Housing for the Inbetweeners
Reflection report
Reflection report

TU Delft
Dutch Housing Graduation Studio 2018/2019
Between standard and ideals

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Preface

This reflection report is part of my graduation project Housing for the Inbetweeners. The subject arose from the social developments of population growth and aging. The project attempted to provide an answer to the central question within the Dutch Housing Graduation Studio: how do we want to live in the future and what kind of buildings do we need to make that possible? To be able to come up with a design different research methods were used. This report reflects upon the process of conducting research throughout the graduation process.
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Methods and approaches

Elaboration on research method and approach chosen in relation to the graduation studio methodical line of inquiry, reflecting thereby upon the scientific relevance of the work.

The methodical line of inquiry within the Dutch Housing Graduation Studio consisted, in my view, of three phases, clearly defined by the interim presentations.

The period up to P1 was explorative. A phase of exploring the design location and a theme for the design assignment.

We started the graduation process by visiting the location taking pictures, making sound recordings and also experiencing the space by walking and exploring on site. As well we attended a presentation about the harbour area, given by a member of the municipality of Amsterdam. This presentation discussed specifics about the city Amsterdam nowadays and intentions for its western harbour area in the future.

During this period explorative research was also conducted into an inspiring theme. A theme that arouses your interest, but also is relevant to the city of the future. This research helped sharpening the subject for my graduation project.
The subject and a defined site in the newly designed urban plan were presented during the P1-presentation. This presentation marked the transition from exploratory to in-depth research.

A research report was written about the subject highlighting its relevance for society, specifically for the city of Amsterdam, the historical context concerning housing and an argument for future development. Therefore, a thorough study of the sources was conducted.

Besides research into the subject analyses were made of the site and of projects that tied in with the project theme. The information gathered formed a foundation for the first translation into a conceptual design.

The transition from before to after the P2 was characterized by the shift from mainly research for the design to research with designing as a methodology. Designing was in this phase the mainly used research method in which the focus constantly shifted between domains to develop the design further. Other methodologies were used additionally, often focused on a specific topic.
To elaborate further on the research methods and approaches used in my graduation process I decided to adopt some principles from an article written by Elise van Dooren in the International Journal of Technology and Education. She wrote about generic elements in the design process. She stated that designing is perceived as a “complex, personal, creative and open-ended skill” (van Dooren 2013). In an attempt to make this process more explicit, for the purpose of education, she formulated five generic elements: guiding theme, frame of reference, domains, experimenting and laboratory.

The guiding theme can be explained as a “inspiring directions” or as “something to hold on to during the design process and to help create a coherent and consistent result” (van Dooren 2013).

A frame of reference can, in other words, be explained as a library of knowledge. Knowledge from previous experience or precedents to be used in the design process. An architect works with “known and previous applied patterns” (van Dooren 2013).

Domains are the work fields within the architectural profession. “Architectural design is about creating space and using material. The space is meant for use by a defined target group and is situated within a defined site and a socio-cultural context” (van Dooren 2013). The following five domains were defined in the article: form and space, material,
function, physical context and social context.

Experimenting in the design process is about exploring possibilities, drawing up criteria, testing, reflecting and deciding within different architectural work fields. It is also about switching between scales, from the outlines to details and vice versa.

The last generic element is the laboratory, in other words the language. “The visual language of sketching and modelling is a way of thinking out loud during the design process” (van Dooren 2013). This visual language can vary from physical and computer models to sketches. Besides using this visual language as a method of expressing thoughts, which cannot be expressed with words, it is also a tool of storing knowledge.
The reason I make use of the theory discussed in this article is because I recognize that the chosen research methods and approaches relate, in their intention, strongly to these elements. Literature study and desk research were mainly used to formulate a theme, research this theme into depth and translate this into a concept. It was the guiding theme that was defined and this was the foundation for the entire design assignment. Descriptive research, case studies and field research were used for the purpose of gaining knowledge as input for the design process. These methods were used to build a frame of reference for my project. Experimental research was conducted in the design process as a method of doing research by designing. Those experiments touch upon the different architectural work fields.

