GENTLE FIRST CONTACT

A tactfully designed *patient journey* and *therapeutic environment* to make children feel at ease for improved psychosocial therapy sessions

COLOPHON

Gentle First Contact: A tactfully designed patient journey and therapeutic environment to make children feel at ease for improved psychosocial therapy sessions.

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GLOSSARY

EMDR
Eye Movement Desensitization Reprocessing: a therapy to help people process their trauma.

JCI
Joint Commission International: a commission that wants to improve the safety and quality of healthcare internationally.

Parent
Caretaker of the child that accompanies the child to an appointment.

PMC
Princess Maxima Centre: centre that is specialized in treating children with cancer. The centre is connected with the Wilhelmina Children's Hospital.

Psychologist
The specialist that treats or examines the child.

PTC
Psycho Trauma Centre: a sub-department of the Medical Psychology and Social Work department where children with severe traumas are helped.

UMC
Academic Medical Centre Utrecht

WKZ
Wilhelmina Children's Hospital

EXECUTIVE SUMMARY

This graduation report is an account of the graduation project of Marije Seinen for the Medical Psychology and Social Work department of the Wilhelmina Children's Hospital (WKZ).

The Medical Psychology and Social Work department helps children between 0 and 17 years old and their parents to cope with psychosocial problems caused by medical events and/or (chronic) illness. In therapeutic sessions psychologists help children to overcome their fears and develop effective coping strategies. In addition, the department monitors the development of children that have an increased risk of obstruction in their cognitive development with psychological tests (e.g. IQ tests). Treatment and evaluation sessions are performed in a so called playroom. Here, different kinds of play materials are available to enhance and facilitate sessions. The current playroom does not support the psychologists in the wide range of activities they perform. The department addressed this demand in the form of this graduation project.

The initial design goal was formulated as follows:

> *Design a master plan for a new playroom that supports the psychologists and enhances the experience of children at the same time. In addition, one element in the environment that is often used to facilitate the interaction between the psychologist and the child will be detailed.*

Research in the context was performed to obtain insight into the usage of the playroom, its users and their experiences (e.g. interviews with psychologist, parents and children and observations in the environment).

The main problem identified for the current environment is that it does not support the psychologists in the different sessions they perform. A flexible environment is wished which can easily be switched from an atmosphere where the child is able to concentrate (stimulant free) to an atmosphere that invites the child to play (stimulant). In addition, the importance of the child feeling at ease at the start of a session became apparent. It was discovered that the journey that the child makes before he/she enters the playroom is of significant influence on this. Children that visit the department for the first time are nervous and do not feel at ease when entering the playroom for the first time. This is especially the case for young children (≤ 7 years) with medical anxiety.

Two design directions were identified. One focusing on creating a flexible environment to optimally facilitate all the sessions performed in the playroom and the other on supporting the child at different moments in the patient journey to make him feel more at ease during his first psychosocial therapy session. In order to obtain a more in depth understanding of the design directions, two workshops were organised with employees of the department. The first workshop focused on obtaining a better understanding of the aspects that currently have a positive or negative impact on the extent the child feels at ease during the journey and how this could be improved. Four design principles to make children feel at ease were identified. The second workshop focused on obtaining a better understanding of the different environments that are desired in the room. Based on the results of the workshop, certain qualities of interaction could be determined for the different atmospheres and users.

In order to come to feasible designs for both design goals, a collaboration with design agency Tinker Imagineers was established. This agency created a new vision to improve the experience of children when visiting the WKZ in parallel to this project. To ensure the designs fit the sensitive context, the guidelines developed for the design of tactful objects were applied to the project.

The design process kicked-off with several individual idea generations and a creative session with Master students of the faculty Industrial Design Engineering focused on both design goals. After this, both design tracks were conducted separate from each other. In order to create a master plan for an improved environment, two concepts were created which were evaluated with the company mentors. This led to one design including recommendations for colour, light and sound. To create a more supportive patient journey towards the playroom, a more elaborate process was performed. Several evaluation moments took place with the employees of the department as well as with the design agency Tinker Imagineers. Several iterations led to one design. The designs for the playroom and patient journey where combined into one final design: Gentle First Contact.

Gentle First contact is a tactfully designed patient journey and therapeutic environment to make children feel at ease to improve psychosocial therapy sessions. The animal that is linked to the department by Tinker Imagineers, the seahorse, is used as connecting theme throughout the journey and in the new playroom environment in order to create a gradual patient journey.

Several elements are designed to support the child at different moments of the patient journey in order to make him/her feel at ease before entering the playroom for the first session. A letter supports the child and parent in preparing for the first appointment. It informs the child carefully and slightly triggers his/her curiosity. In this way the child can create a positive attitude towards the appointment. When the child enters the hospital, he/she is guided towards the department by seahorses displayed throughout the halls. At the reception, he/she receive a magic UV light to explore the new waiting room environment where seahorses are hidden behind seaweed strings placed on the wall. The search distracts the child positively and makes him/her feel confident and relaxed. The design invites parents and children to play together in order to make both feel at ease. When it is time for the appointment, the child is invited into the playroom. Stickers of seahorses are placed on the door of the playroom to facilitate a playful transition to the room. The psychologist can invite the child to search together for one last seahorse in the playroom. This makes the first contact between the child and psychologist easier and creates a smooth transition towards the playroom. By searching a last hidden seahorse in the playroom, the child becomes familiar with the environment and the psychologist. The child will feel confident and relaxed at the start of the therapy session which allows the psychologist to conduct the session in an optimal way. An evaluation of the designs in the context provided several indications that the new patient journey supports a more gradual transition towards the playroom and therefore reduces the nervousness of the child. Recommendations are provided about additional aspects that would improve the patient journey and how to evaluate the designs more extensively.

A master plan for a therapeutic environment is designed to further strengthen the feeling of the child of being at ease and to optimally support the psychologist in his/her wide range of activities. A flexible environment is created that can be adapted to the different sessions that are performed and the characteristics of the child. By turning and sliding panels in the closet, the psychologist can quickly and easily change the atmosphere in the room. The child will feel at ease in both environments due to the homely atmosphere and appealing use of colour. The company mentors indicated that the master plan for the playroom clearly shows solutions for the problems that are currently encountered and the wishes they have to improve the environment. The plan forms a strong basis for the department to create a new therapeutic environment. Recommendations are provided for the next steps that should be taken to realise this plan.

CONTENTS

1. INTRODUCTION

This graduation project is performed for the Medical Psychology and Social Work department of the Wilhemina Childeren's Hospital in order to create a more supportive therapeutic environment to treat and examine children in an optimal way. In this chapter the design brief including the initial design goal is presented after which I will provide my own perspective on the assignment. Lastly, an overview of the project will be presented which provides guidance in reading this report.

1.1 THE DESIGN BRIEF

The Medical Psychology and Social Work department of the Wilhelmina Children's Hospital in Utrecht helps children between 0 and 17 years old and their parents coping with psychosocial problems caused by medical events and/or (chronic) illness. In therapeutic sessions psychologists help children to overcome their fears and develop effective coping strategies. Since children are often experiencing difficulties to express their thoughts and feelings in words, play is used as facilitating mean throughout a session. For instance, play is used to start the conversation or help children to express themselves in a more natural way. When (chronic) illness or medical anxiety has resulted into a severe trauma, EMDR (Eye Movement Desensitization Reprocessing) therapy is offered. Furthermore, the department keeps track of the development of children that have an increased risk of obstruction in their development due to being born too early, (chronic) illness or a medical event. Their development is measured with help of psychological tests such as IQ tests.

All these activities take place in a dedicated place called: playroom. Here, different kinds of play materials are available to enhance and facilitate sessions. The department has four playrooms that are each targeting children in a different age range.

During the past 20 years psychologists have used the playrooms to help children with their psychosocial problems and to evaluate their development. However, psychologists indicate the rooms are currently not supporting them in the different activities they have to perform. Therefore, two specialists - Jet Strijker-Kersten, head of the department Medical Psychology and Social Work, and Irene Dorrestijn, Psychological assistant, - that are currently working at the department took the initiative to address this demand in the form of this graduation project.

Design goal

The aim is to design a master plan for a new therapeutic environment that supports psychologists in performing therapy sessions and enhances at the same time the experience of the child. In addition, one element in the environment that is often used to facilitate the interaction between the psychologist and the child will be detailed.

1.2 MY PERSPECTIVE ON THE PROJECT

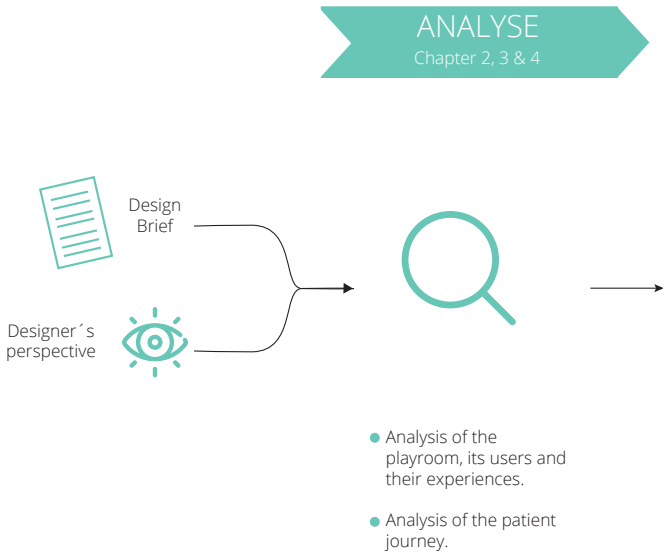
This graduation project started off with the request from the Medical Psychology and Social Work department of the Wilhelmina Children's Hospital to design a more supportive therapeutic room. As a Design for Interaction student, I think it is important to not solely analyze the room, but to analyze the entire context as well. The different stakeholders need to be identified and their needs and wishes need to be mapped. In addition, what happens before the user enters the environment and the surrounding environments should be analysed since they could have a significant influence on the experience of the room. Only with a thorough research of the context, a meaningful and suitable design for a therapeutic environment can be created.

As designers we are trained in obtaining a thorough understanding of the context and the different stakeholders. With the help of research we reveal the deepest needs and wishes of the different stakeholders in order to create a suitable design for every stakeholder. This design could be a product or service, but also an entire environment.

Where stakeholders were in the past solely seen as a source of information, they are considered more and more as partners during the design process (Sanders & Stappers, 2012). After all, they can be seen as experts of their own experiences They can play a valuable role at different stages of the design process. The role of the designer is to provide the tools to enable the stakeholders to express themselves in an optimal way. Also children should be not underestimated, when providing the right tools, their input can be a valuable contribution. In this project all the different stakeholders will be closely involved in the project.

Furthermore, it is important to not see the playroom as an isolated environment. What happens before entering this specific environment can have a significant influence on how the environment is experienced. It is important to take this into account.

I think that the power of thorough research to create a meaningful and suitable environment is often underestimated. When designing an environment, the focus is often on designing an aesthetically pleasing environment. Often there is no time and money to do extensive research. This results in an environment that does not suit the needs of the different users of that environment. The users experience the inconvenience when using the environment, but adjust their behaviour in order to make the environment work for them. From my perspective this should be the other way around: the environment should support the needs of the different users in order to allow them to make use of the environment in a way that feels natural to them. A well designed playroom can support psychologists in performing their sessions in a more optimal way and create a more positive experience for all the stakeholders.



1.3 OVERVIEW OF THE PROJECT

In this section an overview of the project will be presented in order to provide guidance in reading this report (figure 1.1).

Analyse
The design goal is to design a master plan for a new therapeutic environment that supports the psychologists and enhances the experience of children at the same time. Therefore the project started by obtaining a better understanding of the playroom, its users and how they experience the current environment. However, as indicated above, the playroom cannot be seen as an isolated environment. What happens before entering the playroom can have a significant influence on how the playroom is experienced. Therefore, the journey of the child and parents before entering the room was mapped. An analysis of the playroom provided insight in how to improve the playroom in such a way that it can support different sessions in an optimal way. In addition, the journey before entering the playroom was found of significant influence on the first time the child enters the playroom. Two design directions were identified. One focusing on improving the therapeutic environment and the other on improving the journey towards this environment.

Define
The design directions were explored more in depth by doing workshops with employees of the department. This resulted in the definition of two design goals. More specific research was performed with regard to these design goals to create a solid basis for the remaining of the process.

Ideate
The ideation phase kicked-off with multiple idea generation sessions focused on both directions. After this, both design tracks were conducted separate from each other. However, the connection between the two directions was not forgotten.

Conceptualize & Evaluate
In order to create a master plan for a more supportive environment, two concepts were created which were evaluated with the company mentors. This led to one, final concept. The master plan was completed with recommendations concerning colour, light and sound.

In order to improve the journey towards the playroom, a more elaborate process was performed. In order to come to a feasible design, several evaluation moments took place with the employees of the department as well as with design agency Tinker Imagineers that is responsible for the new vision of the WKZ. Several iterations led to a concept for a more supportive patient journey. This concept was evaluated in the context with psychologists, parents and children.

Finalize
At the end of the project, the results of both design tracks were combined into one complete storyline.

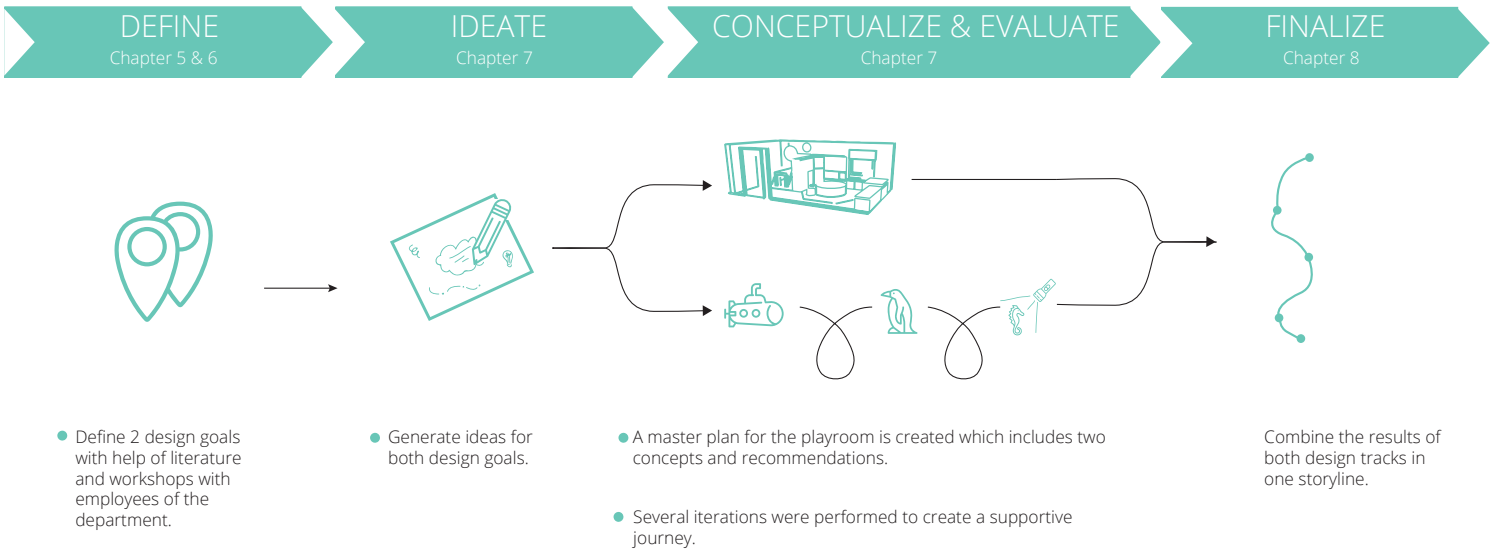


Figure 1. Overview of the project

2. THE CONTEXT

In this chapter a description of the context of the graduation project will be provided. The Wilhelmina Children's hospital, the Medical Psychology and Social work department and its playrooms will be described in order to create a complete overview. The chapter will end with a set-up for the field research.

2.1 THE WILHELMINA CHILDREN´S HOSPITAL

The Wilhelmina Children's Hospital (WKZ) is one of the seven children's hospitals in the Netherlands. The hospital is part of the Academic Medical Centre Utrecht (UMC). Yearly 5000 children are hospitalised and 3000 children are born in the WKZ. Besides, 6000 children visit the hospital for a day treatment and 48.000 pay a visit to the polyclinic (WKZ, 2012).

The goal of the WKZ is to cure children and make sure they remain in good health. In order to do so the hospital is constantly improving its service and healthcare. The needs of the children are central in this.

The WKZ thinks it important that children can still be children despite being ill. To provide an environment capable to address this there is amongst other things a theatre (figure 2.1), playground on the roof (figure 2.2) and a hospital school. Besides, the interior and exterior of the hospital are designed in way that is appealing to children and fits their experience (EGM architecten, n.d.). The reception desk is designed as the copper submarine of captain Nemo and the main hall is designed as an elfin forest with Mikado columns and tilted ice blocks as roof (Figure 2.3).

