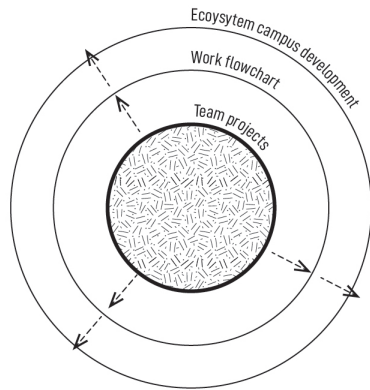


Figure21: Diffuse effect - multiple initiatives disrupt the bureaucratic organization structure gradually.

Final outcome

The scope of the thesis has been gradually narrowed down as the project evolved. Now is the time to go back to the original research question to create a holistic system for implementing citizen participation. Each design invention deal with the different challenges of implementation regarding time. This chapter presents the final outcome of the project.

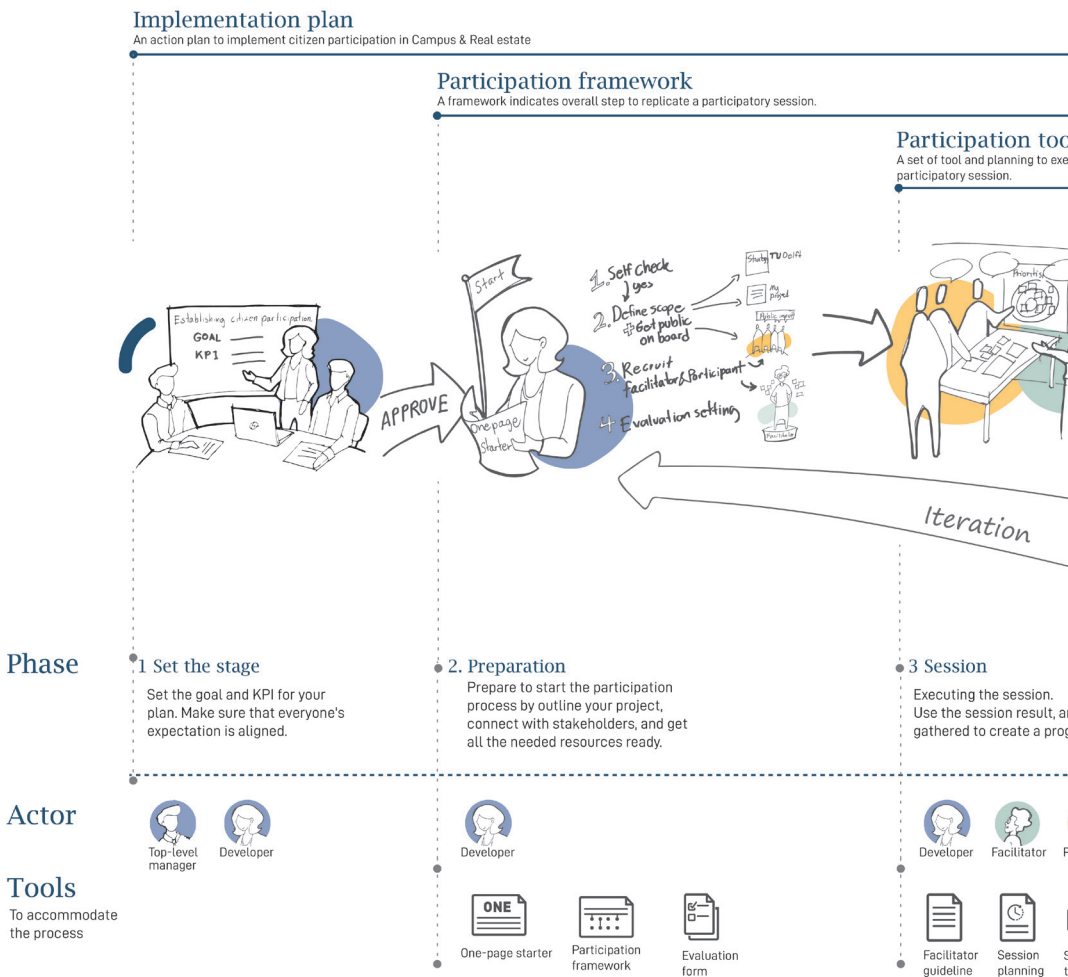
Deliverables :

- 1. Implementation plan**
- 2. Participation framework**
- 3. Participation toolkit**

The final outcome at one glance

This is the overview journey of the implementation of citizen participation.

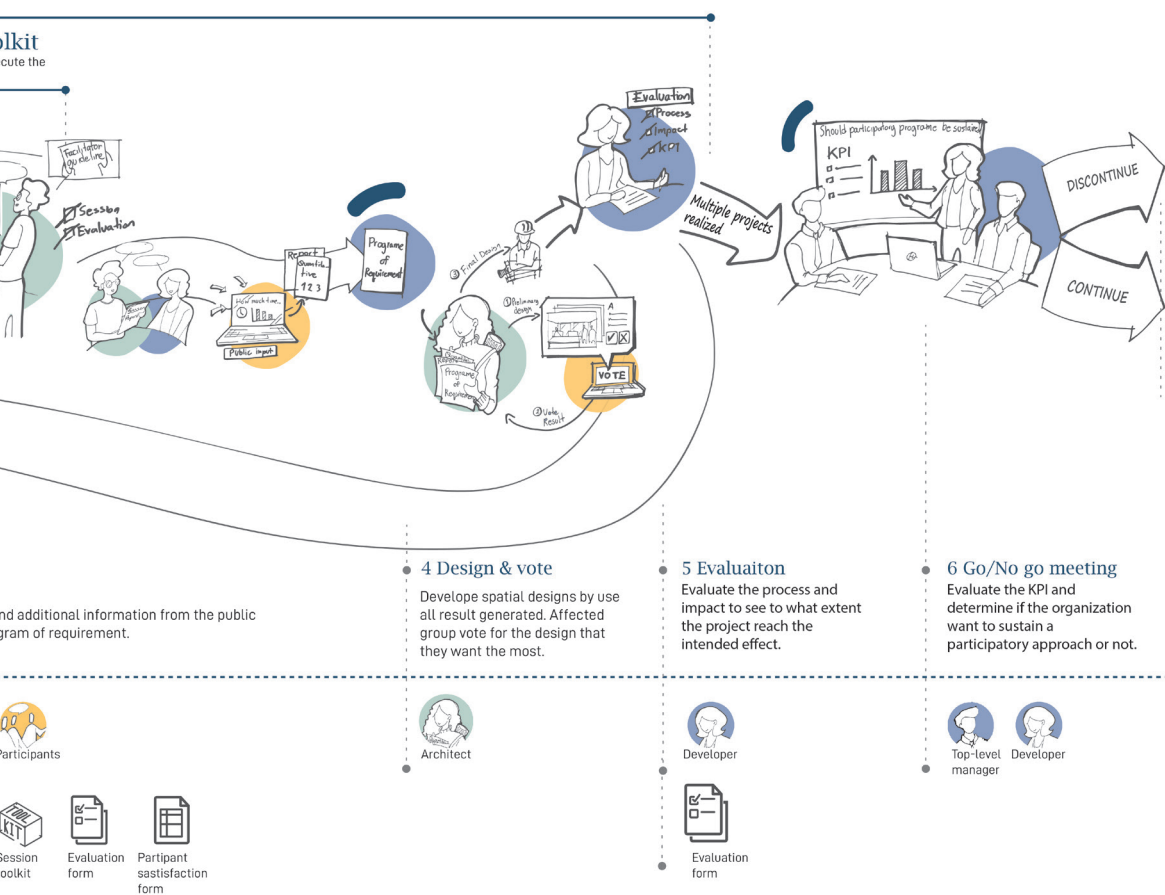
The implementation plan aims to foster the implementation of citizen participation in CRE. Within the plan, several tools are provided to accommodate the process. Participation framework and Participation toolkit are integrated into the plan. Participation framework aims to enable replication of the participatory process (preparation, session, design & vote, and evaluation), while participation toolkit focuses only on the execution of the session. This chapter explains the journey step-by-step.



Who? A developer who is interested in citizen participation. In this context, a developer will be referred as a project owner.

When? When a problem owner wants to start the participation project.

How? Please read this chapter and use the provided tools at the mentioned phase throughout the journey.



Implementation plan

1 Set the stage



According to the challenge in implementing participatory design from the Campus & Real Estate division chapter, political constraints can hinder the process at any point in time. To ensure that, once the project starts, it will not be withdrawn in the middle of the process, project owners have to get authorization from a top-level manager. It is highly advisable for the project owners and top-level management to develop KPI prior to the participatory process. This is so they can be used to evaluate the overall process later. The early collaboration can align an expectation and grease the implementation wheel. Moreover, having top-level management who are responsible for the change program at the critical milestone meeting is an important factor to ensure a commitment. The person's presence will underline and encourage the involvement of lower-level employees and project managers (Johnston and Tesvic, 2017)

1.1 Goal and KPI setting

Setting up a goal of a participation process and translating it into key performance indicators(KPI) is the starting point of the whole process. The measurable indicators are necessary to the success of the process and determining whether it should be sustained. This thesis suggests some indicators that are coherent with the value of a participation process in the real estate domain.

It is advisory for project owners and top-level managers to define more specific indicators according to the goal set.

Key performance indicators to measure the participation process performance.

Value	KPI
Eliminate the chance to invest in the irreverent undesirable spatial solution.	<ul style="list-style-type: none"> • The number of the project that is desirable by affected group. • Level of citizen satisfaction
Accommodate the group of people who are affected by the changing environment.	<ul style="list-style-type: none"> • The number of people who are satisfied with the changing process. • Level of satisfaction on various topics • The changing attitude towards the project.
Increase efficiency in creating program of requirement.	<ul style="list-style-type: none"> • Time spend in creating a program of requirements. • Cost spend in creating a program of requirements.
Organization reputation <ul style="list-style-type: none"> • Citizens recognize an organization's effort to promote citizen participation. • An outsider perceive an organization as a frontier in promoting citizen participation 	<ul style="list-style-type: none"> • A response rate of people who participate in the public survey relating to participation program. • A number of news/articles about the citizen participation project of TUD.

Participation framework

2 Preparation



This is the starting point of the participatory process. There are three tools to accommodate this process. The first tool is a participation framework which gives an overview of the process. It indicates the tools, actors, required action, concerning each step. The second tool is the one-page starter, which is designed to assist the kickoff of a project. It provides a step-by-step set of question to outline the project. The last tool is the evaluation form for setting up the evaluation Prior to the session.

2.1 Self check

The first thing a project owner has to do is to complete the one-page starter. The first question in the one-page starter is if the project needs PD? By following the questions in the one-page starter, a project owner will be able to decide if PD is a suitable approach for the project.

2.2 Outline the project

A project owner has to create an overall plan by defining an objective, mapping stakeholders, and defining the scope of the project. To do so, (s)he can follow the steps in the one-page starter.