Fig. 01: Scheme relations generic elements and research methods.
Literature study / desk research

Literature and desk research was a widely used research method, mainly in the first semester of the graduation process.

Before P1, this kind of research had an explorative character and was not really scientific. The approach was not structured. It was more about a broad orientation to come up with a theme that was both relevant and aroused your interest.

The MSc 2 studio ‘A Second Youth, got me interest in how to deal with housing for people in the third and fourth phase in life. In the housing market these people are often regarded as part of one single group. In this exploratory phase I decided to focus on this subject. Therefore, I scanned through news articles, municipality documents, research and books about housing for this target group. The theme for my graduation project had changed frequently during this stage from co-housing to age integrated living to housing for the inbetweeners.

Fig. 02: Housing for the inbetween manifesto image.
It was a converging process with ultimately the intention to define a guiding theme for the design. Part of the explorative research was the foundation for the in-depth research in the next phase.

The conducted literature and desk research between P1 and P2 was in-depth and gave the design a theoretical foundation. How has housing developed from history to the present for the group of people with an age between 55 and 75 and what makes the subject housing for the inbetweeners relevant to current and future society in Amsterdam? These questions were answered in this second phase of conducting literature study and desk research.

Literature sources were mainly used to answer the first question concerning the historical development of housing. Therefore, mainly the book ‘De Architectuur Van De Ouderenhuisvesting’ was very helpful. In addition, I also used previous research of students concerning similar subjects. These research reports also formed a link to new sources. I reflected on the knowledge gained from literature by linking it to examples from practice, such as: the elderly homes designed in Amsterdam designed by Van Eyck and Mulder, the Fregat service flat in Zoetermeer and the by Studioninedots designed life-course resistant houses in the Acropolis building. This was an approach of depicting the information but also of verifying it.
The second question, about the relevance, was mainly answered by means of data collected by the Central Bureau of Statistics (CBS) and the Research, Information and Statistic (OIS) department of the municipality of Amsterdam. In some cases, the data was supplemented with an accompanying report. With these sources, the relevance of the subject could be clearly indicated with hard facts. This data mainly related to population growth, increase of the population in different age groups and health aspects for this different ages. Using data made it possible to select specifically the age 55 till 75, the age group for the inbetweeners.

This part of the literature and desk research conducted is an example of scientific research in my graduation process. It is methodical acquired knowledge conducted from verifiable sources and if someone would research the same subjects it is most likely he or she will come to the same results.

The third part of the research between P1 and P2 is less scientifically substantiated. This part relates strongly to the central question within the Dutch Housing Graduation Studio that is “how do we want to live in the future and what kind of buildings do we need to make that possible?”. This is a question to which there is no single answer. My answer was based on findings from literature studies/desk research and the comparison drawn with examples from practice.
Studies of reference projects show how residential buildings, intended for people older than 55 years, consist of a stacking of only single-storey apartments. In addition, the case studies reveal that dwellings are in principle already designed for the needy elderly.

However, articles written about the subject by, among others, Platform 31, a knowledge and network organisation, and RIGO, a research and consultancy organisation, contradicted this phenomenon. This was supported by data collected by the CBS and the OIS about characteristics of the target group the inbetweeners.

Comparing this knowledge to information gained through literature and desk research it becomes apparent that the characteristics of the target group are not compatible with the specifics of the dwellings designed for them. There is a mismatch.

From this comparison comes the subject housing for the inbetweeners in which new substance is given to the housing concept for this target group.

The knowledge on which this argument is based is scientifically. The information is verifiable. The interpretation for the housing concept, housing that resembles the wishes of the inbetweeners and is adaptable to their needs, is less scientifically. It is possible someone else will interpret the information differently.
Descriptive research

As an architect it is important to know the environment in which you design, because a new building influences its surroundings and vice versa. One way of doing so is by analyzing.