The WKZ in development

At the moment, the WKZ is undergoing several developments. The hospital is being renovated and the Princess Maxima Centre (PMC), a specialized hospital for children with cancer, is build next to the WKZ. The PMC is closely connected to the WKZ and makes use of some facilities of the hospital. The children with cancer that were treated in the WKZ moved to the new hospital in May 2018.

The renovation of the WKZ started in the fall of 2017 and will end in 2023. The goal of the renovation is to create a future proof hospital that is based on the newest insights and technologies concerning healthcare and well-being in order to support the children, their families and employees the best possible way (WKZ, 2018). The needs and wishes of the children and their families are central in the plans.

Figure 2.1 Theatre of the Wilhelmina Children's Hospital

Figure 2.2 Playground at the roof of the hospital

Figure 2.3 Main hall Wilhelmina Children's Hospital

2.2 THE MEDICAL PSYCHOLOGY AND SOCIAL WORK DEPARTMENT

The Medical Psychology and Social Work department of the Wilhelmina Children's Hospital in Utrecht helps children between 0 and 17 years and their parents coping with psychosocial problems caused by medical events and/or (chronic) illness. In addition, the department monitors the development of children that have an increased risk on obstruction in their development.

In order to help the child and parents the best way, they are supported by a team of specialists (figure 2.4). The child is supported by a psychological assistant and/or psychologist and the parents are supported by a social worker. In therapeutic sessions psychologists help the child to overcome his fears and develop effective coping strategies. EMDR can be offered when a severe trauma has been developed. The social worker offers psychological support to the parents, but can also help with more practical problems such as finances and the arrangement of special facilities.

The children are treated and examined in dedicated environments called ´playrooms´. Here, different kinds of play materials are available to enhance and facilitate sessions. The department has four playrooms where sessions are organized for children in different age ranges.

The Psycho Trauma Centre (PTC) is a sub-division of the Medical Psychology and Social Work department. This is considered as a separate part of the department. The PTC helps children that have experienced a severe traumatic life event that is not medical related (e.g. (sexual) abuse or death of a loved one). Children can be helped here with a reference from a specialist from outside the WKZ.

In total 25 specialists make use of the playrooms including the specialists of the PTC. During the project, the focus will be mainly on the usage of the playrooms by the specialists of the Medical Psychology and Social Work department. However, the wishes and needs of the specialists, children and parents that visit the PTC will not be excluded. Research should reveal if a difference can be found between wishes and needs of the specialists of the department Medical Psychology and Social Work and the specialists of the PTC.

Consequences renovation WKZ

As said above, the WKZ is currently undergoing several developments. Due to the opening of the PMC children with cancer that are currently treated at the department will be treated in the PMC. Concerning the renewal of the hospital, the department Medical Psychology and Social Work is not selected for renovation. However, they indicate they do not want to stay behind and therefore they take control with help of this project.

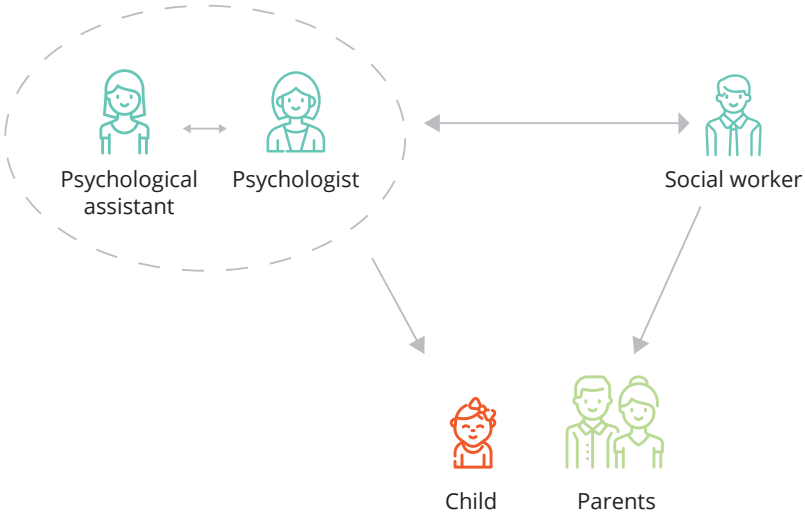


Figure 2.4 The child and parents are supported by a team of specialists

2.3 THE PLAYROOMS

The Medical Psychology and Social Work department has four playrooms. Figure 2.5 shows were these playrooms are situated at the department. A brief description of the four playrooms will be provided. In order to make the project more comprehensible one playroom is selected to focus on during this project.

Figure 2.5 Map of the Medical Psychology and Social Work department which shows the location of the playrooms.

Characteristics playroom 1 and 2
Playroom 1 and 2 are both targeting children between 0 and 12 years old and are considered quite similar. The rooms are respectively 24 m^2 and 22 m^2. The rooms are both colourful (playroom 1: green walls, yellow floor & playroom 2: orange and pink walls, yellow floor). Several play elements and a curtain with a playful pattern are immediately catching the eye. The rooms contain furniture that has the right height for children such as a small table and low kitchen counter. The rooms are in the middle of the building and therefore do not contain windows. This is advantageous because children cannot be distracted by events that happen outside and it ensures privacy. However, the lack of daylight make the rooms dark. Both rooms contain a one-way mirror that allows psychologists, parents and trainees to observe a session in the observation room behind the mirror. Playroom 2 is also suitable for the little children (0-2 years) since there is a mat available where research on the child's development could be performed. In addition this allows children to play on the ground. Playroom 1 and 2 are respectively shown in figure 2.6 and 2.7.

Characteristics playroom 3
Playroom 3 is targeting children from 10 to 17 years old. The room is much smaller than playroom 1 and 2, 10 m^2. It looks colourful (orange walls, green floor) just like playroom 1 and 2, but almost no play material is apparent. A couch in the room allows the psychologist to talk in a more relaxed setting with the child which suits the older age group that is targeted. Similar to playroom 2, a mat is placed against the wall to perform research on the development of little children. This seems not in line with the age the room is targeting. Just like the other playrooms, the playroom does not contain any windows. Figure 2.8 shows playroom 3.

Characteristics playroom 4
Playroom 4 targets the same age group as playroom 3: children between 10 and 17 years old. However, the appearance of this playroom is less childish due to the use of colour (gray/blue walls, yellow floor) and the lack of play materials. This is the smallest room of the four playrooms, 8 m^2. The room is equipped with low chairs which allow to talk in a more relaxed setting which fits the targeted age group. Just like the other playrooms, the playroom does not contain any windows. Playroom 4 is shown in figure 2.9.

Focus project: playroom 1

Together with the company mentors it was decided to focus on playroom 1 where children in the age range 2 to 10 years are helped. Although the wish for new concepts for all playrooms is valid, a new design for playroom 1 will form a good starting point. At the end of the project a reflection on the created concept should provide insight if the concept is also suitable for the other playrooms.



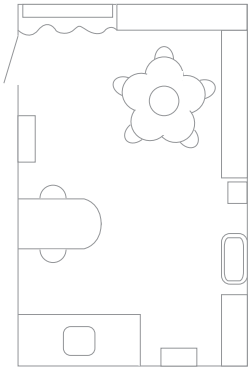


Figure 2.6 Playroom 1



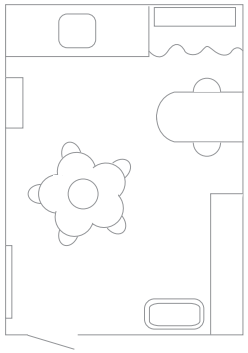


Figure 2.7 Playroom 2



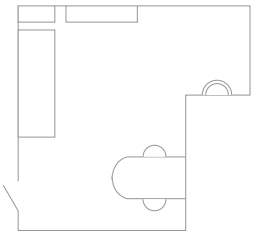


Figure 2.8 Playroom 3



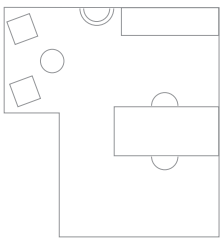


Figure 2.9 Playroom 4

2.4 RESEARCH IN THE CONTEXT

In order to obtain a better understanding of the context, a field research was performed. In this section the research questions will be presented and the research activities that were performed in order to provide an answer to these research questions.

Research questions

Several research questions were formulated in order to give direction to the field research. These questions are related to the use of the playroom, its users and how they experience the current environment. In addition, the journey before entering the playroom was taken into account since this can have a great influence on how the playroom is experienced. The research questions are listed below.

1. **How does the current environment support the psychologists in the activities they need to perform?**

   1.1 For which types of treatment is the environment used?
   1.2 Which activities are performed per treatment?
   1.3 How does the current environment support these activities?
   1.4 What atmosphere is required during these activities?

2. **How does the current environment supports the goals the psychologist wants to achieve?**

   2.1 What does the psychologist want to achieve concerning the following aspects:
   - Atmosphere
   - Interaction
   - Experience of the child
   - Outcome of the treatment

3. **To what extent are the wishes and needs of the PTC comparable to the wishes and needs of the Medical Psychology and Social Work department?**

4. **How do children experience the playroom?**

   4.1 How do children experience the playroom?
   4.2 Does the experience of the therapeutic environment differs per child (age, condition, etc.)

5. **How do the parents experience the playroom?**

6. **What are the different steps of the patient journey and how do children and parents experience this journey?**

   6.1 How does the journey affect the experience of the playroom?

Research activities

In order to answer the research questions several research activities in the field were performed. An overview is shown in figure 2.10. These activities were conducted in parallel. Since the research activities needed to be fitted within the tight hospital schedule and the sensitive context of the research, a more flexible approach was required from the graduation student. In practice this meant the activities were sometimes performed slightly different than planned.

The research activities will be briefly discussed. In appendix 1 to 6 the research set-ups and results are discussed in more depth.

Figure 2.10 Overview of the research activities

Interviews with psychologists
Interviews with psychologists were performed in order to obtain insight into how they experience the current environment, how it supports them in the activities they perform and the goals they want to achieve (RQ 1 & 2). Besides that the psychologists are experts of their own experiences, they can be also seen as experts of the experiences of the children. Therefore the interviews with the psychologists also provided insight in how children experience the environment (RQ 4).

Semi-structured interviews were conducted with six psychologists under which one psychologist of the PTC. This was done in order to identify if they have different needs and wishes for the playroom (RQ 3). The duration of the interviews varied between 30 and 50 minutes, dependent on the time the psychologists were available. The first four interviews took place in one of the employees office, the remaining two interviews took place in playroom 2. It was perceived more convenient to conduct the interviews in a playroom, since it allowed the participants to point things out and illustrate certain events.

The interviews were recorded in order to not miss any detail. Interesting parts of the interviews were selected and written on post-its by the graduation student. Clusters were made to find corresponding themes. These were supported by quotes. Based on the clusters, findings could be written down. By combining clusters insights were formed.

Input poster
Not all the psychologists that make use of the playroom were interviewed. In order to also involve them and provide them the opportunity to give their own input about their experiences, an input poster was placed in the kitchen of the department. The poster posed two questions:

1. What do you consider as positive aspects of the playroom?
2. What do you think can be improved in the playroom?

The poster also provided the opportunity to introduce the project and the graduation student to all the employees of the department.

Before the poster was placed, post-its with first insights of the interviews were stacked to the poster in order to lower the threshold to provide input. During the week after the interviews took place, the employees filled the poster with post-its that were especially placed on the side where was asked for suggestions for improvement (figure 2.11). The input was analysed by the graduation student simultaneously with the data that was collected during the interviews.

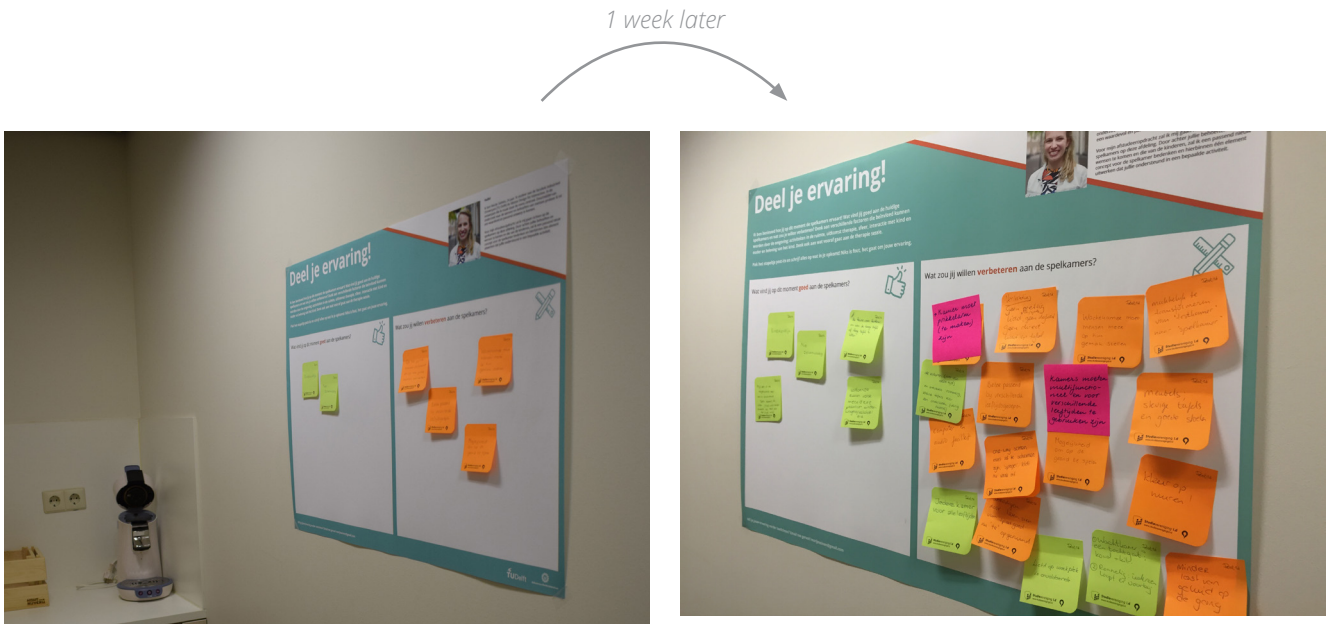


Figure 2.11 A poster allowed employees of the department to provide input on how to improve the playroom

Interviews with parents

Interviews with parents were performed to indicate how they experience the playroom (RQ 5). In addition, it was tried to obtain a better understanding of their journey before entering the playroom, how they experience this journey and to what extent it influences their experience of the playroom (RQ 6).

When children receive therapy, parents wait 45 minutes to 3 hours in the hallway till the therapy is finished. This was seen as a suitable moment and place to interview the parents. In total 9 interviews were performed. First a few questions were asked about their experiences with the playroom. After that, a timeline was created together with the parents in order to obtain a better understanding of the journey. This is a tool that is often used in contextmapping to support participants in telling about a certain journey or procedure (Sanders & Stappers, 2012). During the creation of the timeline the conversation emerged. In the end, the parent was asked to indicate positive and negative moments in the journey for him/her and the child. An emotion line was created to indicate how the parents and child feel during the journey. An example is shown in figure 2.12.

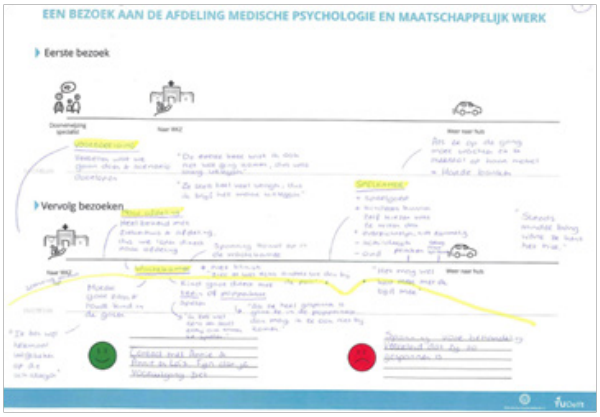


Figure 2.12 Timeline together with the mother of an 8 year old girl

Interviews with children

Children were interviewed in order to obtain insight into how they experience the playroom (RQ 4). With help of one of the company mentors, Irene Dorrestijn, the set-up for interviewing children was determined. Two parts were prepared: a semi-structured interview and an outline of the playroom to allow children to draw what their ideal playroom would look like (Figure 2.13). Together with Irene Dorrestijn it was decided that the children would be given the choice if they would like to draw while answering questions or only answer the questions. Drawing was seen as a good solution to let children between 6 and 12 years old speak more freely. Older children or boys could see drawing as too childish.

Finding a suitable moment to interview the children was considered difficult. Several approaches were tried to interview the children. First it was tried to approach children in the waiting room before their appointment. However, children and parents were often not willing to participate because they were quite nervous and indicated to not have enough time before the therapy started. So a different approach was adopted. Irene Dorrestijn performed three interviews at the end of therapy sessions she conducted. She asked the questions drawn up by the graduation student and let the children make a drawing. However, this approach was considered not convenient since the deeper meaning of the answers of the children was lacking and it was occupying too much time of the actual therapy. Lastly a third approach was adopted, the psychologists asked the graduation student in the playroom at the end of the session. However, the children were more interested in playing than answering questions. Eventually it was considered most convenient to use the information gained during interviews with parents and psychologists to provide answer to the question how children experience the playroom.