Defining objective

A project owner has to state the purpose and project objective and participation objective clearly. This information will be used to create an evaluation form later.

Mapping stakeholder

Who should be involve in the participatory session and how to get them? A list of stakeholder is sugested in the one-page stater.

Defining scope & get public on board

It depends on the starting point of the project to decide how to define the scope.
A project owner can define scope by using a predefined theme, getting a general from the public to define a theme or defining the core problem with the affected group. This is a moment to inform the public about the project and recruit participants for the participatory session.

The participation framework and the one-page stater can be found as on the next page.

Participation framework

Participation framework simplified the participation process into a visual diagram with the aim of helping a problem owner foresee the whole process in relation to tools, actors, and required action. It could be used as a guideline to replicate a participation process.

The framework shows an overview of the process, indicates who has to do which activity, and which tool should be used at what time. It provides detailed action steps of the participatory process.

The topics consist of an evident, a participation tool, an actor, and an action.

Evident: Evident is a tangible result of the process. It is a medium to keep citizens informed throughout the process.

Process: The different phases

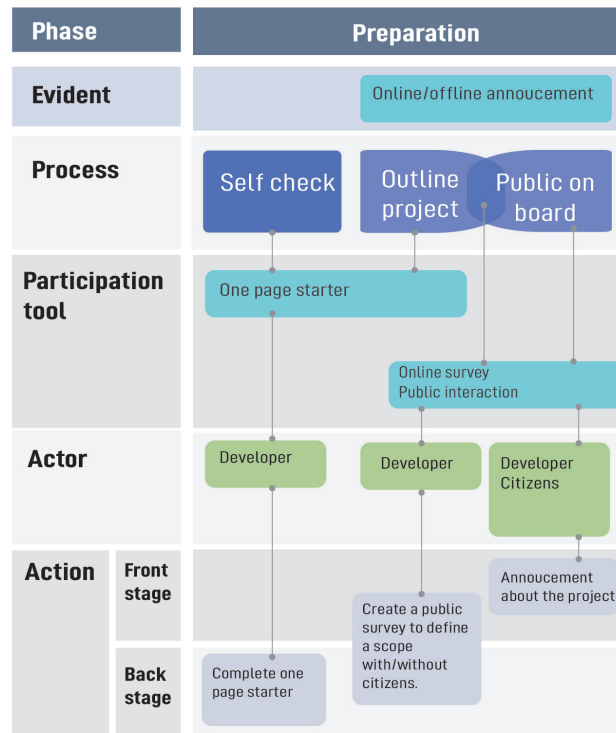
Participation tool: Participation tools are a different kind of tool to support the execution in different steps.

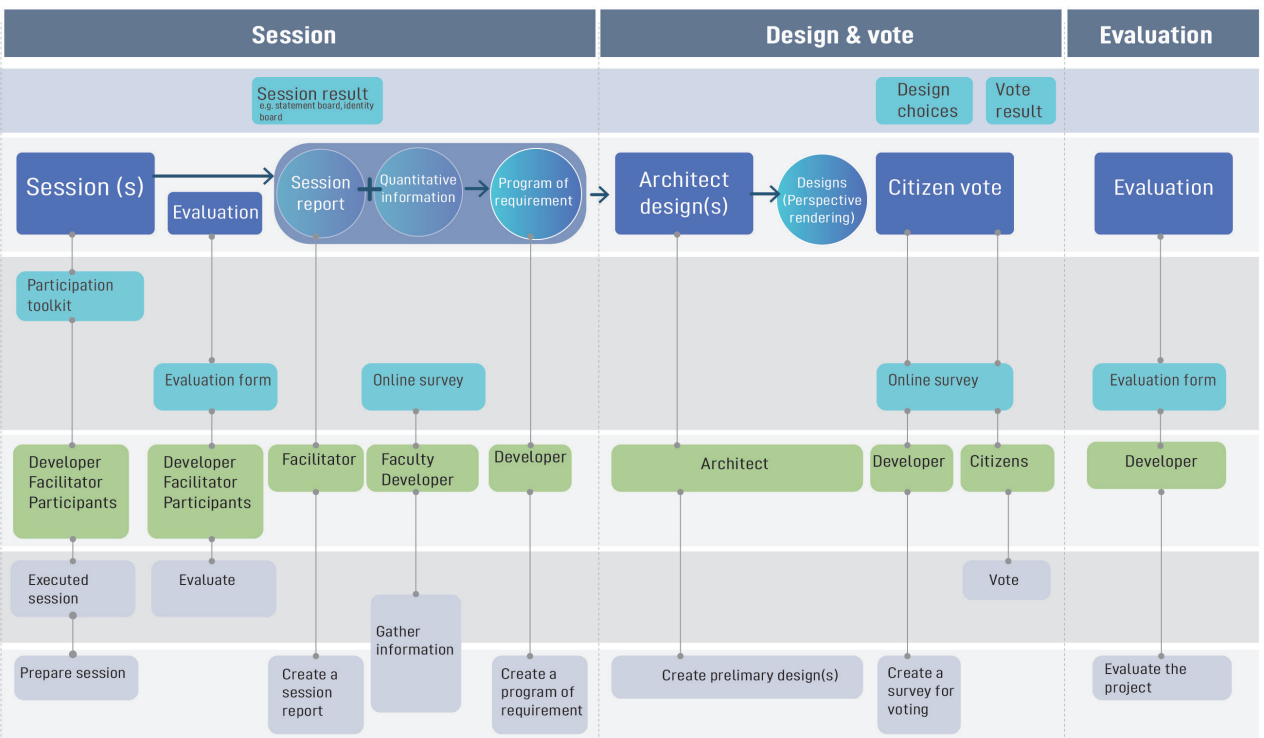
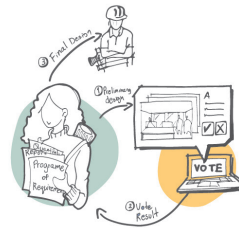
Actor: Actor is a person or group of people who are involved.

Action: Action is the activity that is expected to occur. The action is divided into front stage and backstage. The front stage is an action that requires citizen's participation. The backstage is an action to support the process and is not visible to the public.

The framework cannot be used individually. It is advisable to use it with this chapter for detailed explanation of each step. Other real estate companies can use it as a guideline to perform a participation process.

Participation framework





One page starter

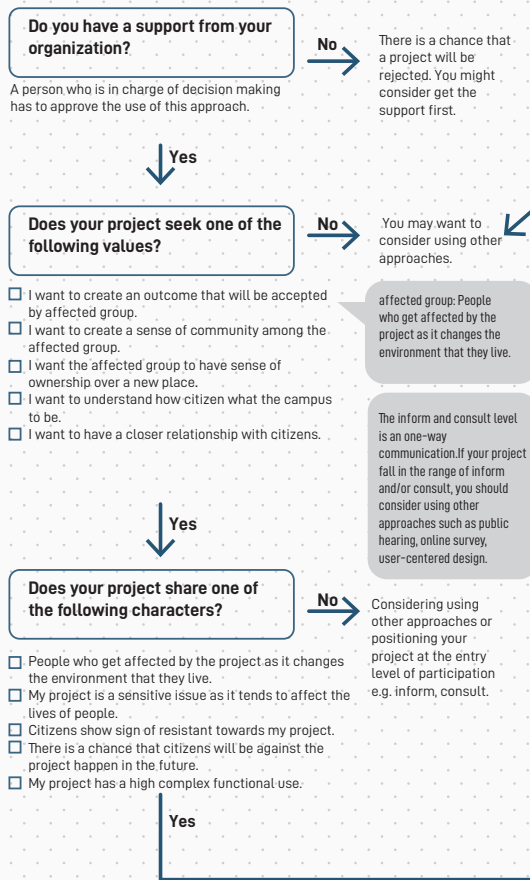
The canvas to help a project owner kickoff the project. By following the questions in the one-page starter, (s)he will be able to decide if PD is a suitable approach for the project and can create an overall plan.

(one page) Starter

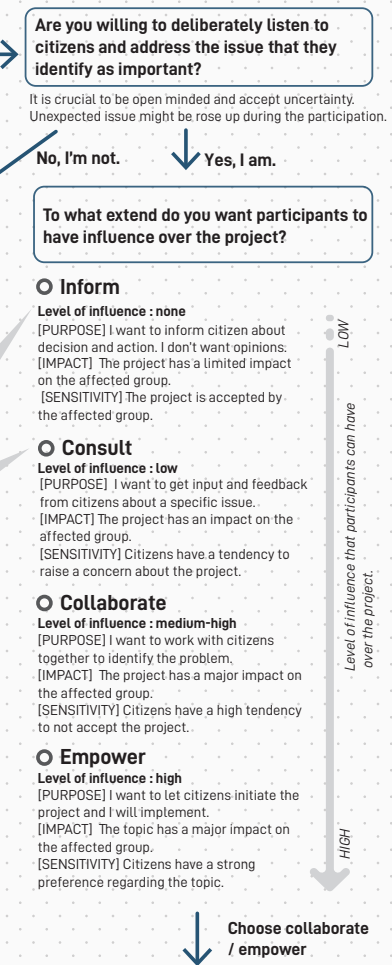
The canvas to help you get start the participation process.

Self check

1. Do you need a participation?



2. What is your desired level of participation?



Choose collaborate / empower

It seems like your project is suitable for participation. You can start outlining your project in the next step!

Outline the project

3. What is your purpose? 4. Who should be involved?

What is your purpose?

Why do you want to involve citizens?

What is your objective?

Participation objective

What relationship do you want to establish with participants?
 What do you want participants to achieve from participating?
 What might be your ideal outcome of the session?

Project objective

What is the outcome that you need for the next step after participation session?
 What is your KPI?

What is your limitation that you have to consider?

What limitation that you have to consider?
 What are elements that negotiable and not?

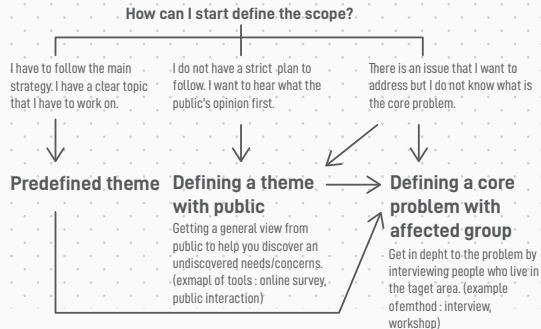
Evaluation setting

Use these information to fill in the evaluation setting form.

	Who?	How would you reach them?
Project owner <i>A project owner is a developer who responsibility for the project.</i>		
Problem owner <i>A problem owner is a person who purpose a project such as a dean of faculty who wants to renovate a space.</i>		
Participants <i>Participants are selected from an affected group.</i>		
Facilitator <i>Facilitate is a person who facilitates the participatory session. It is crucial to have a neutral facilitator to ensure trust and transparency.</i>		
Expert <i>An expert is a person who has an understanding of space design. An expert can be the project owner or an architect.</i>		
Public <i>The public is everyone who is directly get affected by the changing environment.</i>		
Architect <i>An architect is a person who is in charge of designing a space according to the participatory session result.</i>		
..... <i>Are there any other stakeholders that you have to take into account?</i>		



5. What is your scope?



* Defining the scope is not aims to find the solution.

