This reflection is a compulsory part in graduating from the faculty of Architecture and the Built Environment. In this reflection attention will be drawn to five subjects. These five points of reflection are: my aim of connecting theory to practice; the relation between this project and the wider social context; the method itself; the process of graduating; and the future possibilities of the method. In order to place this reflection, please see insert on the next page for a basic summary of the graduation project.

Relation between research and design in this project
Throughout this thesis there has been a strong link between research and design. The method that is proposed, was constructed around theoretical concepts. Which has resulted in a direct translation of concepts from theory to practice. This has been a personal wish to do. I am thus very content that the concept of the four meanings of space is present in all chapters of this thesis. The four meanings of space have been found in theory, used to construct the proposed method, and proved to be able to identify the spatial elements when the method was applied. Although I was successful in narrowing the existing gap between theory and practice, it has been a one-sided action. As can be seen in figure 1, theory has been brought into practice. Even though several calls for research from other scholars show that this was necessary, it is not the only way to connect theory to practice. There is of course another way, which is the other way around, see figure 1. This would mean learning from practice, and thereby adapting the existing knowledge on creative clusters. With the proposed method, this path could be chosen for further research.

When aiming for narrowing a gap between theory and practice, both directions should be considered. This project has been a first set up in the interplay between the theory and practice of creative clusters.
Main and sub research questions
What are the spatial features of creative clusters and how can they be applied in a framework for urban design?
1. What are the spatial features of creative clusters from a theoretical context?
2. How can these spatial features be translated into a framework for urban design?
3. Can the urban design method be applied in the Merwe-Vierhaven area to stimulate the development of a creative cluster?

Summary of the previous conclusions
As became clear in the theoretical framework, constructed within the scope of the first sub question in chapter 2, the four meanings of space are the core of understanding the role of space in the functioning of creative clusters. The economic, material, symbolic, and social meaning of space all contribute to the public space. The concept of the four meanings of space was then used to develop an urban design method in the second part of the thesis, chapter 3. The urban design method translated the concepts from the theoretical framework into useful tools for practice. The urban design method is constructed around three steps: Analysis, Action, and Adaptation. The first step shows the where eventual clusters are on the location and points out a working region that needs intervening. The second step looks closely at the current, and potential values for the four meanings of space. The third step zooms out back to the working region to balance out the potential values and form the best proposal for the working region. As an illustration of the method, it was applied to an up and coming creative cluster in chapter 4.

Narrowing the gap in knowledge
What are the spatial features of creative clusters and how can they be applied in a framework for urban design? This question, posed at the beginning of this thesis, has indeed been answered through the sub questions. The theoretical framework has provided knowledge on the spatial elements of creative clusters. And the proposed Method for Analysing Space and Defining Potential has translated these concepts into a framework for urban design.

In the problem statement it was posed that the spatial features of creative clusters needed to be defined. With this research that is partly done. The concept of the four meanings of space has been used to identify the spatial elements in creative clusters and has been used to propose interventions for creative clusters.

Due to the extreme diversities of space in creative clusters, I think this is the closest to defining the spatial elements of creative clusters. As shown in the precedent projects, the spatial elements in established clusters in the Netherlands alone, are hardly comparable. It would therefore be almost impossible to define the spatial features of creative clusters in general. So instead of defined spatial features, a method to identify spatial features in creative clusters has been the result of this thesis.

Next to the definition of spatial features, it was the goal to narrow the gap between theory and practice. With the development of the Method for Analysing Space and Defining Potential, this has certainly been achieved. The concept of the four meanings of space has directly been implemented into the method, making it usable in practice.

Relation between this project and the wider social context
One of the consequences of the existing gap between theory and practice are the associated dangers of gentrification, displacement, and loss of culture when developing creative clusters. With the aim of connection theory to practice, the method tries to overcome these dangers in several ways.