Figure 2.13 Drawing of the ideal playroom of an 8 year old boy

Observations in the playroom
Observations in the playroom were conducted in order to obtain insight into how the current environment supports psychologists and the different activities they perform here (RQ 1).

In total 7 sessions were observed. In order to obtain a complete overview it was tried to observe sessions with children from different ages and with different conditions. Observations were done with help of recordings available at the department that were made for learning objects and from behind a one-way mirror (figure 2.14). If possible, the therapy sessions were briefly discussed with the psychologist in order to clarify certain events and check how representative the observed sessions were.

Observation forms were created to keep track of the different steps of the therapy, which elements were used for these steps and the duration of the steps (appendix 5). Furthermore, attention was paid to interaction between the therapist and the child and the behaviour of the child.

Observations in the waiting room
Observations in the waiting room were conducted in order to obtain insight into the journey of the child and the parent before entering the playroom and its influence on the experience of the playroom (RQ 6). Observations were conducted from behind the desk of the secretariat in order to not give parents and children the feeling of being observed.

Figure 2.14. Observations were performed from behind a one-way mirror

3. UNDERSTANDING THE PLAYROOM

In this chapter, a deeper understanding of the playroom will be formed. In order to do so, several aspects of the playroom will be discussed. The different users and sessions that take place in the playroom will be described. Next it will be discussed how the current environment supports the different sessions that take place and its different users. This will lead to a better understanding of the context and will provide grip on the assignment and will support design decisions made in a later stage of the project.

3.1 USERS OF THE PLAYROOM

Several users of the playroom can be identified. These users and their characteristics will be discussed. At the end of the chapter, the main users will be identified.

Children

The children that have sessions in playroom 1 are mainly between 2 and 10 years old and experience different problems. Children could experience one of these problems, but also a combination of them. The children can be divided in four groups.

1. Children who have a higher risk on obstruction in their development

The cognitive development of children could be obstructed by a certain medical event (e.g. born too early or an operation as a baby), chronic illness or brain damage. The Medical Psychology and Social Work department monitors the development of these children by performing psychological tests.

Characteristics: Children that experience developmental obstructions due to brain damage are easily distracted.

2. Children who experience medical anxiety

Children could have developed medical anxiety as a result of bad experiences during medical events. Medical anxiety is an all-encompassing term to describe fears that are related to medical procedures, surgeries, shots, anaesthesia, hospital admissions, emergency room, and medical professionals (Loftin & Wilkins, 2017). Blood-injection-phobia is identified as a Specific Anxiety Disorder which includes fear of seeing blood or injuries, receiving injections and invasive medical procedures. Children are often not able to specify their anxiety, they will generalize their fear for the hospital as a whole (Loftin & Wilkins, 2017). Therefore, the term medical anxiety is used to cover all fears related to medical events including blood-injection-phobia.

Most children that visit the department experience medical anxiety. The department helps them to overcome their fears with help of therapeutic play sessions. If the medical anxiety has developed into a trauma, solely offering therapeutic play sessions is not effective enough. Additionally EMDR is offered to help these children.

Characteristics: Children with medical anxiety have bad memories about the hospital and everything that has to do with it. This means that they could experience negative emotions every time they visit the hospital.

3. Children who have difficulties coping with a (chronic) illness

Children could experience problems in their daily lives due to (chronic) illness or inexplicable illness symptoms. When they are not able to deal with these problems themselves, they can be supported by the Medical Psychology and Social Work department. Together with psychologists they will develop effective coping strategies during therapeutic play sessions. When the problems have developed into a trauma, offering solely therapeutic play sessions is not effective enough. Additionally EMDR is offered to help these children.

4. Children who suffer from a complex trauma

Certain traumatic events could have a great impact on a child's life such as a severe accident, (sexual) abuse or the loss of a loved one. A great amount of children is able to process these traumatic events on their own without help of specialists. However, some children develop psychological problems due to the traumatic event. They have trouble getting the bad memories out of their head. They experience the event over and over again in their head and dreams. Besides, the children often have panic and avoidance reactions. Children who experience psychological complaints due to a traumatic event suffer from a Post Traumatic Stress Syndrome (PTSS). Therapeutic play sessions are offered to help these children. This could be combined with EMDR therapy when needed.

Characteristics: Children that suffer from a trauma could react more anxiously towards certain unexpected events such as unexpected noises. Depending on the reason of the trauma, they could also experience more problems while being separated from their parents and with trusting unfamiliar people.

Figure 3.1 shows an overview of the different children that visit the department and the help that each type of child receives. How specific characteristics of the children have an influence on how they experience the playroom is described in chapter 3.4, page 43.

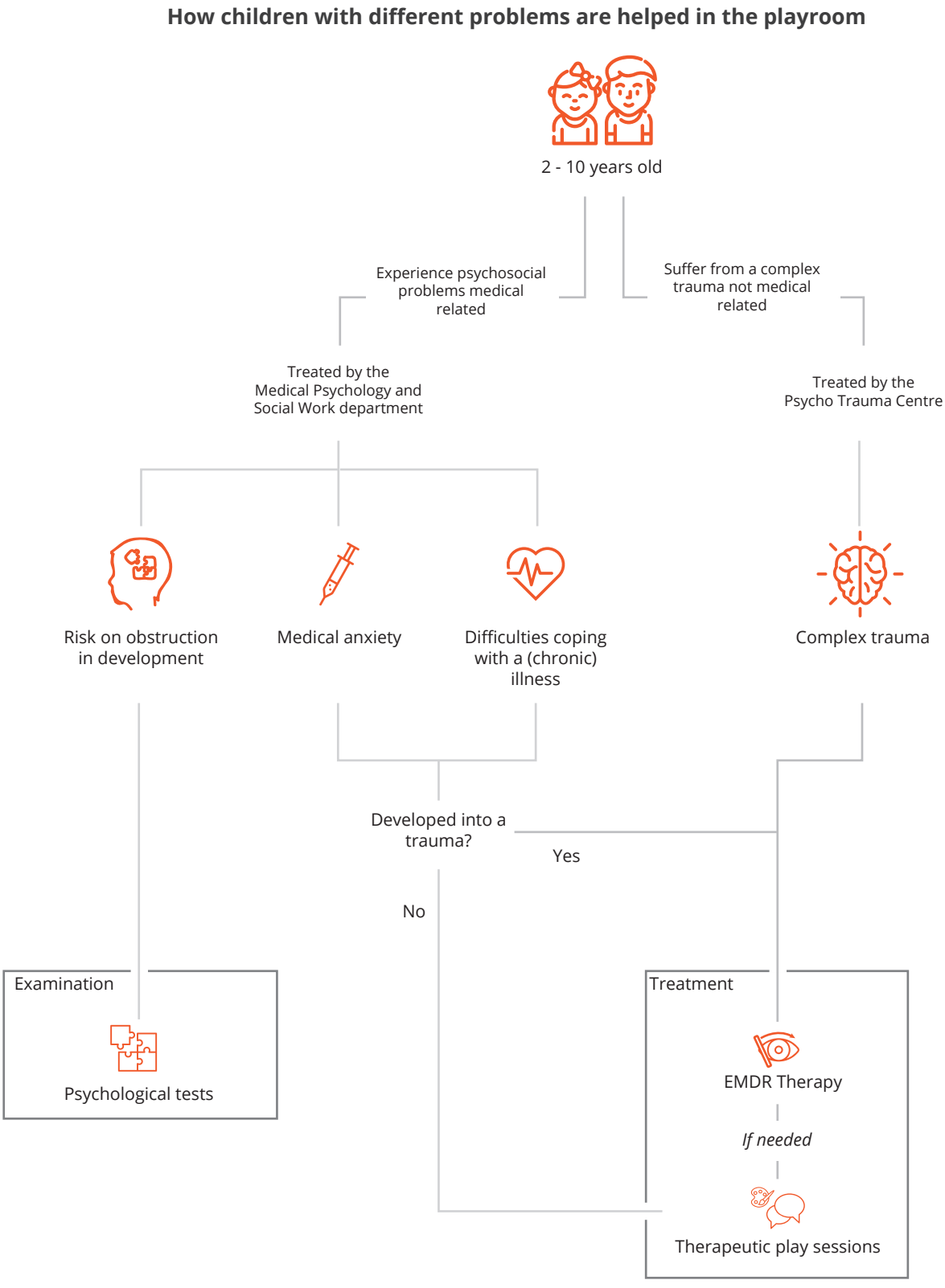


Figure 3.1 Overview of the treatments offered by the department related to children's problems

Therapists

At the department, there are 25 therapists who make use of the playrooms. These therapists have different specializations and areas of interest. The different therapists will be briefly discussed.

1. Psychologists
Three types of psychologists could be distinguished:

• Medical psychologists
The medical psychologist is engaged in general psychological problems wherefore he/she uses standardized diagnostic methodologies and treatment methods (Rinogroup, 2013).

• Clinical psychologists
The clinical psychologist is the specialist in the field of medical psychology. He/she is specialized in diagnosing and treating complex psychological problems with the exception of problems caused by brain damage. Clinical psychologists are often involved in scientific research which they translate into new treatment methods (Rinogroup, 2013).

• Neuropsychologists
Neuropsychologists are specialized in congenital (e.g. a genetic illness) or acquired (e.g. a brain trauma due to illness or an accident) disorders of the brain and the consequences for the cognitive processes, the regulation of emotions and behaviour. Just like the clinical psychologist, neuropsychologists are involved in scientific research which they translate into new treatment methods in practice (Rinogroup, 2013).

In order to perform EMDR therapy a special certificate is needed. Several of the psychologists at the department have obtained this certificate.

2. Psychological assistants
The psychological assistant supports the psychologists in his/her tasks. They perform psychological tests as well as therapeutic play sessions. The outcomes of the sessions are discussed with the psychologist. Since the psychological assistants do more executive work, they spend in general more time in the playroom than the psychologists.

3. Trainees
The department has several trainees that perform and practice psychological tests and therapeutic play sessions in the playrooms. They are always under supervision of a psychological assistant or psychologist.

4. Social workers
Social workers support the parents and are only present in the playroom at the start and end of the first appointment. They mainly support parents in the consulting rooms that are present at the department.

Parents

Parents are present in the playroom at the start and at the end of the first appointment. It depends on the problem and age of the child if the parent will be present during the remainder of the therapy. They remain in the background during the session. Although parents are not always present during the therapy, they play an important role in the journey before entering the playroom (Chapter 5).

Conclusion

Two main user groups of the playroom can be identified: children and those who are mainly responsible for the treatment or examination of the child (psychologists and psychological assistants). In the remaining of the report the term 'psychologist' will be used for all the different types of psychologists and psychological assistants. Both children and psychologists are always present during a session and make actively use of the room. Parents, trainees and social workers are not always present in the room and do not make actively use of the playroom. Therefore they are not considered as main users. However, since the presence of the parents in the playroom could influence the session and they have an important role during the journey before entering the playroom, parents are considered an important stakeholder and therefore taken into account during the rest of the project.

3.2 THERAPEUTIC SESSIONS IN THE PLAYROOM

Sessions performed in the playroom could have 2 purposes: ***treatment*** or ***examination*** of the child. Treatment always starts with an intake session.
Following the intake session, therapeutic play sessions, EMDR or a combination of these is offered. In total four sessions could be distinguished that take place in the playroom: intake sessions, therapeutic play sessions, EMDR therapy and psychological tests. In this chapter the characteristics and procedure of each session will be discussed.

It is important to note that every session is unique since the implementation of a session is strongly dependent on the characteristics of a child and those of the psychologist. In addition, it depends on the presence of the parents during the session (figure 3.2). In general some patterns could be recognized but it is not possible to precisely indicate the development for each therapeutic session. This is less the case for psychological tests where the steps are standardized.

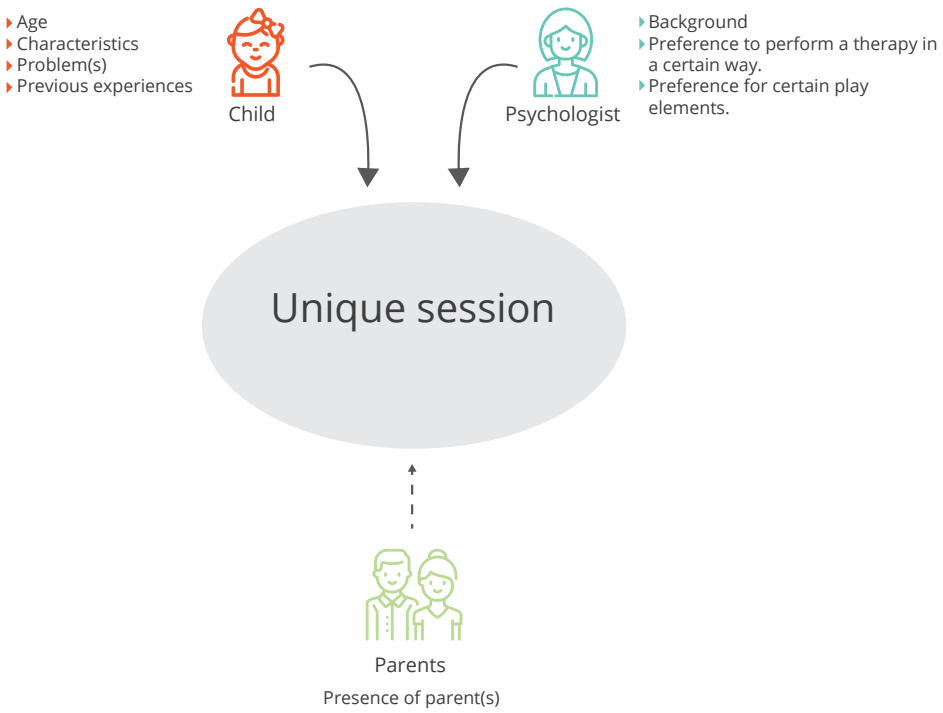


Figure 3.2 Every session is unqiue

Intake sessions

Characteristics
Duration: 60 minutes
Frequency: 1 time (per child)
For who?

- Children who experience medical anxiety
- Children who experience problems coping with a (chronic) illness
- Children who suffer from a complex trauma.

Performed by: Psychologist and/or psychological assistant
Other people present in the room: The parent and social worker will be present in the playroom at the start and at the end the session.

Procedure
The goal of this first session is to get to know the child and identify his/her exact problem. In order to do so, the child is going to talk and play with a psychologist in the playroom and the parent is going to talk with a social worker in a consulting room. The session is kicked off in the playroom with everyone together, after which the social worker and the parent move to another room. The moment of separation could feel unsafe for the child and therefore often the child and psychologist take a quick look in the room where the parent will be. It makes the child feel safe to know where the parent is. After some time, the parent and social worker return to the playroom and they quickly discuss their first insights. A next appointment will be made to communicate the recommended therapy. This could be EMDR therapy, therapeutic play, only advice to the parents, a reference to another specialist or a combination of these. Dependent on the age of the child, he/she will be present during this meeting.

Figure 3.3 shows the procedure of a generalized session.

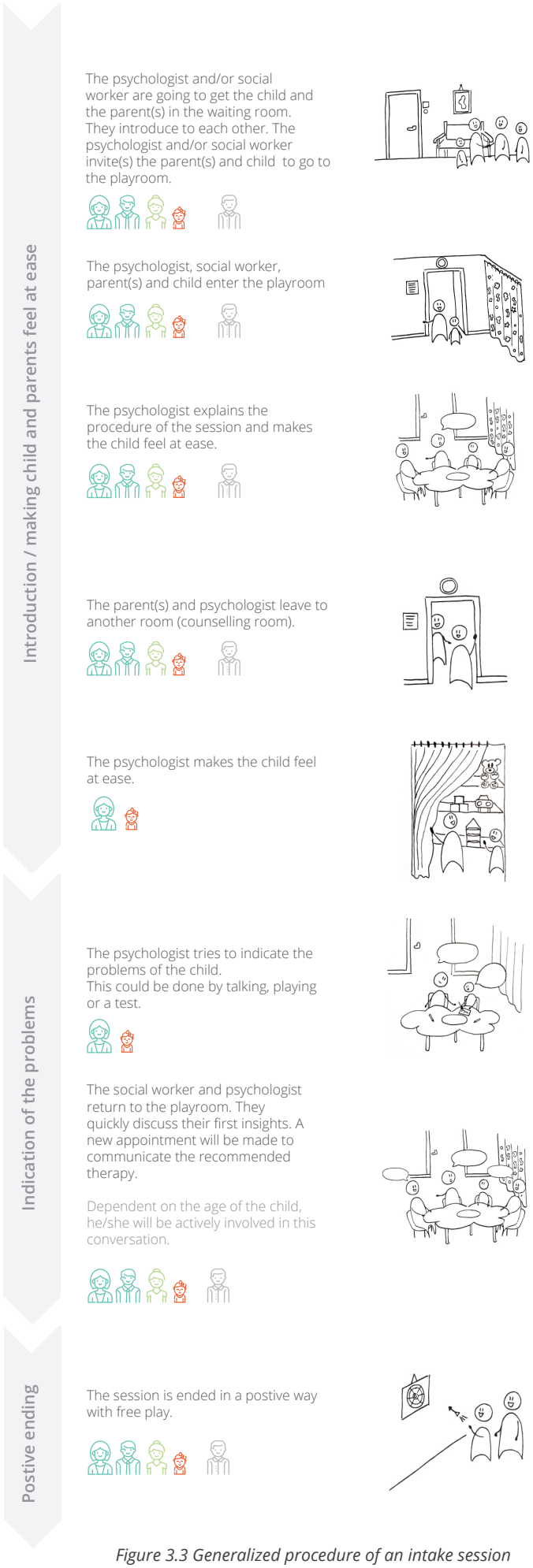


Figure 3.3 Generalized procedure of an intake session

Therapeutic play sessions

Characteristics

Duration: 45-60 minutes (dependent on the age of the child and his ability to concentrate)
Frequency: 5-8 times (depending on the progress)
For who?