2.3 Recruiting participant and facilitator

To ensure the quality of participation, a project owner should recruit participants that represent all groups. There are two ways to do so. The first way is a randomized selection. Participants got selected randomly without any criteria to avoid the bias of a selector. The second way is to recruit participants based on the variation of the answer. The selection should happen after a public survey that reveals the different group of interest.

Although CRE is incharge of the whole process the facilitator has to come from an external party. The external facilitator is expected to run the participatory session, deliver a session report accordingly the session report content list and evaluate the session with a project owner by using a process evaluation form..

One of the key criteria of the facilitator is neutrality. Recruiting an external person who has no hidden agenda is the best way to do so. The neutral facilitator can ensure the transparency process and ease the participant's worried about hidden agenda or being manipulated during the session.

2.4 Evaluation setting

The purpose of the evaluation is to learn from the process and to determine the extent of the achieved goal. The evaluation topic should be set prior the session and completed at the end of every project.

The topic of evaluation is twofold. The first topic is a process evaluation and the second topic is an impact evaluation. The process evaluation's purpose is to assess the efficiency of the process and reflect on the overall execution in order to further developed the process. The impact evaluation's purpose is to assess if the participation program achieves the intended effects.

Process evaluation

The process evaluation has two topics; process execution and efficiency.

The process execution is a reflection on the participatory session performance. The result will be used to improve the future session.

Efficiency focuses on time and money. The purpose is to keep a record of how much investment was needed to operate the whole participatory process. The recorded information can be used to foster decision making if participatory process worth investment at the go/no-go meeting.

Process execution

Main questions

- What worked?
- What did not work?
- Identified lesson learned
- Discover potential ideas for improving solution.

Who has to evaluate?

- Project owner
- Facilitator

When to evaluate?

- After participatory session
- At the end of the project

Efficiency

Main questions

- How much time was a participation process required?
- What costs were incurred for you/ company?

Who has to evaluate?

- Project owner
- Facilitator
- Participants

When to evaluate?

- After participatory session
- At the end of the project

A process evaluation form can be found on page 100-101.

Impact evaluation

Impact evaluation consists of three topics; project impact, participation impact and public impact. The project impact evaluation topic consists of the sought value and participation goal stated in the one-page starter. Participation impact is participant satisfaction. Citizen impact is the degree of public awareness about the project.

Project impact.

To what extent the project achieve the....

- Participation objective
- Project objective
- Sought value

CRE has to decide what are the impacts that they want to achieve and translate them into the question for evaluation. Example of the elaborated questions;

- What is achieved?
- What is not achieved? Why ?

If the value is relating to the degree of change, CRE should use a pretest-posttest method in a format of semi-structured interview.

For example, if the project aim to create an outcome that will be accepted by affected group from changing environment, it should evaluate a degree of acceptance that change over time.

An impact evaluation setting can be found on page 102.

Participant satisfaction.

How satisfied you are with.....

- Ability to express needs and concerns
- Quality of the discussion
- The openness of the discussion
- Influence over the outcome
- Fairness of the process
- Neutrality of facilitator

Participant satisfaction can be translated into the a measurable indicator, the question can ask participants to rate the level of satisfaction, for example, how satisfied you are with your ability to express needs and concerns during the session? A project owner can add more questions if needed.

The answer is a spectrum of satisfaction. The spectrum are very satisfied, satisfied, neutral, dissatisfied, and very dissatisfied.

A participant satisfaction form can be found on page 103.

Citizen involvement

To what extent public was...

- Informed about the project
- Participate in the project

CRE can assess the level of citizen involvement by measuring a response rate of the public vote/ participation and a number of respondents on the survey.

Process evaluation : efficiency

To keep record of investment was needed to operate the whole participation process. CRE can use the recorded information to foster the decision making if participation process worth investment.

Who: Project owner, facilitator, participants , expert
When: After participatory session and at the end of the project.

	Preparation	Participatory session	Evaluation
Time How much time was a participation process required?				
Cost What costs were incurred for you/ company?				
..... Are there other factors that relating to the efficiency?				

Process evaluation : process execution

To reflect on the process execution and learn from its success element and failed element. The result can help organization to further develop the participation plan for the future cases.

Who: Project owner, facilitator
When: After participatory session and at the end of the project.

What worked?

What did not work?

Identified lesson learned

Discover potential ideas for improving solution.

Impact evaluation setting

A project owner has to fill this form at the start of the project by using information from one-page starter. Then formulate questions for evaluation regarding each topic.

Who: Project owner
When: At the start of the project.

Fill this part by using information from an one-page starter.

What is your participation objective ?	Question for evaluation
	<i>(example : what was achieved?, what was not achieved?)</i> ----- ----- ----- ----- -----

What is your project objective ?	Question for evaluation
	----- ----- ----- ----- -----

What is your sought value ?	Question for evaluation
	----- ----- ----- ----- -----

Participant satisfaction

Who: Participants
When: After participatory session

1. Did the session meet your expectation?

1.2 Why did the session meet or not meet your expectation?

2. How satisfied you are with.....	very dissatisfied	dissatisfied	neutral	satisfied	very satisfied
Ability to express needs and concerns					
Quality of the discussion					
The openness of the discussion					
Influence over the outcome					
Fairness of the process					
Neutrality of facilitator					
.....					

3. If you have any suggestion / complaint / compliment, please leave the comment here.

Participation toolkit

3 Session



After deliberate preparation, it is time for execution. The session and tool are suitable for the project that seeks to discover how people interact within the space, what kind of activities are happened. It is most suitable for a low complex project such as small new space design, an interior renovation, and relocation of residents.

Session suitability

Number of participants: 4-6 person per one facilitator

Time: half a day

Deliverables: Session report which will be used to create a program of requirement.

Case applicable: Low complexity.

Case example: A non complex space design, an interior renovation and relocation of residents.

3.1 Execute the session

Participation toolkit

The facilitator is a person who is the main actor in this phase. They have to use the toolkits to execute the session. The toolkit consists of a manual of how to use the toolkit, a session plan, a facilitator guideline, and session tools for use in session.

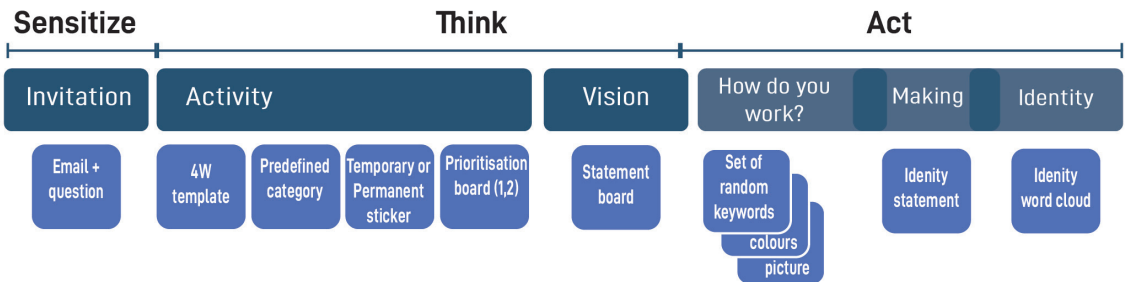
Session manual	A manual explains how to use a participation toolkits.
Session planning	A detail plan of the session. It indicates exercises, time, purpose of exercises, explanation of each exercise.
Facilitator guideline	A set of suggestions of how to execute the session perfectly.
Session tools	All of the tools that design for use in the session.

Please find the design of all tools in appendix F.

The session

The final session design is developed regarding to the result of the two iteration of experiments. Most of the exercise is the same as the latest experiment except the act part. The new act part is a collage exercise which allows participants to create anything, regardless of the limitations of space and scale.

The next figure shows an overview of the session planning in relation to tools.



Sensitized part



This stimulates participants to think about the topic before joining the session. This way, the participant will gradually recall their experience. The project owner has to send an invitation email to participants. The email consists of questions about the project. The questions are; What do you like best about your current working space? What do you dislike most about you current working space? What is your dream working space? The project owner can change the word 'working space' to suit each project.

Think part



The think part starts in the session. It is divided into two main exercises. The first exercise is an activity. It aims to stimulate participants to recall their activity place in the past, and in the present. Then, imagine the possible future, step by step. This way of thinking will help participants reflect on their own needs and concerns, then be able to imagine the future and express it easily. The second exercise is a vision. It forces participants to make a conclusion about their future place as a group by formulating a vision statement.

Act part



The act part is a making exercise in which participants translate their needs and concerns into visuals. They have to design a possible outcome based on the ideas and information that they had generated. The setting is a freestyle collage. The main focus of this part is to answer the question "HOW do you work?" It is in sequence with the think part, which determines the focus/priority of activity and the desired vision of the new space.

In a group of 2-4 people, participants have to make a collage to envision how they want to work and the feeling of the space in the future. The material for creating a collage are a set of random pictures, a set of colors, and a set of keywords. It is a facilitator's responsibility to select all of the material in consult with a project owner. They also have to formulate identity statement in one sentence.

Material selection tips

The pictures have to cover various range of activities such as working activity , break out activity, leisure activity and sport activity.

The keywords have to cover the following topics; mood of space, space style.

The colour should cover the colour that represent different emotions. Each colour can have different shades and should not exceed five shades.

The discussion during the making is expected. It reveals a richer insight than the result itself. Therefore, recording of the discussion is crucial. During the exercise, a facilitator has to ask questions to stimulate participants to explain the reasons behind their making. The project owner can give an opinion from an expert's view. A facilitator has to make sure that a project owner or an external expert does not overrule, nor asks leading questions to participants. At the end of the session, a facilitator has to announce the conclusion of the result briefly.

The detail explanation of each step of the session can be found in appendix E.

Evaluation

After the session, participants have to complete a participant satisfaction form and share the general feeling in a group. Facilitators and project owners have to make sure to mention that the results would be used to develop a program of requirements which will be a guideline for an architect to design a space.

A participant satisfaction form can be found on page 103.

(end of) Participation toolkit

3.2 Deliver session report

The facilitator has to deliver a session report. The session report must retain the richness of discussion during the session to ensure that all insightful information are delivered

3.3 Create a program of requirement

Apart from qualitative information from the session, quantitative information is needed to create a program of requirement. The project owner has to acquire this information from the public. The question should be formulated according to the generated 'list of activity'. The easiest way is to use an online survey. The following list is a topic that has to be covered.

The project owner uses the session report and quantitative information to create a program of requirements. The program of requirement is a cover page of all results, showing an overview of the project. The detailed information should not be altered from the session report.

Therefore, the session report and quantitative information should be handed to the architect along with the program of requirements.

Session report content list

The following list is the information that should be presented in the report.