Within the design process these analyses were made on two scales: the urban environment and the site.

The approach was methodical for the analysis on the urban environment. Every time another subject was highlighted in the same underlying map, varying from the history of the area to its buildings and infrastructure. Constantly processing the information in the same map made it possible to compare and discover interconnections. Based on these analysis, a value was given to various elements in the urban context in order to subsequently be able to determine which elements can and cannot be retained in the new urban plan. We decided, for example, to keep relatively new buildings intended for working or living and preserve and strengthen the character of the historical Danzigerbocht and quay walls. On the other hand, we decided to demolish buildings and replacing roads to create a stronger relation with the water front.

The first part of the analyses on the urban scale is purely descriptive and therefore reliable. However, giving value to elements in the urban context is less reliable. We have determined the assessment criteria ourselves. Other people will likely choose different
criteria. This valuing has had a strong influence on the new urban plan and will therefore influence the analyses of the site. This makes the foundation for the site analysis less reliable.

The analysis made on the scale of the site was executed less methodical. It was more about analyzing subjects that I believed were important for my graduation theme and would influence my design. For example, I analyzed the placement and height of the buildings on and around the site, the proximity of facilities in the neighborhood, the effect of sun and shade on the design location, facades and facade materials of surrounding buildings and sightlines. It were independent small studies, of varying subjects, expressed in sketches, photographs and drawings on different scales and from different angles. As a result, it is actually not possible to compare outcomes with each other.

In both cases it is about collecting data about a given situation in an objective manner. Therefore, this is a form of descriptive research.
A remark to this method of researching is that the designer decides which subjects will appear in these analyses. The choice of subjects was partly based on preferences. This mainly played a role in the analyzes of the site.
Case studies

A case study is a method of doing research that studies how other architects have dealt with similar design questions in their design. It is about not wanting to reinvent the wheel but to make use of available knowledge in the architecture around us. The knowledge gained contributes to the frame of reference and can, if desired, contribute to the design.

This research method was conducted in my graduation process before and after the P2. The approach differs per period.

Before the P2 case studies were conducted as part of the P2 report. Originally with the aim of forming a foundation for your own design. Therefore, three residential reference project were selected based on the similarity that they are intended for people with an age over 55 years. Every project was examined for the same aspects, namely: dwelling types, public/communal facilities, access system, organization and stacking principle. This allowed the results to be compared.

In my graduation process this did not directly lead to starting points for my design. When comparing the gained knowledge with the findings from the literature study/desk research it appeared to be not compatible. Most striking, while analysing these reference projects, was that they all exist of a stacking of single-storey apartments with a life-cycle
proof floor plan design and thus already fit for the needy elderly. That it meets the wishes and needs of the inbetweeners was contradicted in articles, research reports and collected data. The response in literature and data to the current situation formed the foundation on which first design principles were based.

For example, literature contradicted, among other things, the offering of only one dwelling type based on the wishes or needs of the inbetweener which does occur in the reference projects. A design principle that stems from the reasoning of this contradiction is: the design should offer a varied number of dwelling types of varying sizes.

After the P2 case studies were mainly conducted to gain new insights when encountering a problem in the design process. For example, when developing the building structure. To enable the stacking of a
variety of dwelling types the direction of structural walls would ideally shift from the x to the y axis and the other way around. To come up with an idea about how to do so I studied the structural scheme of the residential building The Cube in Beirut, that made use of a shifting direction of structural walls. Other design principles varied strongly, therefore I used a translation of this principle in my design.