- Children who experience medical anxiety
- Children who experience problems coping with a (chronic) illness
- Children who suffer from a complex trauma

Performed by: Psychologist and/or psychological assistant
Other people present in the room:

- Parents could be present dependent on the age and anxiety of the child
- Therapeutic play sessions of the PTC are performed with two psychologists.

Procedure

During therapeutic play sessions, psychologists help children to overcome their (medical) fears and/or to develop effective coping strategies. Dependent on the age of the child, play is used as a facilitating mean during the session. As the child becomes older, less play material is used during the session.

Play can be used in different ways during the session (Chapter 3.3). For instance when the child is really scared of blood injections, the psychologist and the child can act out together the procedure to reassure the child. When the child experiences problems coping with a certain illness, a collage could be created together with the psychologist which shows different coping strategies. The psychologist can also decide to visit the specific feared context together with the child to familiarize the child with the context and learn the child that it is not necessary to be afraid. In addition, the psychologist can offer support during a medical procedure. The psychologists often support children during a blood test. This is integrated in the session.

Figure 3.4 shows the procedure of a generalized session.

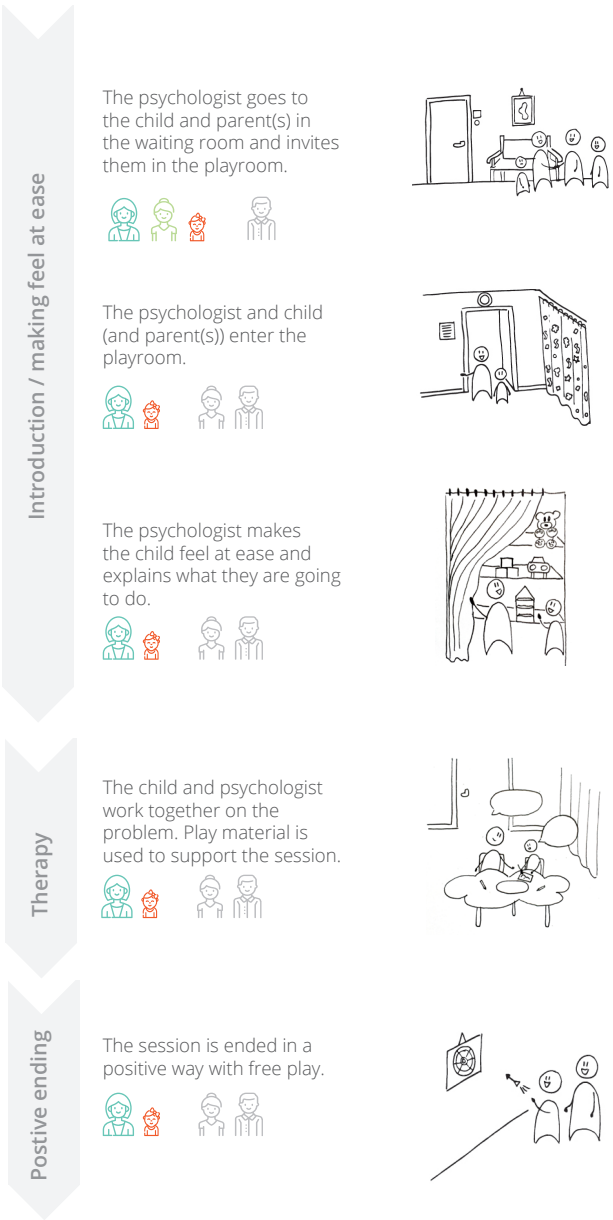


Figure 3.4 Generalized procedure of a therapeutic play session

EMDR therapy sessions

Characteristics

Duration: 10 minutes
Frequency: depends on the severity of the trauma
For who? Children who suffer from a complex trauma and children who experience a more severe medical anxiety
Performed by: Certified EMDR psychologists
Other people present in the room: Both parents are present and play an important role.

Procedure

Both parents are present during a EMDR therapy session. One parent is reading out loud the story of the traumatic event while the child sits on the lap of the other parent. During the story the psychologist exposes the child to a distracting stimulus. Tapping on the legs or vibrations are used as distracting stimulus. Recalling the traumatic event while providing the stimulus, stimulates the natural processing of the trauma (EMDR Vereniging Nederland, n.d.). A traumatic event is a lively and intense memory which takes a lot of memory capacity. Since concentrating on the stimulus also takes a lot of memory capacity, there will be less space for memory of the traumatic event.

The EMDR therapy itself only takes little time, 10 minutes. However, EMDR is often combined with therapeutic play sessions and therefore the whole session often takes an hour.

Figure 3.5 provides an impression of the setting during EMDR therapy. Figure 3.6 shows the procedure of a generalized session.

Figure 3.5 Impression EMDR therapy session

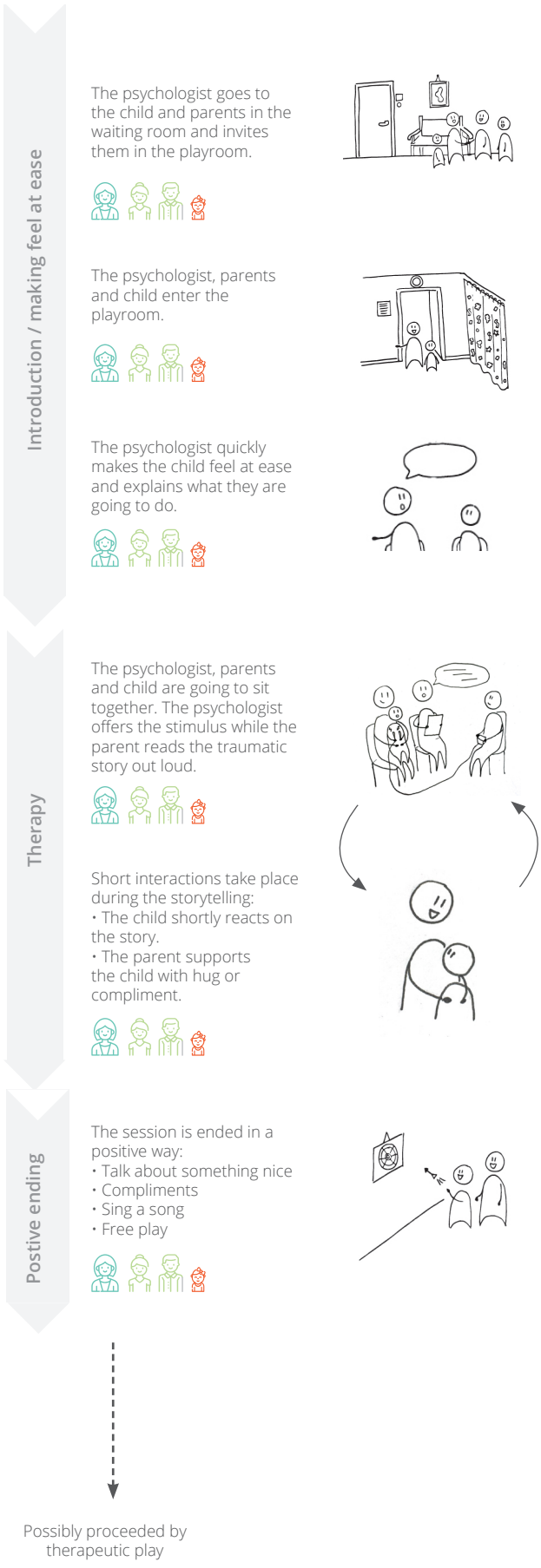


Figure 3.6 Generalized procedure of an EMDR therapy session

Psychological tests

Characteristics

Duration: 2- 3 hours (dependent on age of the child)
Frequency: 3 times (at the age of 2, 6 and 8)
For who? Children who have a higher risk on obstruction in their development.
Performed by: Psychological assistant or trainee
Parents are never present in the room during a psychological test.

Procedure

Psychological tests are performed to indicate if a child is obstructed in his/her development due to a certain medical event (e.g chronic illness, brain injury, born too early or an operation as a baby).
The research can exist of tests in different areas:

- Intelligence
- Memory
- Language and speaking
- Ability to concentrate
- Working pace
- Fine and gross motor development

The psychologist presents assignments one by one. Strict instructions are followed about what to do and say. The test requires a lot of concentration of the child. If the child cannot work up the concentration anymore, the psychologist can make the decision to take a break and do a game to enable the child to restore concentration. This is not the case during all psychological tests.

Figure 3.7 provides an impression of the setting during EMDR therapy. Figure 3.8 shows the procedure of a generalized session.

Figure 3.7 Impression of an assignment during a psychological test

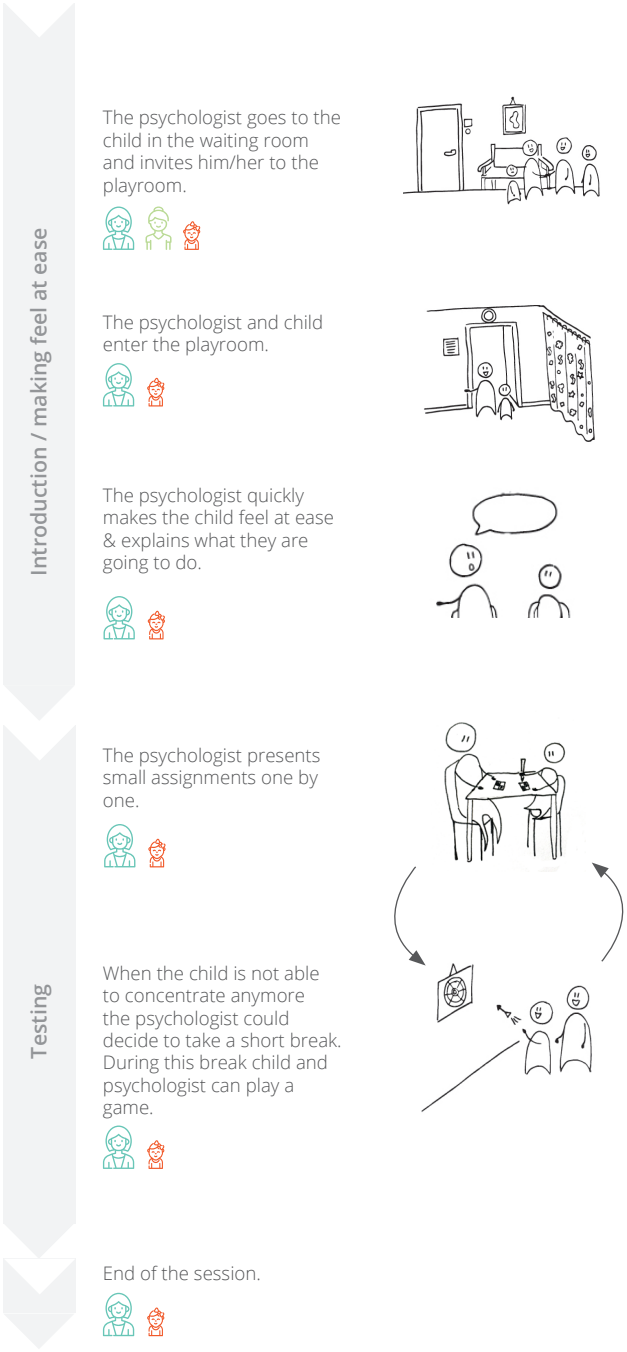


Figure 3.8 Generalized procedure of a psychological test

Conclusion

The room needs to support 4 different types of sessions: intake sessions, therapeutic play, EMDR therapy and psychological tests. During each session a wide variety of activities are performed that all need to be supported by the environment. These activities could be slightly different during each session due to specific characteristics of the child and psychologist. The next sections describe how the current playroom supports the different sessions, activities and its users.

3.3 HOW THE PLAYROOM FACILITATES THERAPEUTIC SESSIONS

The playrooms are used to facilitate multiple types of sessions (Chapter 3.2). Different aspects of the playroom support the psychologists in performing these sessions. The way the environment supports the psychologist differs per type of session and the child that is treated. Next to facilitating the different activities during the sessions, the room has an important influence on the experience of the child. It is crucial that the child feels at ease in order to perform a session in an optimal way.

Firstly it will be discussed how the current environment supports the psychologist in making the child feel at ease. Secondly, it will be described how the playroom supports the psychologist in performing the different types of sessions.

The child should feel at ease during all sessions

The interviews with psychologists showed that it is crucial the child feels at ease during a session. According to the psychologists the child feels at ease when he/she feels confident and relaxed, and is able to talk with the psychologist, play or perform a certain task without feeling anxious or nervous. Only when the child is feeling at ease it is possible to perform the session in an optimal way. This is crucial for all sessions performed in the playroom.

Since it is essential the child feels at ease, the psychologist invests a lot of time in enabling this. Especially for children that enter the playroom for the first time this is important since interviews indicated that these children are most nervous.

The environment can support the psychologist in making the child feel at ease. The psychologists indicate that the current environment makes children feel at ease because it does not look like a doctor's room. The colours, visible play material and the furniture for children makes the room look different from a doctor's room. However, the child is not immediately at ease when entering the room. The psychologist first has to interact with the child to break the ice. The psychologist has a light conversation with the child and explains what he/she can expect. The environment can support the psychologist in performing an ice breaking activity, for example the psychologist and child can explore together the room or play with the available play material in the room.

Two aspects of the room were indicated to have a negative influence on the extent the child feels at ease in the playroom. The first aspect is the one-way mirror in the room. This element can make children of all ages feel unsafe. The observation room behind the mirror is slightly visible through the mirror. Especially when someone is moving in the observation room, children notice there is someone behind the mirror. When children notice this, the psychologist explains that someone is observing the session from behind the mirror. This often does not assure children. They feel watched. The second aspect that can make children feel unsafe is sound from the hallway (e.g. children crying in the waiting room) or sound from flushing toilets. Children that have a severe trauma could become anxious of these sounds.

Different sessions require a different environment

The activities performed during the different types of sessions require the playroom to have specific qualities. A distinction could be made between activities that require a stimulant environment that invites children to play (intake sessions and therapeutic play sessions) and activities that require a more stimulant free environment where children are able to concentrate (EMDR therapy, psychological tests and when working on the problem during intake sessions and therapeutic sessions). The current environment is a compromise between these two environments and therefore the activities are not supported to their full potential.

The two required environments (stimulant and stimulant free) will be discussed separately in the following paragraphs.

A stimulant free environment
Psychological tests and EMDR therapy require an environment that allows the child to concentrate. In addition, psychologists indicate a stimulant free environment could be beneficial when working on the problem of a child during therapeutic play sessions. However, during this activity it is less important that the child is able to concentrate since the consequences are less significant when the child is distracted. Moreover children with developmental obstructions due to brain damage could benefit from a more stimulant free environment since they are easily distracted (Chapter 3.1).

Psychologists experience the current environment as too distracting. Psychological tests and EMDR therapy demand a lot of concentration. Therefore it is important the child starts the session fully focused. When children enter the current playroom, their attention goes all over the place. They are triggered to explore the room (e.g. they want to find out what is hidden behind the curtain). This has a negative influence on their ability to concentrate during the test or EMDR therapy.

"A psychological test takes a lot of concentration of the children, but when there are all kinds of things to explore, their concentration is already decreased before we got started."
- Lenny, neuropsychologist -

During a session children get distracted by free-standing play elements, the one-way mirror and the pattern on the curtain that hides the play material. Where sound was already mentioned above as an aspect that can make the child feel unsafe, it also has a negative influence on the concentration level of the child.

"Many children are fascinated by the mirror, it really distracts them, they make funny faces in it all the time. This could be nice when you have a play session, but not during a test."
- Olga, Medical Psychologist -

Although psychologists have the choice to make use of one of the more stimulant free consulting rooms that are available at the department (figure 2.5, page 17), they prefer to work in one of the playrooms. They notice children feel more at ease in the playrooms. Playroom 3 is preferred for activities that require concentration because this room is experienced less distracting than the other rooms. However, due to space shortage, the psychologists are often forced to perform a session in a less suitable room.