- 1. List of activity (according to the different level of prioritisation board)**
- 2. A vision statement (statement board)**
- 3. Highlight of discussion**

- *Video recording and transcription of insightful discussion moments.*
- *The reasoning behind the major activity according to the priority board.*
- *The reasoning behind a vision statement.*
- *The reasoning behind a making exercise.*
- *Moment of conflict*

Quantitative information content list

1. Time spent on a specific activity. (e.g. meeting with the team, discussion with a small group)

- *How much time do you spend in... (activity)...?*

2. Frequency of a specific activity. (daily, weekly, monthly)

- *How often do you.....(activity).....?*

(half-day) Session planning

minute	Exercise	Purpose	Explanation	Material
10	Introduction	To get everyone to talk To manage expectation	PP participate in ice breaker game FC divide pp to a group of 5-6 people. In a group, each pp introduces himself by present the answer in the invitation letter that they prepared beforehand.	Booklet
15	Talking about past and present situation	Recall past memory. To share experience with others.	PP have to do brainstorming by using past-it. They have to answer the questions in order, Who, What, When, Why	Context board
10	Talking about future situation	To explore new possibility from different view. To share ideas with others.	Stimulate pp to go beyond the obvious answers and think about other possibilities by giving scenarios	Past-it
10	Activity category	To compare ideas and find similarity.	PP categorized activities that they generated in a pre-defined group. They can add more activities/ categories if needed.	Predefined group label
10	Detailing activity	To truly understand others' ideas.	PP categorize which activity is PERMANENT activity or TEMPORARY activity by using dot colour sticker. Each colour represent each meaning.	Dot colour stickers (2 colour)
10	Prioritization (1/2)	To make choices. To identified the degree of needs.	PP prioritize activities that they generated Each person pick activities that they like most and put on the prioritise board. There is no limited amount of choice that they can pick.	Prioritisation board(1/2)
15	Prioritization (2/2)	To identified the degree of needs. To make a conclusion.	As a group PP can choose top five activity for each layer	Prioritisation board(2/2)
15	Vision	To align the vision. To transform 'individuals' into a group'	PP conclude the [name of the place]'s objective by filling in a question : [name of the place] for WHD to do WHAT. Each person formulate their own sentence and present it to others. Then every one will get three dot to write the sentence that they like most.	Statement board
10	Break			
10	Energize game	To stimulate PP	PP participate in energize game.	
10	Play time	To get participant familiar with tool	PP have to complete each other by making a collage that represent an amusement park in five minute. Then present it in a group. Everyone vote for the winner. (The winner get a reward)	Small reward for winner
30	Envision the vision	To visualise way of working To foster the discussion between participants.	In a group of 2-4 people, they have to make a collage to present How they envision the statements by using collage technique. They also have to make one statement that explain identity of this place. FC can start from having PP choose 3 keywords as a group, then let them play around.	Random keywords, Random pictures, Random colour, Dot sticker, Identity board, Scissors, Glue, Tape, Blank paper, Magazine
10	Presentation	To share final result	At the end every group have to present the collage, explaining the reason behind the picture choices.	

PP: Participants FC: Facilitator

Session manual

How to use this participation tools.
for facilitator

In this box you can find essential material to execute a session.

- Session planning
- Facilitator guideline
- Session tool (via flash drive)

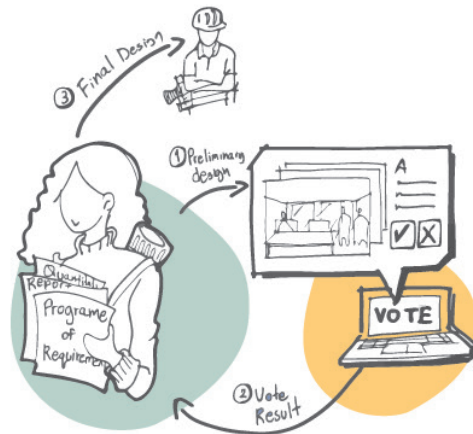
Facilitator guideline

How to nail the session.

Suggestions, tips for each step of the session.

- Question to stimulate participants.
- Thing to be aware of.
- Always keep record.
- 3 Remind 3 golden rule.
- Listen deliberately.

4 Design & vote



4.1 Preliminary Design

An architect is hired from an external agency. s(He) has to use all of the results to generate two to three preliminary designs. The requirement of preliminary design is a 3D rendering of the interior/ exterior design that shows the primary activity according to the session results. The render should be understandable from a nondesigner point of view.

Preliminary design requirement (for public vote)

1. Render picture

- Overview picture
- Focus picture (2-3)

2. **Concept explanation** (What need/concern does this design address? How does the design address the session result?)

4.2 Public vote

The preliminary design will be used as the main material to get a public vote in the new step. Through an online platform, the public can vote for the design that they want the most. The selected design will be used to create a final design and go through the process of the design and execution phase.

(end of) Participation framework

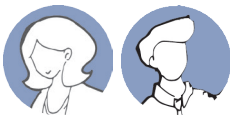
5 Evaluation



At the end of the project, the project owner has to evaluate the project by using the evaluation form that had been set at the beginning of the project.

(end of) Implementation plan

6 Go/No go meeting



The project owner has to evaluate the overall process by completing the evaluation form mentioned before including KPI evaluation.

It is advisable for CRE to execute a couple of cases to determine if the PD is a suitable approach for the organization and the value that it brings worth the investment. It is important to carefully perform the evaluations. The important question is whether the achieved values are worth the investment.

Evaluating by using the KPI set will foster the decision making at this milestone. It is crucial to have all members, top-level managers, and project owners presence during the final presentation of evaluation results.

Critical questions

Did the projects reach the established goal?

Did the projects reach the established KPI?

Epilogue

This chapter provides a conclusion of the thesis, limitation and future recommendation.

Conclusion

As the campus is becoming the city, the university has a new role which also comes with new responsibility. It has to address citizens in the same way the city does. Implementing citizen participation within the TUD campus is the main focus of this thesis. The initial research paid attention to the context of campus development and participatory design in theory and practice. Although there is much research on participatory design, especially in the public development domain, limited attention is paid to the real estate domain. Participatory design is rarely initiated from the real estate domain. The research result provides an overview of PD, the challenge of implementation and the value of PD.

Another prominent research result is that the real estate domain firmly ties with the business viewpoint and technical viewpoint and users are viewed in a numerical manner, such as a square meter needed per person. Although developers are trained from the architect school, they break the expectation that they would share some perspective with industrial design. The initial research conducted uncovers the underneath layer of difference in these two domains. Surprisingly, they had different points of view of users, causing them to address users differently. Although CRE showed attempts to address users, the users in their opinion do not need to have direct experience in the space, instead the users are only representatives of faculties. On the contrary, in the PD principle, users or citizens are people who live in the area and have a direct effect on the changing environment. To start implementing PD, this misconception has to be aligned.

Therefore, a design direction focusing on two values must be implemented; to get CRE closer to citizens and foresee the value of PD. Research through design is the main approach of this thesis. Two experiments were conducted to develop session design and participation tools. The experiment aims to bring CRE closer to citizens and show how participatory sessions could help CRE create a functional program. Hence, a program of requirements in a relatively short time.

The half-day experiment extracts participant's needs and concerns regarding activity in a collective way. The result contains rich and insightful information which can be used to create a program of requirements hence a desirable design. This eliminates the chance to invest in the irreverent undesirable spatial solution.

The comprehensive participation plan is developed to foster the implementation of citizen participation in CRE in a long timeframe. The plan consists of an implementation plan, participation framework, and participation toolkits. They

provide a practical suggestion and guidelines to systematically follow. The implementation plan provides high-level suggestions for real estate companies to set the stage of the implementation program by setting the goal and KPI. The participation framework provides a holistic view of a participation program and an action plan in relation with actors, tools, and required action. The participation toolkit supports the execution of the participatory session. At the basic level, it is recommended that CRE use the plan to start implementing citizen participation.

Limitation

The outcomes of the project are explicitly designed for CRE. It addresses the main concerns that CRE has internally. Therefore, it cannot be replicated without adaptation into another context. However, other real estate companies in the campus development context can adjust the process to suit their context by addressing the limitation mentioned in this sub chapter.

One of the noticeable limitations of the format of a session is the scalability. Only a limited number of participants can join the session. It is only suitable for a small-scale project. It also requires a highly skilled facilitator to run the session and deliver a session report.

The participation toolkit is project-oriented. It is only suitable for the case that seeks to discover how people interact within the space, what kind of activities are happened. It is important to be noted that participation toolkit cannot be directly applied to all kind of projects. The session planning can be replicated but some materials, such as keywords and pictures, are chosen based on the relevance to a project, hence they have to be updated to suit the context of the project.

Architect and construction projects typically have a long timeframe. Therefore, it is a challenge to measure the impact that the participation approach can bring to the project. To complete the cycle of evaluation, it will take the same period to complete the project. For example, participants' satisfaction of relocation has to be evaluated before the project start and after relocation to see the change of attitude over time.

Future recommendation

For CRE

Collaboration with Industrial Design Engineering faculty

One of the ways to embrace PD sustainably is to collaborate with the Industrial Design Engineering Faculty (IO). Specifically, the participatory city making lab. Their expertise will be able to help CRE in a steep learning curve of implementation. The collaboration will open other opportunities to implement the participatory design in different kind of projects. For example, CRE and IO can have a joint project regarding campus livability.

Furthermore, CRE can recruit students who have experience in creative facilitation to take the facilitator role. The third-party facilitator can ensure neutrality and quality of the participatory session. There is also an opportunity to turn the CRE project into an assignment for a student in the relevant participatory course, such as a design and the city course.

Owner of the participation program

It is advisory for CRE to assign one person to be in charge of the big picture of participation program in order to ensure the smooth operation throughout the process. This person has to keep track of all participation projects and perform the KPI evaluation during the go/no-go meeting. In this case, the PD ambassador is a suitable person as they had experience from participating in experiments of this thesis. (s)He acquired a basic understanding of PD and can help and inspire colleagues.

For CRE and TUD

Look beyond

During the initial research, I conducted explorative research by interviewing many people from different divisions in the TUD organization. I discovered that many people are trying to make the campus a better place. They have their expertise and are busy trying to tackle problems from their perspective. Since the ultimate goal is shared, would it not be better if everyone works together strategically? The opportunity arose as a collaboration across the domain at a strategic level. They could work under a specific theme regarding the quality of life of TUD citizens which aligns with the Covenant Gemeente Delft & TU Delft plan. There are many more issues than just the quality of education that need to be addressed to enhance the overall quality of life of people who live, study, and work in TUD and the city of Delft. Education is the main product of an educational institute, but education is not the only factor for people who decide where to live. Developing a campus by solely focusing on educational facilities

will not be sustained in the changing campus development landscape. The holistic view of the life within the campus and the city should be prioritized and addressed strategically while listening to the citizens.

For other real estate companies

A real estate company who is challenged by the changing role of the university towards the city can use this thesis to envision the possible ways to implement citizen participation systematically and practically. It is important to be noted that the tools have a limitation as mentioned before. The limitation should be addressed when adapted. The most important thing is to get started and keep practice.