![Fig. 06: Study structural scheme The Cube in Beirut.](image)

A similar approach was taken for other to be designed elements in the process of developing a residential building for the inbetweener. For example, case studies concerning stacking a variety of dwelling types in the residential project Botania in Amsterdam, the façade composition in the Botania project and the office building of Baker McKenzie in Amsterdam and how to create an identity of a residential building in the atrium space in varying projects.
The different case studies conducted were set up methodical, had an objective descriptive character and therefore the gained knowledge is verifiable. Before P2 the intention was to research three projects in a similar way, concerning multiple subjects, to be able to compare the results and to possible come up with starting points for the design. Case studies after the P2 were often independent studies and were more focused on smaller parts of the design and translating the knowledge directly into the design. These studies were usually executed when encountering a problem. Striking about the case studies after the P2 is that the relation with the design theme varies. The case study concerning the variety of dwelling types and the building structure are relating more strongly to the concept behind the design. The studies on the façade and the identity of a residential building are much more concerned with the design of the building itself.
Field research

Another research method that contributed to building a frame of reference is field research. This method was for me about experiencing, discovering and getting inspired by a space or a project. This research had a more open and unconstrained approach.

This method was used already in the first week of the graduation process when visiting the design location. When walking through this area I got an idea of the size of the project, the quality of the sight lines, the importance of historical elements such as the Danzigerbocht and the quay walls. I also experienced the influence of wind and noises of port activities in the area. It is a research method that provided a very wide range of information.

In addition, there were some organized excursions to Hamburg and a couple of housing projects in Delft. For the excursion to Hamburg I did not formulate a research question beforehand. However, I got inspired by the Hafencity project in Hamburg, more specifically the importance of the connection with the water. In various areas this relation is expressed differently, playing with the dimensions and shapes of the building masses, sight lines and the configuration of masses. This relation is much less present in the Minerva haven area in Amsterdam. By visiting Hamburg Hafencity I got inspired to give this more expression in both the urban and residential building design.
Besides the excursion to Hamburg four excursions were organized to five residential building complexes in Delft. These served much more as a kind of mirror for my design. Walking through the building and its exterior I was constantly raising questions for myself about my design, drawing a comparison with what I saw. Those excursions ensured an interim reflection.

For instance, a small discussion arose visiting one of the two housing projects located on the Bastiaanplein regarding the balcony. This was specifically about the placement of the balcony and its influence on the relation with the square. When the balcony is adjacent to the living area or kitchen, this element will take away the view on activities and liveliness of the square. The relation is diminished. This is a consideration for placing the balcony adjacent to, for example, the bedroom. This discussion has influenced my design. In the apartments on the square, for example, I decided to place to balcony varying from adjacent to the living area to adjacent to the bedroom. In the first case the balcony can be used as an extension of the living space. In the second case the relation between living and the square is stronger.

Besides organized excursions, I notice that my environment and its architecture became a source of knowledge as well. When I was in the process of designing my facades, for example, I was constantly studying façade compositions on the road.
This form of research gave me many insight during the process. However, it had a strong subjective character. The outcome will vary when the person conducting the research changes. Someone else will experience things differently. This reduces the scientific value. Besides, the link with the theme of my graduation project is not very strong. This makes the acquired knowledge more general and not very specific for my concept.
**Experimental research**

The P2 marked a transition from research for the purpose of designing to research by designing. Designing itself can be seen as a research method. A used method in which the focus constantly shifts between different design components, varying in scale. It is about exploring, establishing principles, designing alternatives and variants, testing, reflecting and making decisions. This approach is a form of experimental research.

Experimental design research was the mainly used research method between P2 and P4. Within the framework of the design project experiments were conducted regarding the architectural domains. The experiments were carried out as smaller separate studies with the ultimate goal of further developing the design as a whole.

The approach was often methodical. Every experiment had a clear research question and the approach was defined to achieve certain results.