"When the psychological test takes place in one of the consulting rooms, it takes more time to get the child at ease, it really feels as a testing space and children have the feeling they have to perform."
- Mijntje, trainee medical psychologist-

A stimulant environment

Several activities during intake sessions and therapeutic play sessions require an environment that invites children to play. Since the current playroom also needs to facilitate activities that require a more stimulant free environment, several psychologists indicate the environment is too neat now which does not encourage children to play.

"It is a bit too organised at the moment, it does not stimulate children to play."
- Mijntje, trainee medical psychologist-

Some psychologists indicate they take play elements out of the closets and place them freely in the room to make the room more inviting and playful. Elements that were indicated to distract children, such as the curtain, one-way mirror and loose elements, are mentioned as playful elements during therapeutic play sessions.

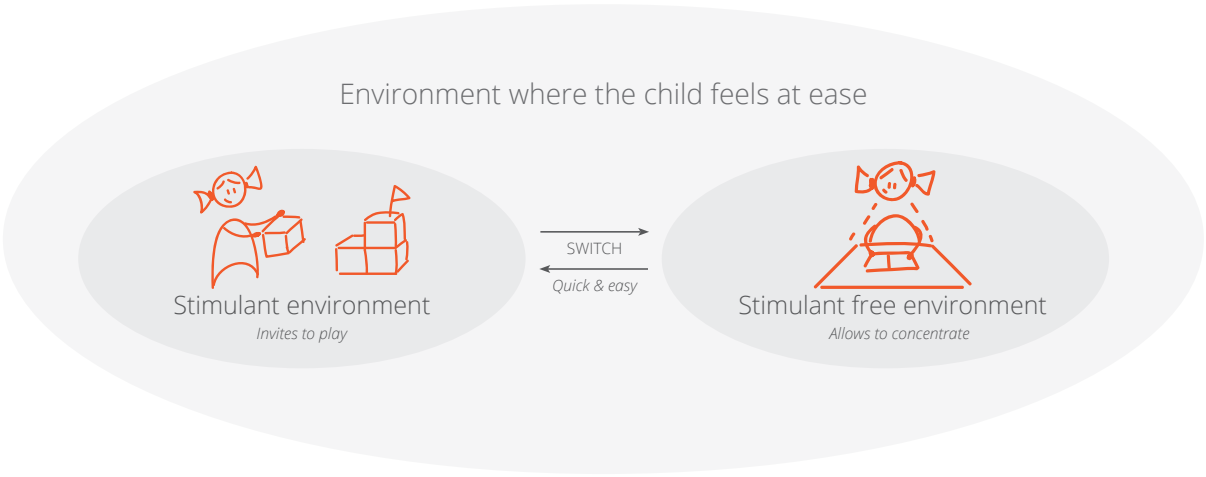


Figure 3.9 The environment should be capable to both allow the child to concentrate and to invite the child to play.

Wish for a flexible environment
Psychologists indicate there is a wish for a flexible environment that can be adapted to be stimulant or stimulant free (figure 3.9, page 35). Since the psychologists indicated that separate rooms are not possible, the environments should both be present in one room. Switching between two environments should not take much time since appointments could be scheduled tight. Besides, in case of an EMDR session, the environment must be switched during the session.

It is important that the child feels at ease in both environments. However, there is a strong tension between an environment where the child feels at ease and a stimulant free environment. Figure 3.10 on page 37 shows an overview of the elements in the room that have a positive or negative influence on making the child feel at ease, a stimulant environment and stimulant free environment. Elements that are indicated as distracting, are considered contributing to a stimulant environment and an environment where the child feels at ease.

"I would like the room to be more stimulant free. However, it is also really valuable that the child feels at ease in the room which is now the case. A more stimulant free environment does not add to the extent children feel at ease."
- Lenny, neuropsychologist-

Conclusion

It is important that the playroom supports the different types of sessions that are performed. During all these sessions it is essential the child feels at ease. Aspects in the current environment support the psychologist in achieving this. The colourful elements in the room, the visible play material and the furniture for children give the room a friendly appearance that is different from a doctor's room This is especially important for children that experience medical anxiety. Furthermore, an ice breaking activity is performed at the start of the session to make the child feel at ease. It is interesting to investigate if the environment or a certain tool could support the psychologist even better in this specific interaction. Besides, it is interesting to obtain insight into how the journey of the child before entering the playroom influences his/her nervousness at the start of a session.

Analysis of the current playroom shows that the environment is not optimally supporting the psychologists in performing the different types of sessions. The playroom is experienced too distracting for children when performing EMDR therapy and psychological tests. A more stimulant free environment that allows children to concentrate is wished. Furthermore, the psychologists indicate that the environment is not inviting enough for children to play during intake sessions and therapeutic play sessions. Therefore a more stimulant environment that encourages children to play is wished. The psychologists would like to easily and quickly switch between a stimulant and stimulant free environment within one room. It is important the child feels at ease in both environments. However, it should be taken into account that there is a tension between creating a stimulant free environment and an environment where the child feels at ease.

Chapter 5.2 shows further research on the ambiguous terms 'stimulant' and 'stimulant free' in order to obtain insight into how to create an optimal environment for the different activities performed in the playroom. Besides, chapter 4 explores further what happens before the session in order to investigate how the child can be made more at ease before entering the playroom.

	An environment where the child feels at ease	Stimulant environment	Stimulant free environment
Curtain 		+ The curtain motivates children to explore. It makes them curious what is behind and they tend to look into more detail to the pattern. + The glow in the dark effect is often used at the end of the session as positive closure.	- Children want to explore what is behind the curtain. If this is done before the session it reduces their concentration. - The pattern is distracting. Children are often placed with their back to the curtain in order to prevent distraction.
One-way mirror 	- The one-way mirror could make children feel unsafe. They can feel watched.	+ Children make funny faces in the mirror and look at themselves wearing attributes.	- Children look constantly at themselves for example during a psychological test.
Closed closets 		- Children do not feel free to explore what is in the closets. - A lot of play material is stored in a closet. The neat room does not motivate to play.	+ The play material is not visible for the children and therefore they do not get distracted during for example a test and do not want to explore everything before a session.
Free standing play elements 	+ When children see that the room is especially designed for them, they feel more at ease.	+ Children are immediately attracted by these elements and want to play with them. - Their attention goes all over the place which is overwhelming for some children.	- Children are getting distracted up front the test and during the test by free standing play elements. They would like to play with these elements rather than performing the test.
Furniture specifically for children 	+ When children see that the room is especially designed for them, they feel more at ease.		

Figure 3.10 Overview elements in the playroom and their effect on the preferred atmosphere

Play material

To facilitate and enhance sessions that take place in the playroom, different kinds of play materials are available. An impression is provided in figure 3.11. First the different kinds of play material will be discussed after which it will be shown how these are used during a session.

The play material present in the playroom

According to the psychologists, the play material that is available in the playroom can be divided in seven categories: physical play material, construction play material, role play material, creative material, sensory play material, games and books. Figure 3.12 shows these seven categories including examples. The psychologists indicate that there is enough play material for children of different ages in each category. The appearance of the play material is quite neutral which makes it appealing for as well boys as girls.

All play elements have a fixed place in the room which is specified with a sticker that indicates the name of the material (figure 3.13). This enables the psychologists to quickly find the necessary play material during a session and thus support the psychologists in performing their sessions smoothly. Besides, it helps to maintain a neat environment.

All play materials in the WKZ, including the play material in the playroom, has to satisfy the rules of the Joint Commission International (JCI). This means the play material has to meet certain rules in order to not hurt children or spread bacteria. All the rules that the play material must meet can be found in appendix 7.

How play material supports a session

Play material is used during all the different types of sessions that are performed in the playroom. However, for every session the function of the play material and the moments of use are different. Play material can be used at the start of a session, as facilitating mean during the session, during a break or to end the session in a positive way. As children become older, play material is used less during sessions.

The play material is often used for a certain 'free play'. Children can chose themselves what to play with. Therefore it is important the room offers a wide range of play materials. In this way every child can find something he/she likes to play with. This can also be important from a therapeutic point of view because the choice of a child for a certain object can provide the psychologist with valuable information.

Role play material and creative material have an important role during intake sessions and therapeutic play sessions. The psychologists of the PTC indicated that these are the most important play materials for them. These materials can help children to express themselves. In addition, they support the psychologist in explaining matters that are difficult to understand for the child and in preparing the child for medical events.

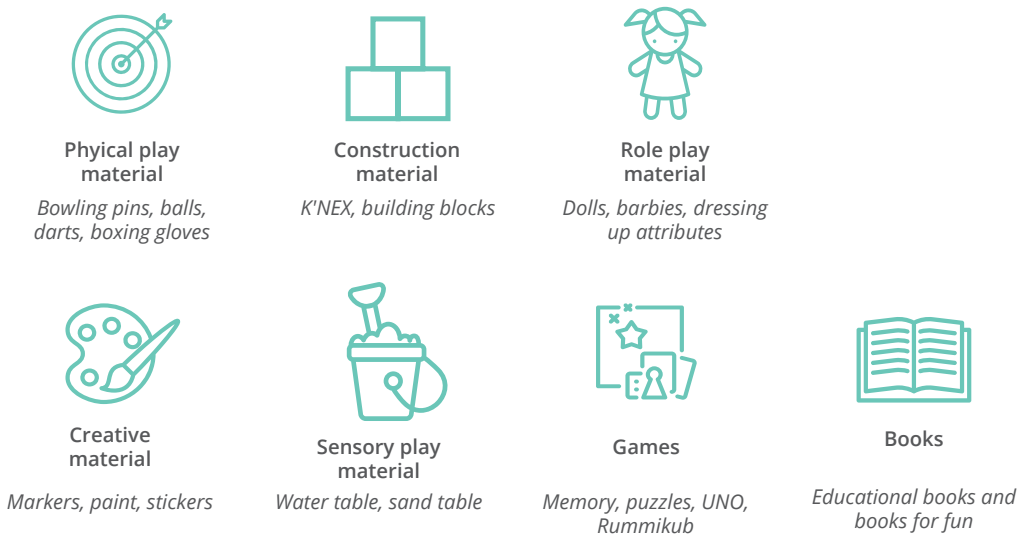


Figure 3.12 The seven categories play material and some examples

Figure 3.11 An impression of the available play materials in the room

Figure 3.13 All play materials have a fixed place in the room indicated with a sticker

As indicated above a wide variety of play materials is available in the room. This is important in order to perform play observations. The way the child plays can reveal more about how a child experienced a certain event or can provide an indication that the child is experiencing developmental obstructions.

All psychologists mentioned the dart board as a loved and important element in the room. However, they all provided a different reason for the fact that this is such a loved element. Darts is used as an easy and quick ice breaker, as a way to release frustration, as a way to make it easier to communicate or to do something physical to restore the concentration. The psychologists indicate that children are always attracted to the game. They think the reason is that it immediately catches the children's eye when they enter the room and because it is something they do not have at home. Besides, it is an attractive game for both younger and older children.

"Playing darts is something relatively small that is easy to set-up and easily breaks the ice, something like that is really valuable!"
-Irene, psychological employee-

"I use the dart board when children are really angry about something. I let them make a drawing and hang this on the dart board. The children can throw the darts at it, it really helps them to release their frustration."
- Maaike, clinical psychologist-

Figure 3.14 shows a complete overview of the different activities where play material is used as facilitating mean.
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Conclusion

Play material supports all types of sessions that are performed in the playroom. However, the function of the play material and the moment it is used differs per session. Play material is considered most important during intake sessions and therapeutic play sessions with young children (till 12 years). As children become older, less play materials are used during the sessions.

The current playroom provides enough variety of play materials that are suitable for children of the different ages. The wide variety of play material and its gender neutral appearance assure every child can find something in the playroom he/she likes.
The play materials satisfy the rules of the JCI in order to guarantee the safety of the child. The fixed places of the play materials support the psychologists in performing their sessions smoothly.

The different functions that play can fulfil during a session can form interesting starting points for the second part of the design goal: designing an element that supports psychologists in the interaction with children. The following areas are considered to be interesting for the design phase: breaking the ice, building a relationship, creating a relaxed atmosphere for conversation, releasing frustration and restoring concentration. A more multifunctional play element as the dart board that could be used for children in a wide age range and for different purposes could also be interesting.

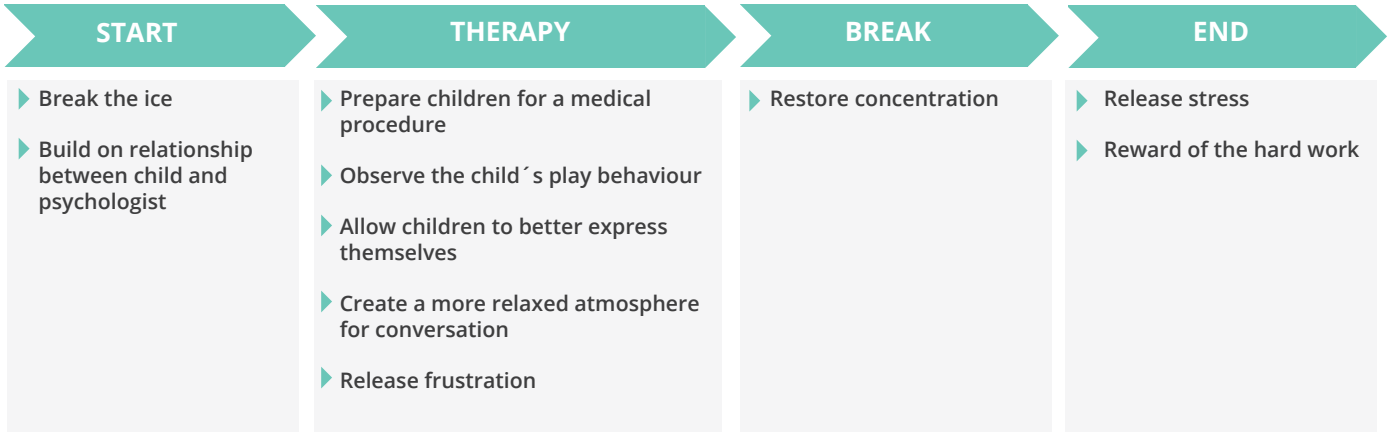


Figure 3.14 Overview of the different activities where play is used as facilitating mean.

Usage of the space and layout

During the different sessions that take place in the playroom, the space is used in a different way. An analysis of how the room is used during these different sessions can be found in appendix 8. In this chapter several insights about the usage of the playroom and its layout will be discussed.

More dynamic usage of the room
Observations and interviews indicated that the tables are central points during most of the sessions. When performing a psychological test, the high table is used with children of all ages during (almost) the whole session. When the child is not tall enough to sit at a decent height, a trip-trap chair is used. Moreover during EMDR therapy the high table is the central point during the whole therapy session. For intake sessions and therapeutic play sessions, the table that fits the age of the child is chosen. Psychologists indicate it makes children feel at ease to interact at the same height. The main part of the session takes place at the table, especially when the psychologist and the child work together to overcome the fears of the child. Play material is gathered and brought to the table to support the session.

However, the psychologists experience the current use of the room to be too static. They wish to be able to talk and play in different settings than at the table. Therefore psychologists would like to be able to play in a comfortable way on the ground. Playing at the ground allows the psychologist to interact at the same height of the child which makes the child feel more at ease. In addition, they wish to be able to talk with older children (>10 years) in a more relaxed and informal setting. The bench in playroom 3 and the low chairs in playroom 4 already facilitate a more informal setting. Psychologists indicate that they appreciate this and would also like to see this in playroom 1 and 2.

Layout does not guide the child
The current layout of the playroom does not clearly communicate to children when it is time to freely play and when it is time for serious activities (which can include play). During intake sessions, therapeutic play sessions and EMDR, there can be multiple switches between serious activities and free play. Psychologists wish a room that supports them in clearly guiding the child through the different steps of a session. At this moment, some of the psychologists already have a strategy to achieve this. One of them communicates the switch between serious activities and free play by performing the work on the high table and playing at the small table.

Lack of recognisability
Psychologists try to use the same playroom for each appointment a child has, in order to keep it consistent. When the child is already familiar with the environment the psychologist does not need to invest as much time to make the child feel at ease. However, psychologists indicate that children often do not recognize the room when they enter it for the second time. According to the psychologists this is on one hand because the room does not have something specific that will stick to the child and on the other hand because the layout of the room changes from time to time. In the time this graduation project was conducted, the layout of the playroom was changed several times. The room is rearranged in order to place certain elements in a better view for psychologists or trainees behind the mirror.

Conclusion

Psychologists experience the usage of the playroom as too static. A more dynamic way of using the playroom is wished. They wish to be able to play in a comfortable way on the ground and to talk in a more relaxed and informal setting with the children than at the table. Furthermore, the psychologists wish the layout of the room supports them better in guiding the child through the different steps of a session. For children, the recognisability of the room should also be improved. This will create familiarity for them and will make each appointment more consistent which makes them feel more at ease.