For future researcher

Although the outcome indicates how real estate domain can apply PD, it is designed tailored for CRE. Thus further validation is needed to clarify if it can be adapt in other real estate companies. The topic that future researcher should pay close attention is the limitation of toolkits. For further participation project within TUD, there are many opportunities to adapt PD at a different scale. As mentioned above, the highlight of the opportunity is the collaboration between TUD and the municipality of Delft.

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Appendix

Appendix A

Student council activity

Role and responsibility

In the Netherlands, it is mandatory to have student representation in decisions governing higher education. The law states that the University Council has to consist of 1/3 students, 1/3 academic staff and 1/3 support staff. Student council is a representative of student decision-making with the university. They got selected by students in the university to represent their voice.

At TU Delft, student council work full time. Most of the members are native Dutch who are finishing bachelor degree. Femke, a vice president of ORAS party said that the active voter accounts for 35% of all students. The number is relatively high. The numbers suggest that TUD students are relatively active in the political field.

Student council has three rights in operation.

First right is the right to accept or refuse the idea from executive board.

Second right is the right of advisory. They can give advice to an executive board on a specific subject. The executive board has to listen and respond to the advice.

The third right is the right of initiative. Student council can pitch the initiative to the executive board.

Operation in the campus context

Student council is present in almost everywhere in the campus. They have a lot of collaboration with internal stakeholders such as X Delft, Career & Counselling, CRE, and external stakeholders such as student association. There is one contact person from student council per one stakeholder. Most of the time, the contact person has to be present in the meeting in order to be informed and/or give feedback about the given topic.

On a management level of organization, they have a monthly meeting with executive board. The objective of the meeting is to inform. It is an open meeting that anyone can join as an observer. In addition, there is an informal meeting in which they discuss with the executive board about strategy and their long-term plan. The information is confidential.

Relationship with student

There are several ways that student council get information from students. They often have a meeting with student association both a student association based in faculty and a student association situated outside university. In the meeting they have a conversation with the president of student association who represents the student from their study. Apart from a semi-formal meeting with student association, they have a casual talk with their fellow students. Another way to get input from a wider audience is done by survey. They started using this method last year. However, survey is a good method to get the overview of the topic but it cannot provide an insightful information. The limitation of survey format cannot reveal the problem behind the problem. They mainly use the gathered input to develop their campaign or reality check.

Student problem from student council perspective.

Wellbeing

As wellbeing of students is recently addressed as a focus topic, student council had started working on the topic. They are in the phase of researching the current situation. They formed an advisory group which consists of employees from career and counselling, a person from education and student affairs and some students to investigate and discuss about the student wellbeing situation in TU Delft. They believe that university is the place that shapes students and it should help students to develop themselves aside from providing knowledge and diploma.

Stress

Stress issues are mentioned as a main problem that affects student life in the campus. Several projects have been organized to help students during the exam period. For example, an inspiring talk about stress organized by X Delft. A math and science advisory room at library. Nevertheless, the wellbeing issue still needs a lot of attention and action.

Internationalisation and integration

One of the party members, Lijst Bèta, notices a problem about separation between international students and Dutch students. There is a huge gap between these two groups of students especially in the faculty that have little group projects. They feel the need of a better integration but no concrete action has been done yet.

Appendix B

Interview guide

Interviewee : CRE

Main research question:

What is the working process of TU Delft campus development?

How CRE perceive citizens?

Introduction

I will start by tells you about myself. Who I am and what kind of project I'm doing. I'm Parastha. I'm a design master student from Industrial design engineering faculty. I'm doing a graduation project about student participation in campus development. I want to involve the student in the process of campus development by using a design approach. I want to make the process become more bottom-up. And yes I want to know about the current process of the campus development. Can you introduce yourself?

1. What is your position and responsibility in CRE?
2. What is the working process of TU Delft campus development?

Could you explain about your work flow?

Who initiates the project?

Recently, there is a construction at the junction before IO faculty. Who initiated the project?

What about the alternative way to get to the campus project?

What about another project

Who normally involve in your project / your stakeholders?

- Colleague - Municipality - Tu Delft executive board - Student council

3. How did you create a design brief?

What design brief consist of? Can I get an example of it?

Who is responsible for the design brief?

How did you create a design brief?

5. How CRE perceive user-centred design?

What is user-centred mean to you?

What is the KPI of user satisfaction?

What do you mean by productivity?

Additional question

6. Campus and the city

From the strategy report of TU Delft, there is a trend that university will become a city. TU Delft and the Municipality of Delft, in order to pursue a strong city-university combination. They mentioned three possible theme 'City as Campus, Campus as City', 'Ecosystem of Knowledge and Economics', 'University community, city and residents'

What do you think about the concept?

How will you respond to it?

Appendix D

Preliminary session planning

Problem as given : Make Lagerhuysch a welcoming place to stay.					
Time	duration	Activity	Detail	Outcome	Note
9:00 - 9:10	10	Ice breaker	Share you most favorite moment When you hang out with friend - What did you see? - What did you hear? - What did you eat?		
09:10-09:20	10	Ladder of abstraction	- Why Lagerhuysch has to be welcoming?		
09:20-09:30	10	Purge-idea	How to make Lagerhuysch a welcoming place to stay?		
09:30-9:40	10	4W	Who, What , Where , When - Choose activity card - Select number of people - Select frequency - Put them on activity board		
09:40-09:55	15	Picture the situation			
09:55-10:05	10	Prioritise situation	- Put set of activity on the prioritise board	Functional requirement	
10:05-10:15	10	Break			
10:15-10:20	5	Energizer	Role playing with actor card		
10:20-10:30	10	Brainstorming or making collage	What is identity of Lagerhuysch?		
10:30-10:45	15	Styling & Keywording	Divided participant into small group - Choose keyword that match identity of Lagerhuysch - Choose style - Choose material		
10:45-10:55	10	Present style to each group			
10:55-11:05	10	Finalise style		Style guide	
11:05-11:15	10	Break			
11:15-11:35	20	Scenario play	Choose one scenario by facilitator (regard to choice of activity) - Each participant is assigned different role - Participant design a bar to accommodate that scenario in group - Participant present the final design	Conceptual design	e.g. On Wednesday Lagerhuysch host an event there will be a small announcement and networking drinking.

Lagerhuysch session planning

Topic : Future Lagerhuysch Student bar? Think again!

Time	Duration	Exercise	Explanation (group A)	Explanation (group B)	Purpose	Challenge	Material	Extra explanation (Why)
09:00 - 09:10	10	Introduction	Facilitator open the session. Then problem overview a 5-minute presentation about the objective of the session and a context of the project.	Facilitator open the session. Then problem overview a 5-minute presentation about the objective of the session and a context of the project.				
09:10 - 09:20	10	Introduce yourself	<ul style="list-style-type: none"> FC divide up to two groups. In a group each pp introduce yourself by present the answer in the invitation letter that they prepared beforehand. -> What is your expectation toward this session? -> What do you think should be improved? 	<ul style="list-style-type: none"> FC divide up to two groups. In a group each pp introduce yourself by present the answer in the invitation letter that they prepared beforehand. -> What is your expectation toward this session? -> What do you think should be improved? 	To get everyone to talk To manage expectation		Booklet	Regard to the workshop that ORE normally do, they many ask participant about the future vision.
09:20 - 09:40	20	Read and present	<ul style="list-style-type: none"> PP have to do brainstorms by writing post-it. They have to answer the questions in order: Who, What, When, Why. The examples of garden sentences are: - Who: Who do you use this place? Who did you meet at this place? Who did you work with? - What: Think about the last time you were there, what did you do? What is the way you working? - Why: What is the reason that you come to this place? 	<ul style="list-style-type: none"> PP have to do brainstorms by writing post-it. They have to answer the questions in order: Who, What, When, Why. The examples of garden sentences are: - Who: Who do you use this place? Who did you meet at this place? Who did you work with? - What: Think about the last time you were there, what did you do? What is the way you working? - Why: What is the reason that you come to this place? 	Recall past memory. To share experience with others.	Participants bring mind to share ideas.	Post-it Pen Temporary Marker	According to ORE, the best way to ask about the future should start from asking about present situation and future. This will help participant recall the memory and can talk about the future easily.
09:40 - 09:55	15	Future	<ul style="list-style-type: none"> Simulate pp to go beyond the obvious answers and think about other possibilities by giving scenarios: 1. Think about what do you like to do during weekend. 2. Think about what do you like to do during weekend. 3. Think of someone you like or personality you don't like, what they like to do? o This will help you jump out of your personality. 	<ul style="list-style-type: none"> Simulate pp to go beyond the obvious answers and think about other possibilities by giving scenarios: 1. Think about what do you like to do during weekend. 2. Think about what do you like to do during weekend. 3. Think of someone you like or personality you don't like, what they like to do? o This will help you jump out of your personality. 	To go out of the box. To share ideas with others.	Participants be silent to go wild.	Post-it	After setting the obvious ideas pp. participant can explore the other possibilities by stepping out of their comfort zone and think about the future scenario from a different perspective. Exploring the wild ideas can unfold a new possibility and checks the boundary of the obvious answers.
09:55 - 10:10	15	Activity list	<ul style="list-style-type: none"> PP categorized activities that they generated in a pre-defined group. They can add more activities' categories if needed. -> Take a picture of the result before moving to next activity 	<ul style="list-style-type: none"> PP categorized activities that they generated in a pre-defined group. They can add more activities' categories if needed. -> Take a picture of the result before moving to next activity 	To compare ideas and find similarity.		Predefined group label	The predefined group is suitable for an inexperienced participants to distinguish the ideas and find similarity among others' ideas.
10:00 - 10:15	15	Debating activity	<ul style="list-style-type: none"> PP categorize which activity is PERMANENT activity or TEMPORARY activity by using dot color sticker. Each colour represent each meaning. -> Explain what is permanent activity, what is temporary activity PP prioritize activities that they generated in a pre-defined group and put on the provided board. There is no limited amount of choice that they can pick. (first layer) Core activity (We need it) (second layer) Support activity (We want it) (third layer) It is good to have. 	<ul style="list-style-type: none"> PP categorize which activity is PERMANENT activity or TEMPORARY activity by using dot color sticker. Each colour represent each meaning. -> Explain what is permanent activity, what is temporary activity PP prioritize activities that they generated in a pre-defined group and put on the provided board. There is no limited amount of choice that they can pick. (first layer) Core activity (We need it) (second layer) Support activity (We want it) (third layer) It is good to have. 	To only understand others' ideas.	Participants have to truly understand others.	dot sticker	The permanent and temporary sticker force participants to read through every ideas and truly understand them. This step force them to consider all aspects.
10:15 - 10:30	15	Prioritization	<ul style="list-style-type: none"> PP conclude the new Lagerhuysch's objective by filling in a question : -> The new Lagerhuysch will be a place for who to do what? -> What is the reason that you want to do this? Every one will get three dot to vote the sentence that they like most. 	<ul style="list-style-type: none"> PP conclude the new Lagerhuysch's objective by filling in a question : -> The new Lagerhuysch will be a place for who to do what? -> What is the reason that you want to do this? Every one will get three dot to vote the sentence that they like most. 	To sign the vision. To transform 'individuals' into a group	To say for the one hour work into one sentence.	Predefined board(1/2)	The conclusion board (realized) the degree of need of different activities. Everyone will clearly see the overview.
10:40 - 10:55	15	Vision	<ul style="list-style-type: none"> Wordcloud activity. Everyone gather and scan QR code on the screen. They have to answer a quiz: "What is identity of A.7. by sending keywords. (no sentence) PP go to their own group, bring out the object that represent SME, share the reason one by one. 	<ul style="list-style-type: none"> Wordcloud activity. Everyone gather and scan QR code on the screen. They have to answer a quiz: "What is identity of A.7. by sending keywords. (no sentence) PP go to their own group, bring out the object that represent SME, share the reason one by one. 			Stamen board	The conclusion force participant to create a consensus agreement. It will serve as a goal for the next step. Participants will have to design a space towards the same vision.
10:55 - 11:05	10	Break						
11:05 - 11:15	10	Identity : word cloud			To share ideas To compare and find different and similarity.		Website, music Blank paper	This identity is a spirit of the place. Each group formed the identity statement to communicate how they think of SME and Lagerhuysch. The conclusion force participant to create a consensus agreement for the next step. Participants will have to design a mood board towards the same vision.
11:15 - 11:25	10	Identity : share			To make a conclusion	To understand what is the idea for the moodboard	Predefined mood board Random keywords Random pictures Dot sticker	
11:25 - 11:35	10	Identity statement	<ul style="list-style-type: none"> Each person conclude the identity of SME into a sentence then present to everyone. Everyone will get three dot to vote the sentences that they like the most. PP choose a set of predefined-moodboard, a set of colour and a set of random picture. Each person get their choice. They have to combine all element and create a totally new moodboard or not. -> PP have to choose 5 keywords (5 mins) -> PP show moodboard as example (5 mins) 	<ul style="list-style-type: none"> Each person conclude the identity of SME into a sentence then present to everyone. Everyone will get three dot to vote the sentences that they like the most. PP choose a set of predefined-moodboard, a set of colour and a set of random picture. Each person get their choice. They have to combine all element and create a totally new moodboard or not. -> PP have to choose 5 keywords (5 mins) -> PP show moodboard as example (5 mins) 	To transform thinking into visual			
11:35 - 11:50	15	Storying	<ul style="list-style-type: none"> Who make the tallest tower will > divide pp into two sub-groups. Each group have to make the tower in two mins. The tallest tower win. FC provides stickers to pp. PP have to create a space by using paper, floor plan. After that, everybody to act as a consultant and not interfere with the game. After ten minutes architect will take part as an consultant and help PP elaborate on their design. -> Record that the suggestion should not concern the realistic building technology. 	<ul style="list-style-type: none"> Who make the tallest tower will > divide pp into two sub-groups. Each group have to make the tower in two mins. The tallest tower win. FC provides stickers to pp. PP have to create a space by using paper, floor plan. After that, everybody to act as a consultant and not interfere with the game. After ten minutes architect will take part as an consultant and help PP elaborate on their design. -> Record that the suggestion should not concern the realistic building technology. 	To get participant to not afraid to move items around.			
11:50 - 12:05	15	Break						
12:00 - 12:10	10	Play time			To visualize space relation To assess the relation among information	To manage the rich generated information into visual.	floor plan New tool	
12:10 - 12:30	20	Linking						
12:35 - 12:45	10	Presentation preparation	<ul style="list-style-type: none"> Architect draw: One exterior perspective, One interior perspective Present the result to all (5 mins) 	<ul style="list-style-type: none"> Architect draw: One exterior perspective, One interior perspective Present the result to all (5 mins) 				
12:45 - 12:55	10	Presentation	<ul style="list-style-type: none"> Lunch time Share in big group "What did you get to day from the workshop?" is the workshop meet your expectation? 	<ul style="list-style-type: none"> Lunch time Share in big group "What did you get to day from the workshop?" is the workshop meet your expectation? 				
12:55 - 13:20	25	Wrapup + Reflection + Lunch						