One of the first experiments conducted in the design process concerned the stacking of dwelling types in the building volumes. Linking literature and data to the first case studies brought forward the first design principles, among which: the design should offer a varied number of dwelling types of varying sizes. In the first alternative the residential building included a stacking of studios and apartments. Reflecting with literature on this variant, I came to the conclusion
that the number of basic dwelling types should be enlarged. In the next alternative the configuration was supplemented with studio lofts, lofts and maisonettes. In the further development of the dwelling types, designing concept floor plans, the studio loft offered not enough quality in comparison with lofts and studios. Therefore, the third alternative existed of a stacking of studios, apartments, lofts and maisonettes. For every alternative several variants were composed in which was experimented with repetition, mirroring and scaling. Ultimately this led to a variant, of the third alternative, which is recognizable in the final design.

Fig. 07: Experiments concerning variety dwelling types.
A second experiment was conducting concerning the façade composition. First some studies were carried out into the façade composition of reference projects. This clearly highlighted the theme rhythm, which I subsequently started experimenting with in
my own design. The method to research this was much more intuitive. I started with a composition that originated from the structural design. Thereafter, I started making small alterations, eventually ending up with a large number of variants. Afterward I put all drawings together and reflected on their impact. Choices were made based on criteria such as daylight, quality of the sight lines and from the floor plan design. Another criteria was whether the composition translated the interior behind the façade, variation between dwelling types and collective spaces. Logic, intuition but also taste were used during this reflection.

These two examples illustrate very clearly that the relation with the graduation theme, housing for the inbetweeners, varies per experiment. The first relates
strongly to the concept. The second experiment on the other hand is more general and relates more to the design itself.

The approaches in these experiments are representative for other experiments conducting during the design process. Experiments also influenced each other within this process.

Although this research method has a methodical approach it is most likely someone else would come up with different ideas and would probably end up with different experiments and outcomes. This is partly due to the fact that serendipity plays a role in conducting experiments as well.

What I noticed during executing design experiment was that the language in which you translate your ideas, the visual language, was also important. Efficiency and effectiveness were important criteria. Sketches, physical models and perspective images were, for instance, a more effective and efficient tool to study the experience, use and materialization of the central court than a digital model.
**Methods and approaches**

In the process of research and designing the project ‘Housing for the Inbetweeners’ five research methods have been used, namely: literature study/desk research, descriptive research, case studies, field research and experimental research. These methods have had in principle three different goals. Literature study/desk research to form a guiding theme. Descriptive research, case studies and field research to build a frame of knowledge about the context and reference projects. Experimental research, a process of exploring and deciding, relates to the element experimenting.

In addition, it is important that the research methods do no stand alone, but influence each other strongly. For instance, a reference framework has been developed by conducting case studies. By reflecting on this, by means of literature and desk research, initial principles for the design could be formulated and the guiding theme became specific.

Of the methods used, literature study/desk research and case studies have the most scientific value. Beforehand research questions were drafted, the approach of obtaining knowledge was systematically structured, the knowledge is verifiable and personal appreciation plays a minor role. In another situation, descriptive research could also have much scientific value. However, the situation has been manipulated to such an extent, by designing a new urban plan, that the scientific value decreases. The other
research methods are less scientific because serendipity plays a larger roll and the argumentation for certain decision are less verifiable.

The research methods that have provided the most specific information for the design theme and concept are as well literature study/desk research and case studies. In addition, experimental research was important, because design experiments related often to findings previously mentioned research methods.
Research and design

The relation between research and design.

As an architect research can be used for different purposes. It can be used to expand knowledge. It can be used for reflection or to provide input for the design process. Designing itself can also be seen as a method of researching.

Within my graduation project I have used literature and desk research to critically study the characteristics of my target group and the residential building designed for them. This resulted in the argument that this was not compatible. From that a design question emerged.

For the purpose of providing input for the design I conducted case studies, descriptive and field research. With this research I gained knowledge about the design location and precedents in order to build a kind of library where I could get information or inspiration during the design process.