Lightening

As indicated in chapter 2.3, the playroom does not contain windows. Therefore good lightening is crucial. The lightening in the playroom exists of several fluorescent lights and spots. Figure 3.15 shows the playroom with all lamps on. These lamps can be switched on and off separately from each other and the spots can be dimmed. The psychologists experience the current lightning as unpleasant. The psychologists indicated they would prefer light that comes closer to daylight. In addition, they indicate the lightning is insufficient to perform psychological tests. What they do appreciate about the current lightning is the warm atmosphere it creates, something that is important to make the room look different from a doctor´s room. In addition, the possibility to create a relaxed environment for relaxation exercises (turning the fluorescent lights off and dimming the spots) is appreciated (figure 3.16).

Figure 3.15 The playroom with both the fluorescent lights and spots on.

Figure 3.16 A relaxed environment can be created by dimming the spots

Conclusion

At the moment, the lightening in the room is not sufficient to conduct psychological tests. In addition, the psychologists experience the lightening as unpleasant and express the wish for light that comes closer to daylight. The psychologists appreciate the warm atmosphere the current lightening creates and the possibility to create a relaxed atmosphere by dimming the spots.

3.4 EXPERIENCE OF CHILDREN AND PARENTS

Children with different characteristics and their parents experience the playroom and the visit to the department all in a different way. The experience of the child could be influenced by several factors such as:

- Age
- Character traits
- (Lack of) previous experience
- The problem for which they visit the department

This chapter will discuss how children and parents experience a visit to the department and the playroom.

Nervousness for the first appointment

Psychologists indicate that all children, as well as their parents, are nervous when they have their first appointment at the department. This is also the case when it is a long time ago that they visited the department. This is confirmed by the parents and children that were interviewed.

Psychologists indicate that older children (> 7 years) and parents are aware of the reason they have an appointment and that they are going to talk about matters that are difficult for them, but they are uncertain about what they can expect. This makes them feel nervous. Young children (≤ 7 years) are less aware of the reason of the appointment and are mainly nervous who to expect. When children and parents visit the department for a psychological test, they are in general less nervous than when they visit the department for treatment.

"I am nervous because I cannot remember who treated me last time."
- 7 year old girl who visits the department since a long time again for medical anxiety -

According to the psychologists, the nervousness of parents can reinforce the nervousness of the child and the other way around. Parents indicate that they find it difficult to see that their child is so nervous for the first appointment.

Children and parents feel less nervous when they visit the department for the next appointments, because they know who and what they can expect. Some children are even happy to visit the department again.

"My son really likes it here, he often asks 'When do we go back to that talking lady?'."
- Mother of a 5 year old boy who visits the department for witnessing sexual abuse -

Children that experience medical anxiety are in general more nervous and anxious due to the bad memories they have about the hospital. The hospital environment and doctors in white jackets evoke negative emotions. These children have difficulties to believe that it is possible to have an appointment in the hospital where no painful procedures are performed and where there is only talked and played.

"She was so scared that she had to go to the hospital again. I told her that she was going to talk and play, but she didn't believe it, she had to cry all the time."
- Mother 4 year old girl that has medical anxiety -

For these children it takes more time to feel at ease in the playroom. For them it is crucial that the playroom, and also other parts of the department, communicate clearly that this place is different from the rest of the hospital. This is also an important reason why the employees of the department are not wearing white jackets.

Children of different ages react different on the playroom

Psychologists mention a difference between younger (≤ 7 years) and older children (> 7 years) when entering the playroom (figure 3.17, page 44). In general, young children experience more difficulties when entering the playroom for the first time. This is especially the case when the child visits the department because of medical anxiety or a severe trauma. It is difficult for young children to say goodbye to their parents and to go to an unfamiliar environment with a person they do not know. Most of the children are shy when they enter the playroom. For them the playroom can feel overwhelming. The psychologist needs more time to make these children feel at ease. Once they feel more at ease, they tend to explore the room. Older children are also nervous, but it takes less time for them to feel at ease. They are more used to situations where they are separated from their parents. They are in general less explorative and head directly to the table to start with the session. Children that visit the PTC can experience problems being separated from their parents up till a later age.

For nervous and shy children, a space to withdraw themselves in the playroom can help to make them feel more at ease.

"When I worked in another hospital, I once had to prepare a child for a heart operation and she was really nervous. She stood for an hour in the small wooden shop. There she had the feeling: this is my own space and I can control this space. This made her feel at ease and in the end she knew everything I told her."
- Maaike, Clinical Psychologist -

Playroom 1 is targeting children between 2 and 10 years old. However, due to a shortage of rooms playroom 1 is often used for therapy with children that are older than 10. The room is also used for meetings with only the parents of a child. Older children experience the playroom as too childish and therefore do not feel at ease in the playroom.

For parents the environment is less important

Parents are grateful that their child is helped so well at the department. After several appointments they really notice that their child is doing better. For them this is the most important.

"After several times, she was able to give the doctor a hand again. I was so happy!"
- Mother of a 4 year old girl with medical anxiety -

During the interviews with parents, it was noticed that they experience difficulties to express themselves about the environment because this is minor to the fact their child is helped there. For them it is most important that the environment allows the psychologists to perform sessions in an optimal way to help their child the best way.

Young children

(≤7 years)

- Mainly nervous because they do not know who to expect.
- Experience difficulties when entering the playroom for the first time. They enter shy and quiet.
- Have problems being seperated from parents.
- Need more time to feel at ease.
- Are explorative when feeling at ease.

Older children

(>7 years)

- Mainly nervous because they do not know what to expect.
- Experience less difficulties when entering the playroom.
- Feel quicker at ease.
- Are less explorative, head directly to the table.

Figure 3.17 Difference between young (≤ 7 years) and older children (>7 years).

Conclusion

All children and parents are nervous when they visit the department for the first time or when it is a long time ago since they visited the department. Young children (≤ 7 years) are mainly nervous who to expect. Parents and older children (> 7 years) are mainly nervous what to expect. It can be stated that young children that experience medical anxiety are most nervous for their first appointment. The hospital environment reinforces their nervousness. For these children it is crucial the department and playroom communicate clearly that they are different from other places in the hospital.

The nervousness of the parents could reinforce the nervousness of the child and the other way around. It can be concluded that when the nervousness of the parents or the child is reduced, this will also make the other feel more at ease. Chapter 4 will elaborate on how the journey before entering the playroom influences the nervousness of the child.

Young children experience most problems when entering the playroom for the first time. They are shy and quiet. They are not used to be separated from their parents. The playroom can feel overwhelming for them. Besides, the current playroom does not offer a space where the child can withdraw himself. Such a space could help shy children to feel quicker at ease. The psychologist needs to invest time in making the child feel at ease. Older children (>7 years) are also nervous when entering the playroom, but they feel quicker at ease. In some cases the oldest children (>10 years) have a session in playroom 1 which is focused on younger children. They experience the room as too childish which makes them feel less at ease.

4. UNDERSTANDING THE PATIENT JOURNEY

During the analysis of the playroom, several indications were found that situations and environments encountered before entering the playroom, have a significant influence on the experience of the child. In this chapter the patient journey that parents and children make before entering the playroom will be mapped.

As indicated in chapter 3.3, children and their parents are nervous when visiting the department for the first time. This chapter maps how children and their parents perceive a first visit. This provides insight into the factors that influence the nervousness of children and their parents.

Patient journey

To map the first visit of children and their parents, a so called 'patient journey' is created. A patient journey provides insight into the perception of the patient throughout the process around the appointment, in this case the child (Trebble et al., 2010). It is a valuable tool to communicate this experience to healthcare professionals and could form an important starting point for improvement. Insights for this journey are obtained during interviews with psychologists and parents, and during observations in the waiting room.

The patient journey of a first visit to the department is shown on pages 52 and 53. The journey shows the different steps the child goes through and where these take place. In addition, the journey shows which people are involved in each step and what their role is. It all comes together in an emotion line that shows the nervousness of the child during the journey. Each step of the patient journey will be discussed.

1. Reference by a specialist within the WKZ

When a specialist within the WKZ notices a child and/or parents experience(s) problems with regard to medical procedures, development or coping with a (chronic) illness, he can refer them to the Medical Psychology and Social Work department. The specialist will provide some initial information about the nature of an appointment at the department.

When being referred, children may feel insecure and nervous because they think there is something wrong with them. These feelings slightly reduce while waiting for the letter with the appointment details.

2. Receive a letter

Sometime after being referred by the specialist, the family receives a letter with details about the appointment. Dependent on the reason for the reference to the department, it will take 2 weeks to half a year until the child has an appointment at the department. The letter contains details about the appointment such as the date, time and name of the psychologist. An additional sheet with important information for the parents is attached to the letter (e.g. what needs to be taken to the appointment, how to restrict dispersion of bacteria and work activities around the hospital). Often a brochure is included that informs the parents about the procedure at the department. Figure 4.1 shows the letter and flyer that the families receive at home.

The letter is addressed to the parents until the child is 12 years old. When the child is older, the letter is addressed to the child. The tone in the letter also changes and becomes more informal.

3. Prepare the child

The parent prepares the child for the appointment. Interviews with parents indicated that they experience problems preparing their child for the first appointment. They indicate that they did not know what to expect themselves and therefore also experienced difficulties explaining their child what to expect. They feel the letter and/or website of the WKZ could provide more information and support to prepare the child.

"The first time I also did not know what to expect, so it was hard to explain it to her."
- Mother of an 8 year old girl with medical anxiety-

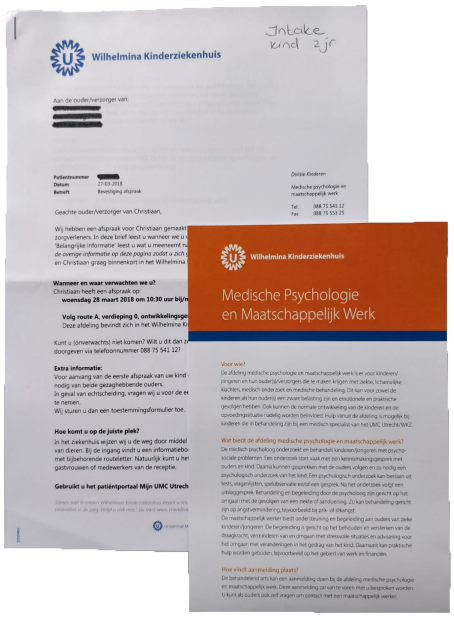


Figure 4.1 Letter and brochure that is send to families

"It would have been nice to have some photos so I can show my son what he can expect."
- Mother of a 4 year old boy with medical anxiety -

"I was not sure what to expect, so I did not tell him too much. I was afraid I would maybe inform him wrong."
- Mother of a 4 year old boy with medical anxiety -

Furthermore, parents of children with medical anxiety experience have difficulties convincing their child that this time they will not have a possible painful procedure in the hospital, but that they are only going to talk and play.

For most children the feelings of nervousness and anxiety move to the background until shortly before the day of the appointment.

4. Go to the hospital
On the day of the appointment, the child and parent(s) go to the hospital. They leave early because they do not exactly know where the department is located and they want to make sure to be in time. The child starts to become more nervous.

5. Enter the hospital
Entering the hospital is mainly difficult for children that are experiencing medical anxiety. They have entered the hospital many times before. Most of the times they had to undergo medical procedures that resulted in a negative experience. It is hard for them to visit the place again where they have so many negative associations with. Therefore, the emotion line in the patient journey shows that these children have a more negative experience at this point. For other children the hospital environment also reinforces their nervousness.

"When we are in the car and she recognizes we are in the neighbourhood of the hospital, she starts to cry."
- Mother of a 4 year old girl with medical anxiety-

6. Search for the department
After entering the hospital, the child and parent head to the department. The department is situated on the ground floor close to the main entrance. The short route to the department is especially beneficial for children with medical anxiety.

Figure 4.2, shows the route from the main entrance of the WKZ to the department and what the child sees while walking to the department and when arriving here.

7. Register at the reception
When entering the department, first the child and parent register at the reception. Dependent on the age of the child, he/she can register himself/herself. The receptionist invites the child and parent to wait in the waiting room until the psychologist is coming for them.

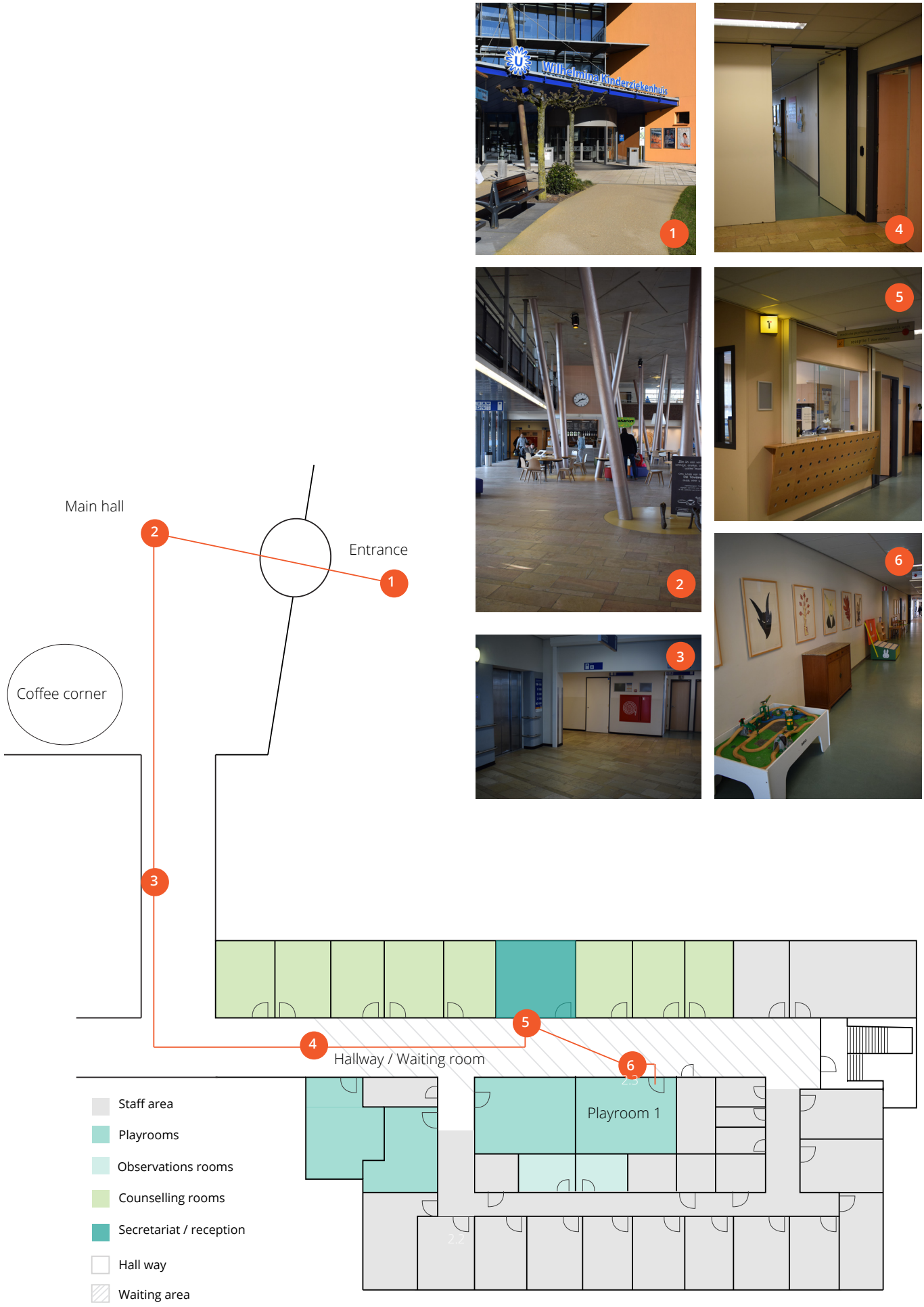


Figure 4.2 What the child sees from the moment he/she enters the hospital untill he/she entersthe waiting room.

8. Waiting in the waiting room

Before it is time to start with the session, children and parents wait in the waiting room of the department. This is also the hallway where mostly employees of the department move from one to another room. The waiting room offers chairs and benches to wait and some play elements.

While waiting, older children (>10 years) and parents distract themselves in the waiting room by reading a magazine or playing with their mobile phones. Younger children find distraction in playing with the Nijntje memory (figure 4.3), the race track (figure 4.4), the puppet theatre (figure 4.5) or making a puzzle (figure 4.6). For some children the play elements help to get their minds off the nervousness, for other children the waiting room does not offer enough distraction and the nervousness increases. Some children are so nervous that they only want to sit with their parents or hide themselves in the puppet theatre. Some children have to cry which could reinforce the nervousness of other children in the waiting room.

"When she is nervous she is going to hide herself in the puppet theatre. She also does not want me around there."
- Mother of an 8 year old girl with medical anxiety -

"I think the waiting room does not offer enough distraction, especially the first time. She cried all the time we were waiting in the waiting room."
- Mother of a 4 year old girl with medical anxiety-

Psychologists notice that parents try to reassure their child by playing with them. However, the current waiting room does not facilitate this interaction in an optimal way. Observations show parents drag chairs to the play element to play with their child or they are going to sit on the ground.