EWI session planning

Topic : Renovation EWI working space for Mathematics department

number of participants (pp):

number of group : 1

number of facilitator(s) : 1

Expected outcome : Requirements: Activity and zoning, Mood and tone

Time	Try out	Activity	Detail	Purpose	Challenge	Note	Material	Reasoning
13:05-13:15	5	Introduction	Facilitator open the session. Then problem overview a 5-minute presentation about the objective of the session and a context of the project. PP participate in ice breaker game PP introduce each pp introduces yourself by present the answer in the invitation letter that they prepared beforehand. > What is your expectation toward this session? > What do you like best about your current working place? > What do you think should be improved?	To get everyone to talk To manage expectation	group		Booklet	
13:15-13:20	5	Introduces yourself	PP have to do brainstorming by using postit. They have to answer the questions in the invitation letter. Who : Who are you? What : What is the reason that you came to this place? When : Think about when did you spend your time at the place? What occasion? When? What is the reason that you came to this place? Where : Beyond the obvious answers and think about other possibilities by giving scenarios: 1 Think about what do you like to do during weekend. 2 Imagine that there is 2 hour left before you end of the world. What do you want to do? For example, I want everything to be illegal free so I can do whatever I want. I want to be a superhero. 3 Think of someone you hate or personally you don't like, what they like to do? For example, there was a person that I don't like and that person like a water sport so much. The idea could be a place for water polo. This will help you jump out of your personality	Recall/past memory. To share experience with others. Participants being afraid to share ideas.	individual		Postit Context template Marker	Regard to the workshop that CRE normally do, they mainly asks for an idea and then they start brainstorming about the future. Therefore, it is difficult for participant to thinking their future. According to CAC, the best way to ask about the future should start from asking about present then past and future. This will help participant recall the memory and can think about the future easily.
13:20-13:35	15	Talking about past and present situation	PP categorized activities that they generated in a pre-defined group. They can add more activities/ categories if needed. + fc take a picture of the result before moving to next activity	To compare ideas and find similarity.	individual			The predefined group is suitable for an inexperienced participants to distinguish the ideas and find similarity among others' ideas.
13:35-13:40	5	Talking about future situation	PP prioritize activities that they generated Each person pick activities that they like most and put on the prioritise board. There is no limited amount of choice that they can pick. - (first layer) Core activity (We need it) - (second layer) Support activity (We want it) - (third layer) It is good to have.	To make choices. To identified the degree of needs.	individual		Prioritisation Board(1/2)	The prioritisation board visualised the degree of need of different activities.
13:40-13:50	10	Activity category	PP concludes the new EWI's objective by filling in a question : Each person formulate their own sentence and present it to others. Then every one will get three dot to vote the sentence that they like most.	To identified the degree of needs. To make a conclusion.	Group		Prioritisation Board(2/2)	This step is a crucial step where decision is made as a group. Participants have to make a group decision to choose the top five activity for each layer.
14:00-14:10	10	Prioritization (1/2)	As a group you can choose top five activity for each layer	To align the vision. To transform the ideas into a group	Group		Statement board	The conclusion discuss the other common goal. It will serve as a goal for the next step. Participant will have to design a space towards the same goal
14:15-14:20	5	Prioritization (2/2)	PP provides situation to pp. PP have to create a space by using scale model + space Provide 3 scenarios to play: > Large working space + small leisure + medium formal meeting > Medium working space + small leisure + medium formal meeting > Small working space + medium leisure + large meeting + fc remind about 'activity prioritisation board' + fc remind pp that all 'first layer' activities have to be presented > Give scenarios > Ask pp to think by asking pp 'Why this activity have to happen here?' Is it possible to do this activity here?	To visualise space To visualise way of working To translate the decision between participants.	Group		floor plan New tool	
14:20-14:25	5	Statementboard	Present the result to all (omnis/group)					
14:25-14:50	0	Break	Feedback session					
14:45-15:00	0	Presentation						
15:00-15:15	0	Feedback session						

Final session planning

Time	Activity	Detail	Purpose	Challenge	Note	Material	Reasoning
5	Introduction	Facilitator opens the session. Then problem overview a 5-minute presentation about the objective of the session and a context of the project. FC divide pp to two groups. In a group each pp introduce yourself by present the answer in the invitation letter that they prepared beforehand. > What is your expectation toward this season? >What do you like best about your current working places? >What do you think should be improved?	To get everyone to talk To manage expectation		group	Booklet	
5	Introduces yourself	PP have to do brainstorming by using post-it. They have to answer the questions in the invitation letter. - Who: Who use this place? Who did you meet at this place? Who did you work with? - What: Think about the last time you were there, what did you do? What is the way you working? - When: Think about when did you spend your time at this place? What occasion? - Why: What is the reason that you come to this place?	Recall past memory. To share experience with others.	Participants being afraid to share ideas.	individual	Post Context template Marker	Regard to the workshop that CRE normally do, they mainly asks participant to recall the past or present. Therefore, it is difficult for participant to envision their future According to C&C, the best way to ask about the future should start from asking about present then past and future. This will help participant recall the memory and can think about the future easily.
15	Talking about past and present situation	Stimulate pp to go beyond the obvious answers and think about other possibilities by giving scenarios; 1 Think about what do you like to do during weekend. 2 Imagine that there is 2 hour left before you the end of the world. What do you want to do? 3 Think of someone you hate or personality you don't like, what they like to do?	To explore new possibility from different view. To share ideas with others.	Participants hesitant to go with.	individual relate to the choices behaviour at work that is not about work related. It is to indirectly relate to the topics	Scenario list Postit	After letting the obvious ideas go, participant can explore the other possibilities by stepping out of the boundary. Facilitator stimulate them to generate wild ideas by giving scenarios. The scenario force them to think from a different perspective. Exploring the wild idea can unfold a new possibility and checks the boundary of the obvious answers.
15	Talking about future situation	PP assigned activities that they generated in a pre-defined group. They can add more ideas if they want. + to take a picture of the result before moving to next activity	To compare ideas and find similarity.		individual	Predefined group label	The predefined group is suitable for an inexperienced participants to distinguish the ideas and find similarity among other's ideas.
15	Activity category	PP prioritize activities that they generated Each person pick activities that they like most and put on the prioritise board. There is the limited amount of choices that they can pick. - (first layer) Support activity (We want it) - (second layer) Support activity (We want it) - (third layer) It is good to have.	To make choices. To identify the degree of needs.	To let go what they like but they don't need it.	individual	Prioritisation board(1/2)	The prioritisation board visualised the degrees of need of different activities.
15	Prioritization (1/2)	PP prioritize activities that they generated Each person pick activities that they like most and put on the prioritise board. There is the limited amount of choices that they can pick. - (first layer) Support activity (We want it) - (second layer) Support activity (We want it) - (third layer) It is good to have.	To identify the degree of needs. To make a conclusion.		individual	Prioritisation board(2/2)	This step is a crucial step where decision is made as a group. Participants have to make a group decision to choose the top five activity for each layer.
15	Prioritization (2/2)	> As a group you can choose top five activity for each layer PP conclude the new EWV's objective by filling in a question : EWV for who to do well EWV for what to do well EWV for how to do well get three dots to vote the sentence that they like most.	To align the vision. To transform individuals into a group	To put the one hour work into one sentence.	Group	Statement board	The conclusion directs the clear common goal. It will serves as a goal for the next step. Participant will have to design a space towards the same goal.
15	Statementboard						
10	Break						
10	Play time	PP have to complete each other by making a collage that represent an amusement park in five minute. Then present it in a group. Everyone vote for the winner. (The winner get a reward) In a group of 2-4 people, they have to make a collage to present How they envision the statements by using collage technique. They also have to make one statement that explain identity of this place. FC can start from having PP choose 3 keywords as a starting point for them to think about. At the end every group have to present the collage, explaining the reason behind the picture choices.	To get PP get familiar with tools To encourage the discussion between participants and reveal their reasons.		Group	A set of random keyword, picture, and colour	
30	Making		To share final result				
10	Presentation						

Appendix E

Feedback form: 3ME student

Feedback form for 3ME students

-----Please shares the answer of first three questions with the group-----

1. Did the session meet your expectation?

2. What did you get from the session today?

3. Any tops and tips you want to share.

Q: Why did the session meet or not meet your expectation?