Lastly, I used designing itself as a method of researching. Designing as a method of conducting experiments by defining questions, creating possibilities, testing and reflecting.
Relation topics

The relation between the graduation topic, the studio topic, the master track and the master programme.

The theme within the Dutch Housing Graduation Studio was ‘between standards and ideals’ and within this studio the central question was: “how do we want to live in the future and what kind of buildings do we need to make that possible?”. To be able to formulate an answer to this question we were asked to write a manifesto in which an ideal image for city of the future is presented in relation with the chosen subject.

The ideal, for me, was creating a place for the in-between city dweller in the city for the future. A group of people of about 55 till 75 years’ old that have left behind the adult family life, but still do not belong to the group of elderly. However, housing intended for them in society nowadays resembles housing for the elderly. This strongly varying group should be acknowledged as a separate target group, also in designing new housing concepts.

The track architecture focusses on enabling students to “develop creative and innovative building projects that use design as a means to deal with the technical, social and spatial challenges encountered in the built environment”. The graduation project focuses, within the architecture track, strongly on social challenges.
The social development in Amsterdam of a growing group of people with an age older than 55. Research into this development and their characteristics was used for projecting an ideal image for the future in a manifesto, which formed a foundation for the graduation project.

The master programme is about exploring “innovative ways to create more sustainable developments”. This relation is in my opinion less literary recognizable in my graduation project. However, the topic choice is a sustainable one. It turns a problem or threat in society into an opportunity to create new dwelling concepts for a new target group. In addition, it is certain this group will become even larger in the future and maintains a fixed level at some point. Therefore I believe it is a sustainable approach to a societal problem.
Social, professional and scientific framework

Elaboration on the relationship between the graduation project and the wide social, professional and scientific framework, touching upon the transferability of the project results.

It is a fact that the population is growing and that people get older. In the Netherlands the percentage of people with an age over 55 years old increases. The graduation project focuses on the in-betweeners, a group of people with an age of approximately 55 till 75 years old. Therefore, it relates strongly to the social phenomenon of population growth and aging. The project is for that reason very topical at the moment and the subject relevant for the architectural profession in the future.

There is a lot of scientific knowledge present about this subject in a historic perspective. However, there is less in-depth research about which direction to take in the future. This knowledge is more generic and broadly orientated. I think this is because we are at a point we realize how big this issue is and we start discussing future goals. I believe my project contributes to this discussion in which it takes a certain position.

The residential building design for the in-between city dweller is specifically made for the design location, the Minervahaven in Amsterdam. For example, the shape of the buildings has been adjusted to the specifications of the urban context.
and site. Therefore, the design is not directly transferable to other locations. On the contrary, the DNA of the project is. The design element of composing a building of a variety of dwelling types that are adaptable to need and taste, that results from the high divers group of people with individual needs and wishes, can be used in other design assignments. The design differs but the DNA remains the same.
Ethical issues and dilemmas

Discuss the ethical issues and dilemmas you may have encountered in the research, elaborating the design and potential applications of the results in practice.

During the graduation I encountered multiple ethical issues. This started already with designing a new urban plan for the Minervahaven area in Amsterdam. A large number of buildings have been demolished for this proposal. Even buildings in a relatively good state were demolished because they did not fit the ideals of this new design. However, in the process raw materials get lost that are already becoming scarcer in the world.

A second dilemma, related more to the subject of my graduation project, concerns the name for my target group. The use of words for this target group and their characteristics proved to be very delicate. How do you call someone with an age of 55 till 75 years old? The word adult is not specific enough. They are not elderly people and they, for certain, do not want to be called like that. Words such as senior also do not quite say it. They are people in the ‘third phase of life’, but this is not a term for a target group. For that reason, I introduced a new definition, the inbetweeners. This definition describes a group of people of about 55 till 75 years’ old that have left behind the adult family life, but still do not belong to the group of elderly. I believe this was necessary to get the right message across.
Sources


All images are produced by the author.