"It is nice that you can do something as a parent to reassure your child, the current waiting room does not really facilitate this interaction."
- Olga, medical psychologist -

In addition, observations show that children have a need to play with their parents as well. They bring play material, such as the pieces of the memory game, to the parents to interact with them.

The psychologists indicate that the waiting room is not making parents and children feel at ease. As pointed out in chapter 3.3, they consider it as one

Figure 4.3 Nijntje memory

Figure 4.4 Train track


Figure 4.5 Puppet theatre


Figure 4. Small table for childeren with puzzle

of their most important tasks to make the child (and parents) feel at ease in the playroom. However, they do not feel in control of making children and parents feel at ease in the waiting room.

"The waiting room does not show that we want people to feel at ease at our department."
- Olga, Medical psychologist -

Several psychologists think the furniture, inheritances of the old WKZ, make the hallway look dull and they think the layout is too static. Everyone is sitting in a row while waiting until the psychologist appears in the hallway. However, the hallway is used by many other people. So, the child will experience a small stress peak every time a person passes by. This is inconvenient for as well the parent and child as the psychologists. Due to the fact that it is a dead-end hallway, only people that work at the department pass by. As a result, children will rarely see someone in a white jacket which is soothing for children with medical anxiety.

9. The psychologist and/or social worker come to get the child and parents for the appointment
When it is time for the appointment, the psychologist (and social worker) come(s) to get the child and the parent(s). Everyone briefly introduces themselves to each other and the psychologist invites the child and his parents in the playroom. The child feels relieved for a brief moment now he has seen his psychologist. However, immediately other uncertainties emerge such as where they have to go and what they are going to do.

10. The first session
The child, psychologist, parents (and social worker) enter the playroom. The psychologist invests time in making the child feel at ease. After some time the parents (and social worker) leave the room. From this moment the session can start.

Going to the playroom and saying goodbye to their parents shortly after, is mainly difficult for young children (Chapter 3.4). They are quite unfamiliar to being separated from their parents and to new situations. Being in an unfamiliar environment with a person the child does not know, makes him/her feel nervous.

11. Ending the session
A session is always ended in a positive way in order to make the child go home with a positive feeling and make it easier for the child to come back the next time.

Follow-up sessions
Children experience less nervousness when visiting the department for the second time. Some parents mention their child is even happy to come to the department. The more sessions attended, the more familiar the child becomes with the psychologist, the environment and the procedure.

Conclusion

The journey before entering the playroom has an important influence on how much the child feels at ease when entering the room. The emotion line created for the patient journey shows that children experience a lot of nervousness before entering the playroom. The nervousness of the child develops during the journey.

The psychologists see it as an important task to make the child feel at ease the moment he/she enters the room. But why not start earlier in the journey with making the child feel at ease? This will make the journey more pleasant for the child as well as the parent and it will take the psychologist less time to make the child feel at ease at the start of the session.

When analyzing the journey, several points to improve the journey can be identified. Parents indicate that the letter they receive does not provide enough support in preparing the child. Furthermore, parents as well as psychologists indicate the waiting room experience could be improved to make children feel more at ease and offer more distraction away from their nervousness. Besides, the transition from the waiting room to the playroom is a difficult moment for the child. A smoother transition can improve the child's experience.

	Reference by specialist	Receive a letter with details appointment	Parent prepares child	Go to the hospital	Enter the hospital
Actively involved	• Child • Parent(s) • Specialist	• Child • Parent(s)	• Child • Parent(s)	• Child • Parent(s)	• Child • Parent(s)
Where	Office specialist WKZ	Home			Main hall WKZ
Duration	Varying between 2 weeks and half a year				
Other people involved			• Family • Friends • School		• Other children • Other parents • Visitors WKZ • Doctors and other employees WKZ
Emotion line	The child could think there is something wrong with him/her which could cause nervousness and anxiety.	The nervousness increases. The children are not sure what and who they can expect.	*"It is hard to explain what she can expect, if I do not know it myself."*	*"She was so scared that she had to go to the hospital again. I told her that she was going to play, but it didn't matter."*	When the day of the appointment arrives, children get nervous. They still do not really have an idea what and who to expect. When children have bad memories about the hospital, they become anxious when they return to the hospital. The nervousness and anxiety of these children is higher than for others.
Activity – Child	• Listens to what the specialist tells. • Could ask questions to specialist.	• Reads the letter (dependent on the age).	• Listens to what the parent explains. • Asks questions.	• Goes together with the parent to the hospital.	• Looks around and sees other people and play elements.
Activity – Parent	• Listens to what the specialist tells. • Asks questions who, what, where to expect.	• Reads the letter carefully. • Notes date in agenda.	• Explains as good as possible what the child can expect. • Answers questions • Reassures child.	•Accompanies the child to the hospital.	• Looks around. • Starts to find way to the department.
Activity – Psychologist					

Children with medical anxiety

Search department	Register at reception	Waiting / playing in waitingroom	Psychologist comes to get child (and parent)	Enter playroom (Introduction and making feel at ease)	Session (Intake, therapeutic play, EMDR or tests)	Ending the session
• Child • Parent(s)	• Child • Parent(s) • Receptionist	• Child • Parent(s)	• Child • Parent(s) • Psychologist • Social worker	• Child • Psychologist • Parent(s) • Social worker	• Child • Psychologist • Parent(s)	• Child • Psychologist • Parent(s) • Social worker
	Hallway / waiting room department			Playroom		
	10 - 25 minutes		Varying between 45 minutes and 3 hours			
• Other children • Other parents • Visitors WKZ • Doctors and other employees WKZ	• Other children • Other parents • Employees department	• Other children • Other parents • Employees department	• Other children • Other parents • Employees department			
		"I think the waiting room does not show that this is a place to play."	*"Everytime you walk by you see the children thinking: is this my psychologist?"*	Older children Young children	Different per session	
		For some children the waiting room provides some distraction, for others the nervousness reaches the highest point here. The fact that people are walking by causes small stress peaks, because they do not know who their psychologist is.	When the psychologists comes to get the child for the appointment, the child is for a moment happy to see his/her psychologist. However, the happiness soon fades away, as they still do not know where they are going and what they are going to do.	When entering the playroom, it will take more time for younger children (≤ 7 years) to feel at ease than it will take for older children (>7 years).	During the session the child will experience ups and downs. This is especially the case during therapeutic play sessions and EMDR sessions since the child has to talk about difficult matters during these sessions.	The session is always closed in a positive way in order to ensure the child leaves with a positive feeling. This will make it easier for the child to return next time.
• Looks around. • Follows parent. • Helps to find way.	• Dependent on the age the child, he/she could register himself/herself. • Sees play elements.	• Plays with play elements or reads booklet (together with parent). • Plays with mobile phone. • Cries. • Sits quietly with parent. • Observes the people that are passing by.	• Introduces himself/herself to the psychologist. • Listens to the psychologist.	• Looks around. and maybe explores the room a bit. • Listens to the psychologist and answers questions. (• Says goodbye to parent.)	• Works with the psychologist on the problem / performs assignments as part of the psychological test.	• Does something he likes.
• Looks at the direction signs. • Could ask for help at the reception in the main hall.	• Registers at the reception.	• Reassures the child: plays or reads together with the child. • Entertains himself/herself: plays on his/her mobile phone, reads a magazine. • Observes the people that are passing by.	• Introduces himself/herself to the psychologist. • Listens to the psychologist.	If present: • Tries to not intervene with the session.	If present: • Tries to not intervene with the session.	If present: • Tries to not intervene with the session.
		• Does not wear a white jacket to reassure children with medical anxiety.	• Observes how nervous the child is. • Introduces himself to the parent and child. • Explains the procedure. • Asks some general questions to make the child feel at ease. • Escorts child (and parent) to room.	• Tries to make the child feel at ease by explaining the procedure, some small talk, exploring the room together or doing a game.	• Works with the child on the problem / conducts psychological test.	•Tries to end the session in a positive way in order to make sure the child goes at home with a positive feeling.

5. DEFINING THE DESIGN CHALLENGES

During the field research, two interesting possible design directions became apparent. In this chapter these directions will be further explored. The first direction is to make the child feel more at ease during the patient journey in order to make him/her feel more confident and relaxed when entering the playroom for the first time. A workshop with employees of the department provided insight into what currently is done to make the child feel at ease during the journey and what can be improved. The second direction is to create a new design for the playroom that allows for easy switching between a stimulant and more stimulant free environment. A small literature study and a workshop with employees of the department provided insight into the definition of these terms. With the insights that were gathered with help of the literature and the workshops, the design challenges could be formulated more precise.

5.1 DEFINING 'FEELING AT EASE'

Workshop

A workshop with employees of the department (psychologists, psychological assistants and trainees) was organised in order to obtain a better understanding of what is currently done to make the child feel at ease at different moments in the journey and how this could be improved.

In addition, the session was used to create an understanding amongst the employees that the journey before entering the playroom has a significant influence on how much the child feels at ease when entering the room. During the field research, employees of the department expressed that they have no influence on the extent the child feels at ease before entering the playroom. This workshop should help them to realize that they can certainly have an influence on the experience of the child before entering the playroom.

Procedure

Figure 5.1 shows the characteristics of the workshop and the procedure. A more elaborate description of the procedure is presented in appendix 9.

Results & discussion

Figure 5.3, which is presented pages 56 and 57, shows an overview of what contributes to making the child feel at ease during the journey and highlights reasons for a possible change. Although each group was asked to focus on a specific part of the journey, most of them started at the beginning of the journey. This resulted in a lack of results in the last steps of the journey. Therefore the findings from the field research were used to complement the overview.

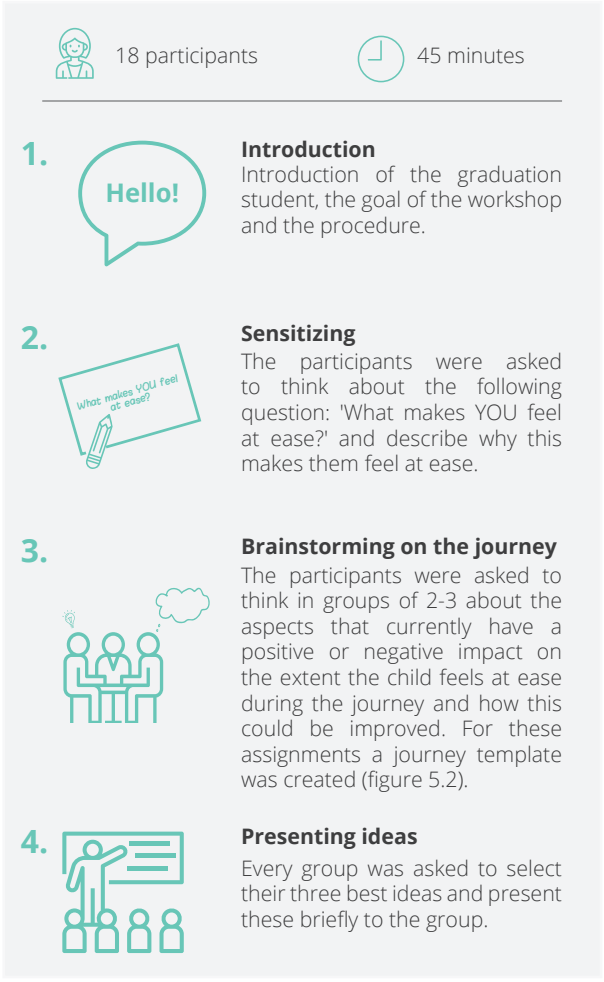


Figure 5.1 Characteristics of the workshop and the procedure

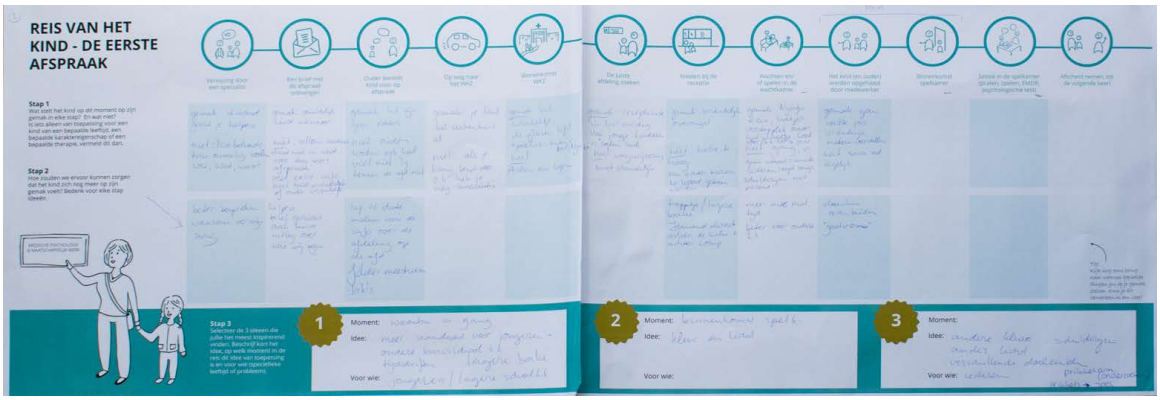


Figure 5.2 Filled out patient journey template

Reference by specialist | **Receive a letter with details appointment** | **Parent prepares child** | **Go to the hospital** | **Enter the hospital**

Presence of the parents

Bringing a cuddly toy

Contributes to feeling at ease

- The specialist provides some information about what the child can expect.

- The letter communicates the date and time of the appointment, and the name of the psychologist.

- A special WKZ children's website provides information about the hospital and the department. This could support the parent in preparing the child.

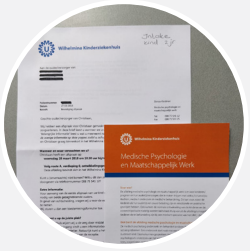
- The main hall does not look like a typical hospital environment and displays serenity. There is a nice shop and there are several play elements for children.

When the parent is nervous, this could have a negative effect on the nervousness of the child

Diminishes feeling at ease

- The child has no idea who and what to expect.
- If the child is not involved in the conversation this will make him/her feel not at ease.

- The letter and the flyer are created with the parents in mind, not with the child in mind.
- The letter and flyer do not communicate sufficiently what the child can expect.
- The letter as well as the flyer do not show that the department is different from the rest of the hospital.



- The letter does not support the parents in preparing their child.
- The children's website is not up to date. Old pictures of the department are shown.

- At the moment, parking is stressful due to building activities. When parents feel stressed, children also feel stressed.

- If a child has bad memories about the hospital, entering the hospital could be stressful.
- Seeing doctors walking around in white jackets can reinforce the nervousness of the child.

Figure 5.3 Overview of aspects that have a positive or negative impact on the extent the child feels at ease during the journey

Search department	Register at reception	Waiting / playing in waitingroom	Psychologist comes to get child (and parent)	Enter playroom (Introduction and making feel at ease)	Session (Intake, therapeutic play, EMDR or tests)	Ending the session
• The department is situated close to the main entrance.	• The ladies behind the reception make the child feel welcome.	• Young children (< 10 years) play with play material • Playing with parents • Lack of white jackets • The board with pictures of psychologists, so the child can already see who is his/her psychologist.	• The psychologist does not wear a white jacket. • The psychologist introduces himself/herself. • The psychologist mainly focuses to the child and talks directly to him/her. • The psychologist bends over when talking to the child. • The psychologist shows the child where the parents will go during the session. • The child sees a face (instead of only seeing a name).	• The room looks like it is designed for children (children's furniture, play material, colours). • It does not look like a doctor's room (colours, play material). • Seeing play material can make the child feel at ease. • Interaction with the psychologist (light conversation, exploring the room together, playing a game, explaining the procedure).	• Play can allow the child to express himself/herself. • A friendly environment.	• A postive closure of the session (children can choose a reward from the 'Beloondoos', play with something they like, explore the glow in the dark elements on the curtain).
						
• The direction signs are not clear. Searching makes nervous.	• The reception is too high. Children cannot register themselves and cannot look the receptionists in the eye.	• There is no play material availabe for older children. • A lot of people are passing by which causes a small stress peak every time someone passes by: "Is this my psychologist?" • The environment is not welcoming (dark, old benches, not enough play material when busy, sitting all in a row, scary paitings) • No privacy to fill out question forms (for older children and parents).	• The psychologist is a stranger for the child. • It could be overwhelming when the child is taken to the playroom by more than one person.	• Unfamiliar environment • Room can be overwhelming.	• Talk about difficult matters. • Doing difficult excercises. • One-way mirror could make the child feel unsafe. • Sound of flushing toilet or coffee machine could make the child feel unsafe.	
						

Design principles to make the child feel at ease

When analyzing the aspects that currently have a positive or negative influence on the extent the child feels at ease, several principles could be distinguished. These principles can be used to design an object, environment or system that makes the child feel at ease. Four design principles were distinguished: involvement, familiarity, transparency and gradualness. For each principle a definition will be provided that fits the context of the project. In addition, an example will be provided on how the principle is currently used to make the child feel at ease.

Involvement

Include the child in every activity that takes place regarding the appointment and in every decision that needs to be made. The child should be central.

Children feel more at ease when they are involved. Currently the psychologists involve the child actively during conversations. They talk directly to the child and they interact at their level by bending down or sitting together at a low table.