A:

Q: To what extend the session helps you expressing your needs and concerns?

- Not at all
- The session helps me expressing my needs and concerns partly.
- The session helps me expressing my needs and concerns clearly.

Q: Which part of the session helps you expressing your needs and concerns?

A:

Q: If the session help you making choices? How?

A:

Q: To what extend the session helps you prioritizing your wish?

- Not at all
- The session hardly helps me prioritizing my wish.
- The session partly helps me prioritizing my wish.
- The session strongly helps me prioritizing my wish.

Q: If the session help you to discuss with other stakeholders? How?

A:

Q: If you have any suggestion / complaint / compliment, please leave the comment here.

A:

Thank you for participating in this session. :)

Feedback form: architect student

Feedback form for architect students

-----Please share the answers of first three questions with the group-----

1. Did the session meet your expectation?

2. What did you get from the session today?

3. Any tops and tips you want to share.

Q: Why did the session meet or not meet your expectation?

A:

Q: To what extend the session helps you understand users' need?

- Not at all
- I can get a glimpse of what users want.
- I partly understand what users want.
- I completely understand what users want.

Q: Which part of the session helps you understand users' needs?

A:

Q: To what extend the session will help you design the space?

- Conceptual design (Overall design - Activity and zoning)
- Look and feel (Colour and material)
- Functional design (Square meter estimation)
- Feasibility plan (Cost estimation)

Q: How would you use the result from the session to help your design the space?

A:

Q: What kind of information is missing to help you design the space? s

A:

Q: Comparing to you usual working process, how much this session help you understand users' need better?

A:

Q: What is the main different between your usual working process and this session?

A:

Q: If the session help you to discuss with other stakeholders? How?

A:

Q: If your perspective about the users change? How?

A:

Q: If you have any suggestion / complaint / compliment, please leave the comment here.

A:

Thank you for participating in this session. :)

Appendix F

Session manual

Backside



Session suitability

This session design is suitable for the project that seeks to discover how people interact within the space, what kind of activities are happened in order to develop a new spatial solution.

Number of participants: 4-6 person per one facilitator

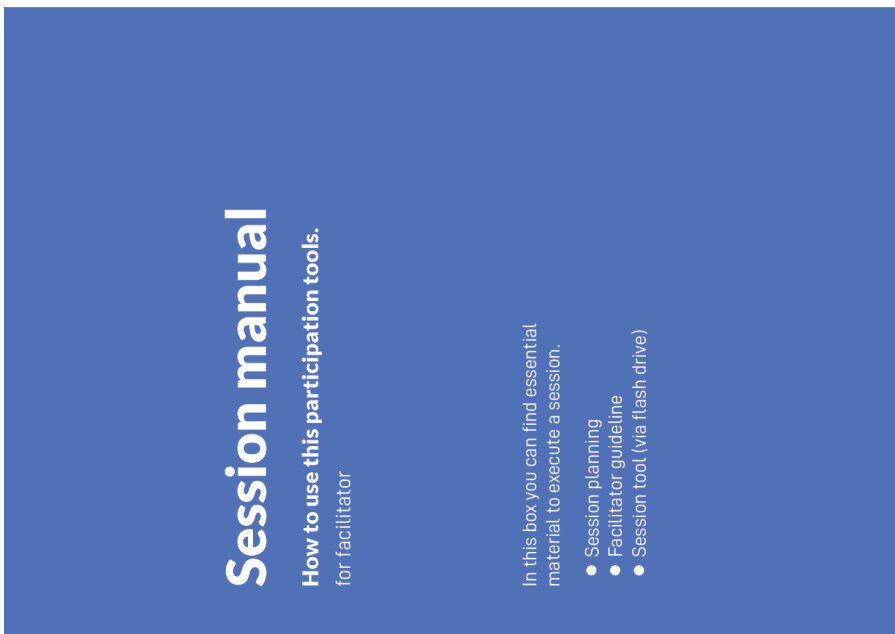
Time: half a day

Deliverables: Session report which will be used to create a program of requirement.

Case applicable: Low complexity.

Case example: A non complex space design, an interior renovation and relocation of residents.

Front side



Session manual







How to use this participation tools.
for facilitator

In this box you can find essential material to execute a session.

- Session planning
- Facilitator guideline
- Session tool (via flash drive)

Facilitator guideline






Backside

<p>Temporary or Permanent</p> <p> Define which colour stand for which one and put it on the paper.</p>	<p>Introduce yourself</p> <p> Choose the ice breaker game wisely. Start by explaining the schedule and golden rule. Introduce yourself and select the next person to continue.</p>
<p>Prioritization (1/2), (2/2)</p> <p> This is a new Lagerhuysh, don't be constrained with the current condition. Focus on what do you want in the future</p> <p> This is the time that discussion reveals insights, listen carefully!</p>	<p>Talk about past and present situation</p> <p> Who : Who use this place? Who did you meet at this place? Who did you work with? What : think about the last time you were there, what did you do? What is the way you working? When : Think about when did you spend your time at this place? What occasion? Why : What is the reason that you come to this place?</p>
<p>Vision</p> <p> The statement should not be too specific, keep it abstract and spraking.</p> <p> Give generous time on this exercise. Give a quiet time</p>	<p>Talk about future situation</p> <p> Think about what do you like to do during weekend.</p> <p>Imagine that there is 2 hour left before you end of the world. What do you want to do? For example, I want everything to be illegal free so I can do whatever I want.</p> <p>3 Think of someone you hate or personality you don't like, what they like to do? Remind 3 golden rule.</p>
<p>Envision the vision</p> <p> Energizing game after break.</p> <p> How do you envision the vision that you created. What is the feeling of the place that you want to convey. What is the keyword? The answer does not have to be realistic.</p> <p> This is the time that discussion reveals insights, listen carefully!</p>	<p>Activity category</p> <p> Do not forget to take picture of the result before start categorize.</p>

Front side

Facilitator guideline

How to nail the session.
Suggestions, tips for each step of the session.

-  Question to stimulate participants.  Thing to be aware of.  Always keep record.
- 3**  Remind 3 golden rule.  Listen deliberately.

(half-day) Session planning

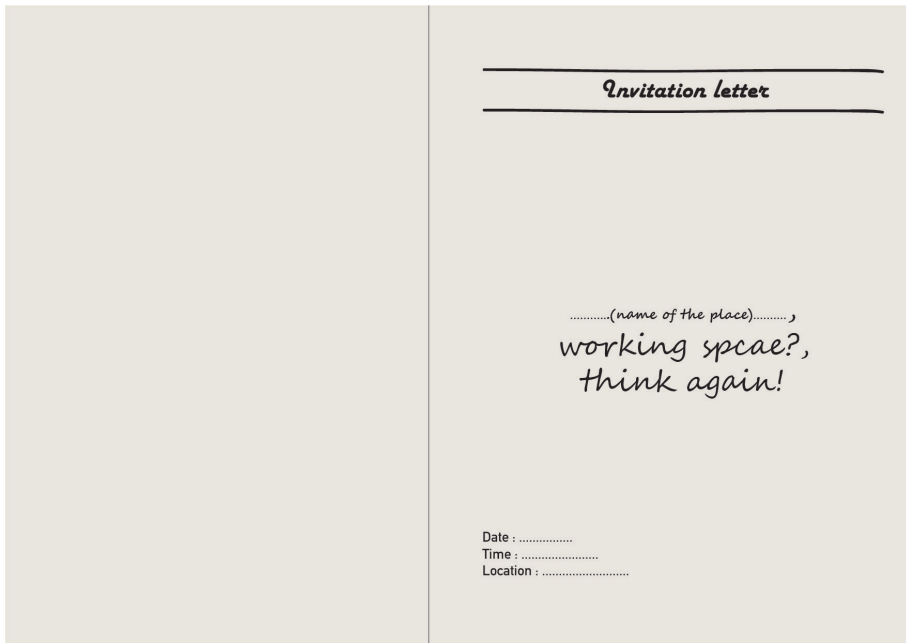
minute	Exercise	Purpose	Explanation	Material
10	Introduction	To get everyone to talk To manage expectation	PP participate in ice breaker game. FC divide pp to a group of 5-6 people. In a group, each pp introduce themselves by present the answer in the invitation letter that they prepared before hand.	Booklet
15	Talking about past and present situation	Recall past memory. To share experience with others.	PP have to do brainstorming by using post-it. They have to answer the questions in order: Who, What, When, Why	Context board
10	Talking about future situation	To explore new possibility from different view. To share ideas with others.	Stimulate pp to go beyond the obvious answers and think about other possibilities by giving scenarios	Post-it
10	Activity category	To compare ideas and find similarity.	PP categorized activities that they generated in a pre-defined group. They can add more activities/ categories if needed.	Predefined group label
10	Detailing activity	To truly understand others' ideas.	PP categorize which activity is PERMANENT activity or TEMPORARY activity by using dot colour sticker. Each colour represent each meaning.	Dot colour stickers (2 colour)
10	Prioritization (1/2)	To make choices. To identified the degree of needs.	PP prioritize activities that they generated Each person pick activities that they like most and put on the prioritise board. There is no limited amount of choice that they can pick.	Prioritisation board(1/2)
15	Prioritization (2/2)	To identified the degree of needs. To make a conclusion.	As a group PP can choose top five activity for each layer	Prioritisation board(2/2)
15	Vision	To align the vision. To transform 'individuals' into a 'group'	PP conclude the [name of the place]'s objective by filling in a question : [name of the place] for WHO to do WHAT. Each person formulate their own sentence and present it to others. Then every one will get three dot to vote the sentence that they like most.	Statement board
Break				
10	Energize game	To stimulate PP	PP participate in energize game.	Small reward for winner
10	Play time	To get PP get familiar with tools	PP have to complete each other by making a collage that represent an amusement park in five minute. Then present it in a group. Everyone vote for the winner. (The winner get a reward)	Random keywords, Random pictures, Random colour, Dot sticker, Identity board, Scissors, Glue, Tape, Blank paper, Magazine
30	Envision the vision	To align the vision. To create a collective design.	In a group of 1-3 people, they have to make a collage to present How they envision the statements by using collage technique. They also have to make one statement that explain identity of this place. FC can start from having PP choose 3 keywords as a group, then let them play around.	
10	Presentation	To visualise way of working To foster the discussion between participants.	At the end every group have to present the collage, explaining the reason behind the picture choices.	