This method looks at the existing spatial elements in the cluster, showing that a cluster cannot be created out of thin air, and that it is not a one size fits all recipe for success. With the attention for existing spatial elements the local culture will be honoured. In order to avert the processes of gentrification and the self-destructive tendencies of diversity (as mentioned by Jane Jacobs in 1969), there is explicit attention for diversity when applying the method. For a cluster to function successfully, a balance between almost all morphological aspects is needed. These include a mixture of old and new buildings, large and small, and high and low rents.

It might seem contradictory to develop a method that will help developing creative clusters, when I just stated that cannot be designed and that it can have negative societal effects. However, the goal of this method is to show the potential of the spaces. To treat the spaces of the possible also as reality and giving credit to the embedded truths of a location.

The dangers and critiques when dealing with creative clusters are well represented in the scientific scholarships, often as a reaction to practice. This method offers a contribution in preventing these dangers from happening.

Loose ends in the method
In retrospective, there is, at least, one aspect that needs to be improved on the method. This concerns the role of the mappings in the method. Although they are not part of the bridge between theory and practice, see figure 2, they can play an important role in the successful application of the method. This ties in with the preventing of the mentioned dangers previously.

Within the mappings a distinction can be made in the aspects that can and cannot be changed within the scope of the method. The initial use of the mappings does not pay attention to this distinction and the mappings are solely used to determine the working region within a cluster. As a consequence, the method could be improved in any region and the outcome would say that many interventions are needed. But it is the nature of creative clusters that they cannot be created out of thin air, and that it is not a one size fits all recipe for success.
be created out of thin air. So, there is a mechanism needed to prevent unfeasible use of the method. There is a certain base of morphological diversity needed to start with. This is where the distinction in the mappings comes into play. In order to determine the suitability of a location for creative cluster development, an extra step is needed in the method, see figure 3. This step, step 0, will be the mapping of the morphological aspects as they are now stated in the first step. Based on these results the choice the decision can be made to start with the method. The socio-economic mappings will stay in the first step, since they visualize the intensity of clustering and are inherently needed to determine the working region. Based on these improvements to the method, it seems that more attention is needed to the beginning of the method. More details are needed to specify that the method will not work in any given location.

Future possibilities
For the future possibilities of the method, three further lines of research are suggested. First, of course, testing the method in practice. The application of the method in chapter 4 has been in a hypothetical situation. As mentioned in the reflection on the relation between research and design, for a successful bridging of theory and practice, the direction of practice to theory should be explored as well. When applying the method for real, the results can be used to develop the existing theories on creative clusters and their spatial elements.

Secondly, further research into the concepts of space is needed, since this is an ongoing process. The digital space for example is very important in creative clusters. This type of space has not been the focus of this project, but one can imagine that the features of digital space can also determine the functioning of creative clusters. Therefore, the concept of the four meanings of space can be extended as shown in figure 4. Also, the spatial elements in the four meanings of space are subject to constant evolution. The framework will have to be changed accordingly over time.

Thirdly, the application of the method elsewhere can be researched. It is, in essence, a proposal for looking at space differently. It was needed because creative clusters are very complex spaces. Maybe the same mechanism can be applied in other complex spaces in cities. The method has now been tailored for creative clusters, so the core functions for each meaning of space will have to be adjusted to a new situation. New applications could include multimodal public transportation nodes like train stations or inner cities dealing with tourism. Public transportation hubs are an example where the core functions of the four meanings of space need to be changed. The material space will probably deal more with efficiency and capability of large flows of people. The symbolic space will revolve more around clarity and wayfinding. Here I see a task for others to take part in the evolution of the proposal for this method.

Process of graduating
Within this reflection I would like to take some space to reflect upon my own role in this project. As I have mentioned before, I take great interest in the translation of theoretical concepts into practice. This is for a large part the reason that this project has resulted in the proposal for a new method. But this proved to be a somewhat difficult position for me. As I was both the maker and end user of the method. This meant that I was playing two roles by myself, which made it hard to signal potential problems in time. I realise that this situation in all probability will not occur in practice. There will be a real client and real end users. In the ideal situation I would have had several feedback moments with the eventual end users to receive their input. Unfortunately, this has not happened in this project, but is definitely a point of attention that I take with me.