PP: Participants FC: Facilitator

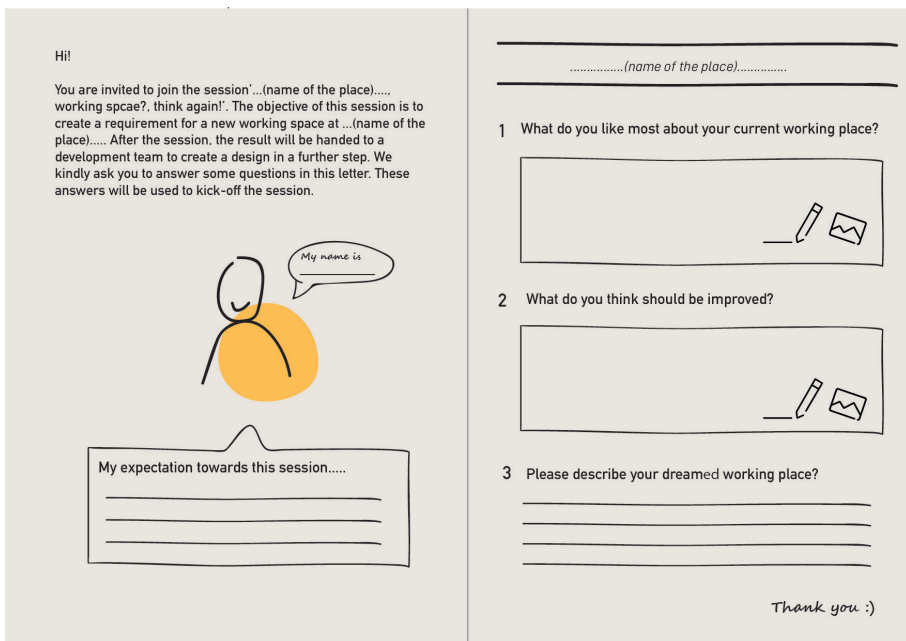
Session tools

Invitation letter


Front side



Back side



4W template

Who <small>Who are the people? Who does it take place? Who organizes the paper?</small> 	What <small>What activities do you do at the club? What objects do you use?</small> 	When <small>When do you use the paper?</small> 	Why <small>Why do you use the paper?</small> 
			

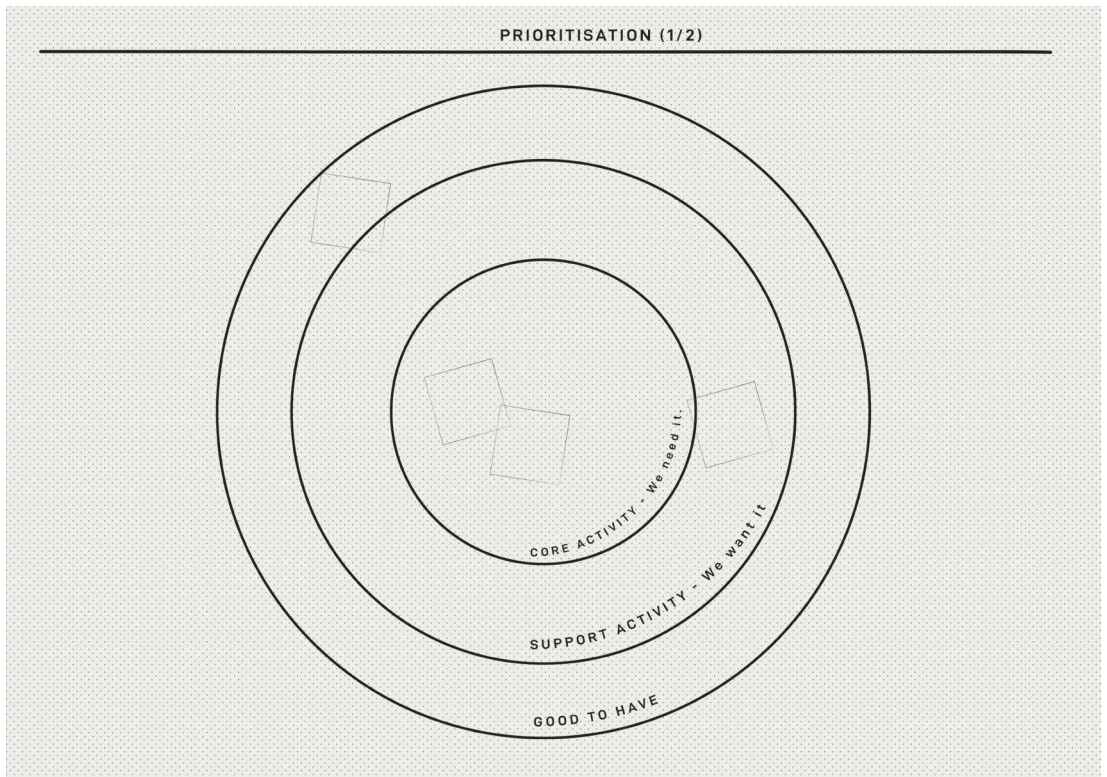
Predefined category label

Front side

Back side

Leisure 	ACTIVITY CATEGORY
Sport 	ACTIVITY CATEGORY
Education 	ACTIVITY CATEGORY
Eat & Drink 	ACTIVITY CATEGORY
Entertainment 	ACTIVITY CATEGORY
Work 	ACTIVITY CATEGORY
.....	ACTIVITY CATEGORY

Prioritisation board (1/2)

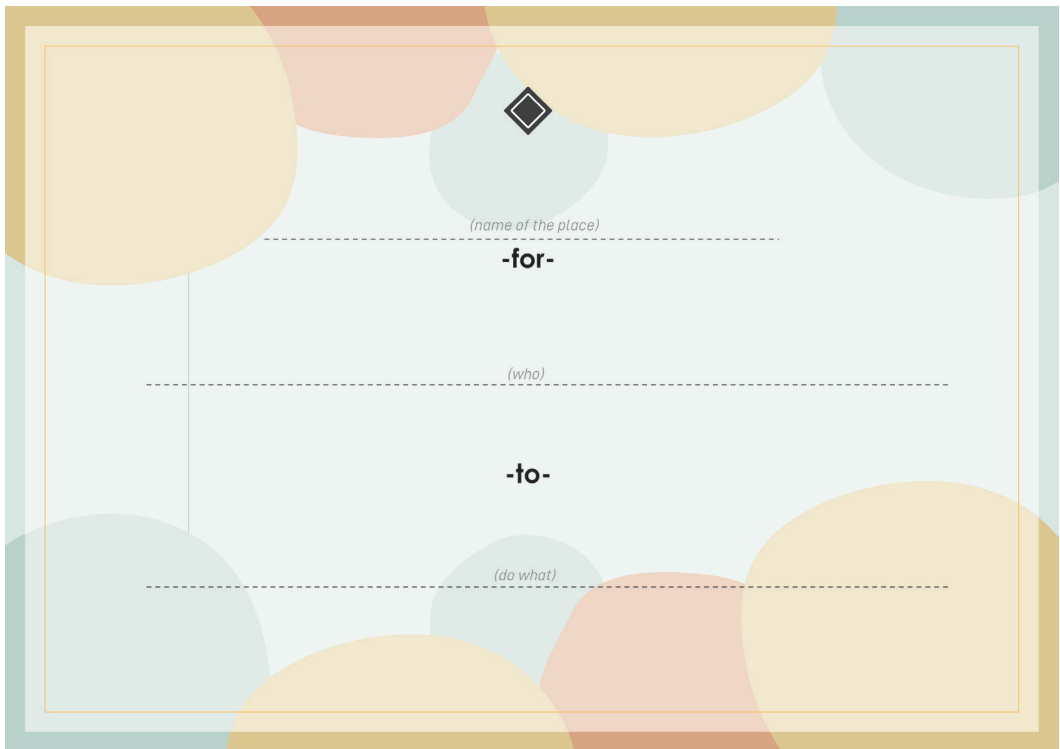


Prioritisation board (2/2)

PRIORITISATION (2/2)

Core activity We need it.	Support activity We want it.	Good to have
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5

Statement board



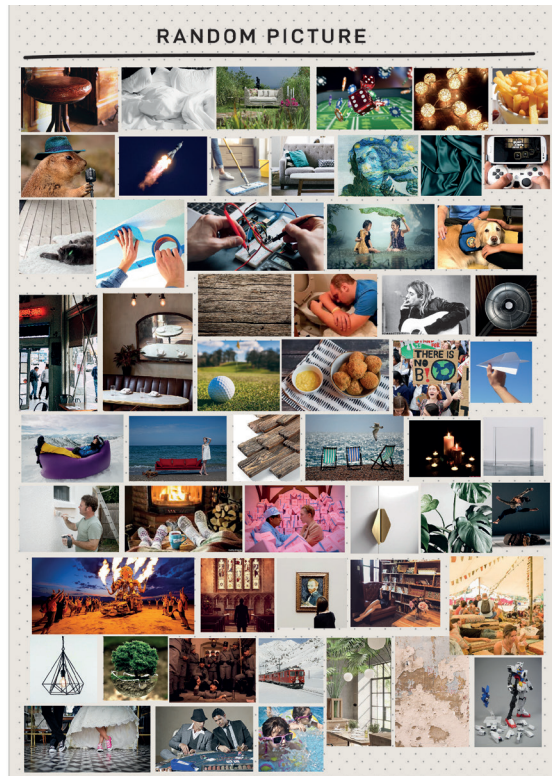
Random keyword

Random colour

KEYWORDS INSPIRATION			
Fearless	Modern	Sophisticated	Rebel
Dream	Minimal	Friendly	Retro
Hope	Formal	Warm	Cozy
Breath	Cozy	Calm	Casual
Unite	Festive	Cheering	living room
Power	Industrial	Sensual
Light	Open	Lively
Rustic	Transparent	Carefree
Polish	Chic	Comfy
Clean	Bohemian	Sweet
Shiny	Country	Simple
Dull	Timeless	Smart
Pirate	Contemporary	Elegant
Professional	Natural	Flexible
.....



Random picture



Identity board

◆

Identity

The identity of is

“

.....

”

Word cloud