Familiarity

Include something that the child already knows and he/she has a positive experience with.

Children feel more at ease when they see something familiar in an unfamiliar environment or situation. In the current journey, a cuddly toy that the child brings to an appointment or the presence of the parents can make the child feel more confident and relaxed. Children know that the cuddly toy and/or parents support them and that they can trust them. Seeing something where the child has a positive experience with, such as a character from their favourite movie, can also make the child feel more at ease.

"If something familiar would hang at the wall, such as his favourite characters Buurman & Buurman he would immediately feel at ease."
- Mother of a 4 year old boy with medical anxiety -

Gradualness

Follow the tempo of the child and do everything step by step.

A certain gradualness will make the child feel more at ease. Gradualness is provided by not immediately separating the parents from the child during the first session. First, the parents accompany the child to the playroom, shortly after they leave. Furthermore, during every session time is invested in making the child feel at ease. The time that is needed to achieve this, can differ per child. The psychologist follows the tempo of the child.

Transparency

Be honest and do not hold back things.

Providing transparency can help the child to feel more at ease. Currently transparency is offered by explaining clearly the procedure at the start of a session and by exploring the room together. Furthermore, when the parents go to another room, the psychologist and child take a look into this room together.

"When children ask what is in the closet, I say to them that they can take a look to find out. I think it is important that children can ask everything they want and can see everything in the room. This will make them feel at ease."
- Lenny, neurological psychologist -

Improving the patient journey
During the workshop, the participants identified several aspects that could be improved in order to improve the overall patient journey. The aspects that were mentioned by most participants will be presented.

Provide suitable information to the child
The participants think that the current letter is not child friendly and does not support parents sufficiently in preparing their child for the first appointment. They indicate that it is important that children have a clear idea what to expect in order to reduce nervousness. Therefore, they suggest to send a letter targeted towards the child along with the letter that is currently send to the parents. This letter should clearly explain what the child can expect in a way the child understands. Besides, the letter should be appealing to the child. The participants indicate that some sort of a journey such as presented on the workshop template could support children and parents in their preparation for the first appointment.

Improve the recognisability of the department
The participants indicate that the naming of the departments in the WKZ is not coherent at the moment. Departments have a colour or an animal name, but the Medical Psychology and Social Work department does not have a clear indication. The participants express the desire to be linked to an animal as well. They would like to be identified as the 'parrot' department, because children often call them the 'talking ladies'. An animal name will make the department more recognisable, easier for children to talk about and easier to find.

Make it possible for children to register themselves
The participants indicate that children will feel more at ease when they are able to register themselves at the reception of the department. At the moment the desk is too high and the receptionists are not sitting directly behind the desk. They suggest to lower the desk or place stairs in front of the desk. This will make the child feel more involved and shows that the child is central at the department.

Improve the waiting experience
The field research showed that the psychologists are not content with several aspects of the waiting room (Chapter 4). This was underlined by the participants involved in the workshop. Psychologists prefer a welcoming environment that shows the child is central at the department and shows that it is different from other departments in the hospital. Furthermore, they indicate the waiting room is currently too much focused on young children and does not offer enough distraction for older children. The waiting room could also offer more privacy. Sometimes the parents and children have to fill out a questionnaire before the first session. Psychologists often see parents becoming uncomfortable while filling out these forms with personal questions in public. Lastly, they indicate that the fact that the waiting room is also a hallway, does not positively impact the feeling at ease of children as well as that of parents and employees of the department.

Conclusion

The workshop made the participants more aware of the journey of the child before entering the playroom and its significant influence on how much the child feels at ease when entering the playroom.

In addition, insights were gathered on the aspects that currently have a positive or negative impact on the extent the child feels at ease during the journey and how this could be improved. An analysis of these aspects led to principles that can be used to design an environment, object or system to make children feel at ease. The four design principles that were identified are: involvement, familiarity, gradualness and transparency.

Several aspects to improve the journey were identified by the participants. They indicate that the information that is currently send to families could be improved. It is important to provide information that is understandable and visually appealing to the child. It should support the parents in preparing the child for the appointment. The psychologists also indicate that the journey could be improved by making the department more recognisable by assigning a specific animal to the department. Concerning the registration at the department, the participants think it will make children feel more at ease when they are able to register themselves. This will provide the child with a feeling of control. The last aspect that could be improved is the waiting room experience. The environment should make children and parents feel welcome and create an experience that is different from the rest of the hospital.

5.2 DEFINING 'STIMULANT' AND 'STIMULANT FREE'

The field research revealed that psychologists would like to easily switch between a stimulant and a stimulant free environment in the playroom. But what does 'stimulant' and 'stimulant free' exactly mean? At which specific moments is a stimulant or stimulant free environment desired? For which children are these environments most important?

With the help of the literature a better understanding was obtained regarding the terms stimulant and stimulant free. In addition, a workshop with psychological assistants was organised to obtain insight into the meaning of these terms in the context of the playroom.

Literature

How a certain environment is experienced, strongly differs per person (Hamel, 2014). Nevertheless, it is possible to say something about the way people experience a certain environment in general. How people experience a certain environment has to do with (1) how they perceive the environment and (2) their level of activation. The perception of an environment is the combination of information that is gathered by our senses and the information that is already present in our brain. The level of activation is correlated to the level of stimulation experienced by the nervous system. The perception as well as the level of activation could be situated within or outside the optimal range of an individual. When both are situated within the optimal range, the person experiences balance. When one of the two is situated outside the optimal range, imbalance is experienced. Figure 5.4 shows the structure as explained. The different aspects of the structure will be discussed in more detail.

An environment is a complex pattern of stimulants that reaches us via our senses. These stimulants could for example be light, sound, temperature and smell. The stimulants are caused by physical characteristics of the environment. We do not perceive this environment as if we are a blank

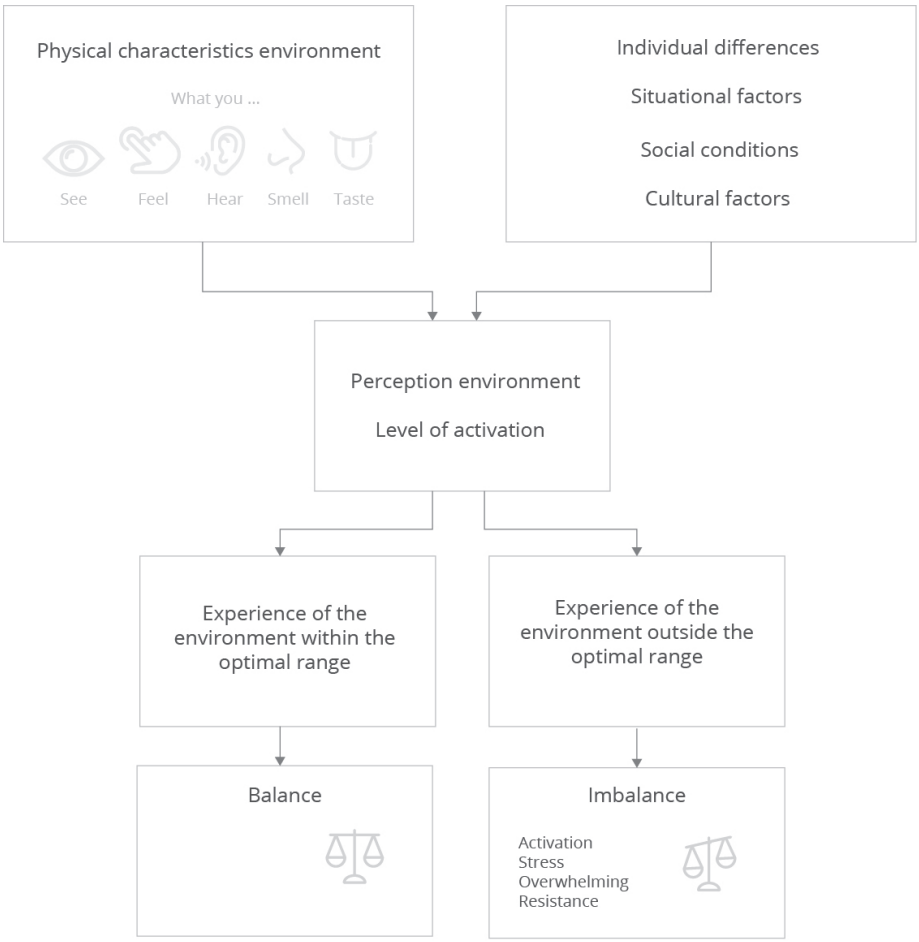


Figure 5.4 Overview of what affects how a person experiences a certain environment

slate. Our individual differences such as knowledge, previous experiences, character traits and our goal or task in a certain environment have an effect on how we perceive the environment. Furthermore, our perception is determined by our role in a certain environment and to what extent we feel in control (situational factors). For example when you are walking around in a city, it differs whether you are a tourist or a habitant of that city. Furthermore social conditions (e.g. are you alone or with a group) and cultural factors (e.g. the needed personal space is different in every culture).

To what extent the physical characteristics of an environment match with our personal knowledge and experiences, determines if we experience balance or imbalance in an environment.

In addition, the level of activation plays an important role. Everyone has his/her own optimal level of activation where he/she feels at ease and can perform in an optimal way. When we do not receive enough stimulants, we do not feel at ease in an environment and perform less. This is also the case when there are too many stimulants. The relationship between our activation and performance/well-being is shown in figure 5.5. The figure shows the optimal area where the right amount of stimulants is offered to make a person feel at ease and allow him/her to perform well.

When the level of activation is situated outside the optimal area, the person receives more intense stimulants than he/she can handle. This could lead to stress and can make the person feel overwhelmed. Besides, it could lead to resistance which means the person is trying to adapt the environment or himself to reach a state of balance.

Every designed environment ideally fits the optimal activation level of as many users as possible.

Conclusion

How someone experiences an environment depends on his/her perception of the environment (information that is gathered via our senses combined with personal characteristics) and the so called 'level of activation'. How certain characteristics of children influence their experience is discussed in chapter 3.4.

The psychologists indicated that they want to switch between a stimulant and stimulant free environment. As could be seen in figure 5.5, a very stimulant environment as well as a very stimulant free environment will be situated outside the optimal area. As a result, children will not feel at ease in both environments and cannot perform in an optimal way. This is in line with the experience of the psychologists that children feel less at ease in a more stimulant free room such as a consulting room. In addition they noted that children can feel overwhelmed in a room that is very stimulant. It can be stated that switching between a stimulant and stimulant free environment is too strict, a more thoughtful range of stimulants should be created in order to fit the optimal level of activation and make sure the child feels at ease and can perform in an optimal way.

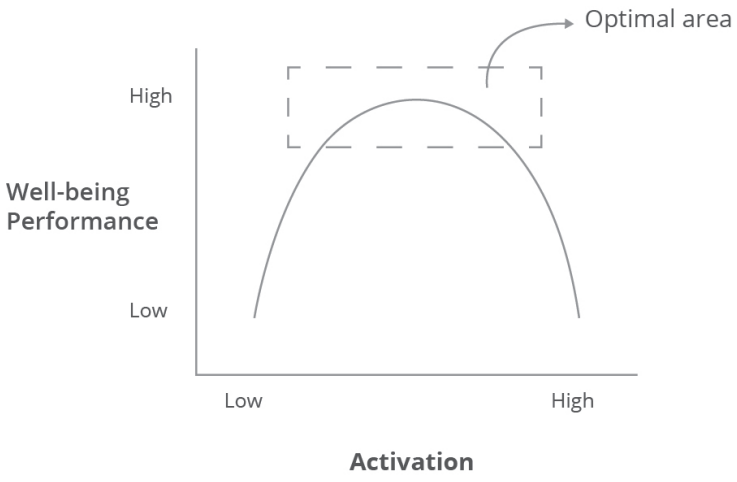


Figure 5.5 Representation of the relation between activation and well-being/performance

Workshop

A workshop with employees of the department (psychological assistants and trainees) was organised in order to obtain a better understanding of the terms 'stimulant' and 'stimulant free' in the context of the playroom (figure 5.6).

Procedure

Figure 5.7 shows the characteristics of the workshop and the procedure. A more elaborate description of the procedure and templates that were created for the workshop can be found in appendix 10.

Results & discussion

The workshop provided a better understanding of what the employees of the department mean by a stimulant and stimulant free environment, at what moments these environments are important and for which specific stakeholder. Furthermore, the mood boards created by the participants provided insight in the appearance of a stimulant and stimulant free environment.

Based on the results of the workshop, certain qualities of interaction could be determined for the different environments and users.

First the results for a stimulant environment will be discussed, followed by the results for a stimulant free environment will be presented. The information gathered during the workshop that was used for this can be found in appendix 10.

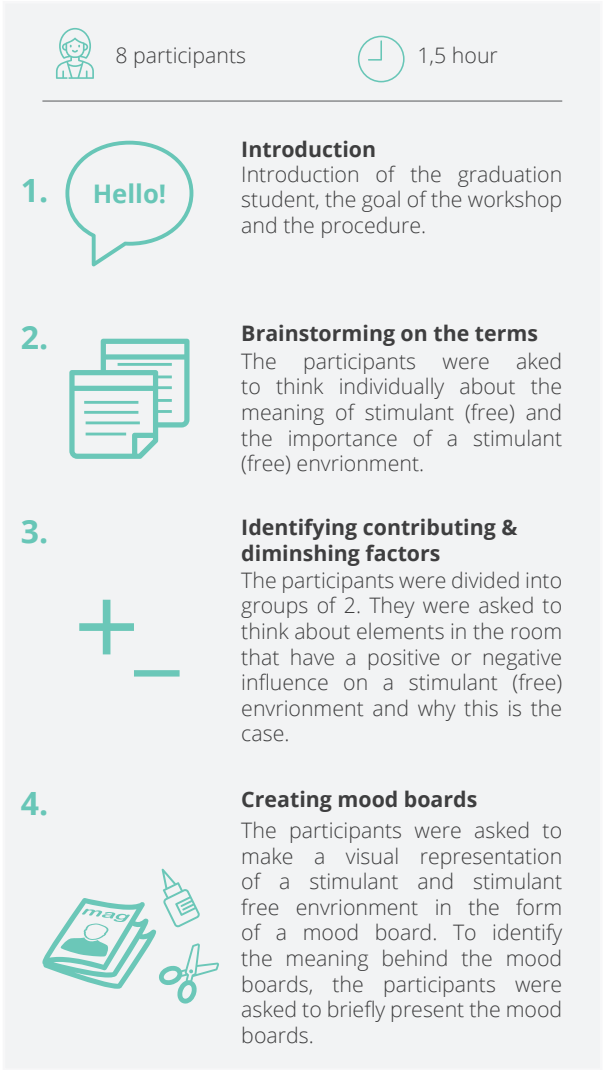


Figure 5.7 Characteristics and procedure of the workshop

Figure 5.6 An impression of the workshop - the employees of the department are working on their mood boards

A stimulant environment

A stimulant environment invites children to play and has a positive influence on the extent the child feels at ease. The environment allows children to play in a way that feels natural to them and to freely express and process their feelings and emotions. This is important during therapeutic sessions, mainly when play is observed in order to come to a diagnosis.

The participants indicate that a stimulant environment can support them in making the child feel at ease. It is important that the room does not look or feel like a doctor's room. This is especially important for children with medical anxiety. The room should make clear that it is a place to play and talk, and where the child will not have to go through a possible painful procedure. The current room contains certain aspects that have a supporting role in making the child feel at ease such as the free standing play elements and the curtain. However, since these aspects are also considered as distracting, this is not the ideal way to achieve this goal.

The participants indicate that different sessions and children, require a different amount of stimulants. This is in line with the literature study. They would like to adjust the environment to this. At the moment, the employees who use the playroom do not feel in control about the amount of stimulants the child is exposed to during a session.

Appearance

Figure 5.8 shows the mood boards that were created for a stimulant environment. When looking at all the mood boards together, it looks quite crowded and chaotic. However, all participants agreed that the environment should not look like this. A more balanced environment that feels like a unity is desired. They wish that the environment has a friendly appearance that appeals to the child. Colours can play an important role in this. The environment should spark a certain curiosity. An environment that appears interesting and fascinating can contribute to this.

Figure 5.8 Mood boards of a stimulant environment

Qualities of interaction
Certain qualities of interaction for children as well as psychologists can be identified. Figure 5.8 shows how these qualities could be represented in an environment.

Interaction of the child with a stimulant environment

• Explorative
The environment should trigger the child to explore. It should spark the curiosity of the child and surprise him/her.

• Free
The environment should offer the possibility to interact in a way the child prefers and is natural to him/her. There are no rules and the environment is open for own interpretation.

• Low threshold
The environment encourages the child to take the initiative. It should be easy for the child to interact with the environment and no obstructions should be experienced.

Interaction of the psychologist with a stimulant environment

• Dominant
The environment should allow the psychologist to control the environment and influence it in a way he/she wishes.

• Free
The environment should offer the possibility to interact in a way the psychologist prefers and is natural to him/her.

• Effortless
The psychologist can interact with the environment in an easy way that does not require much time and mental and/or psychical strain.

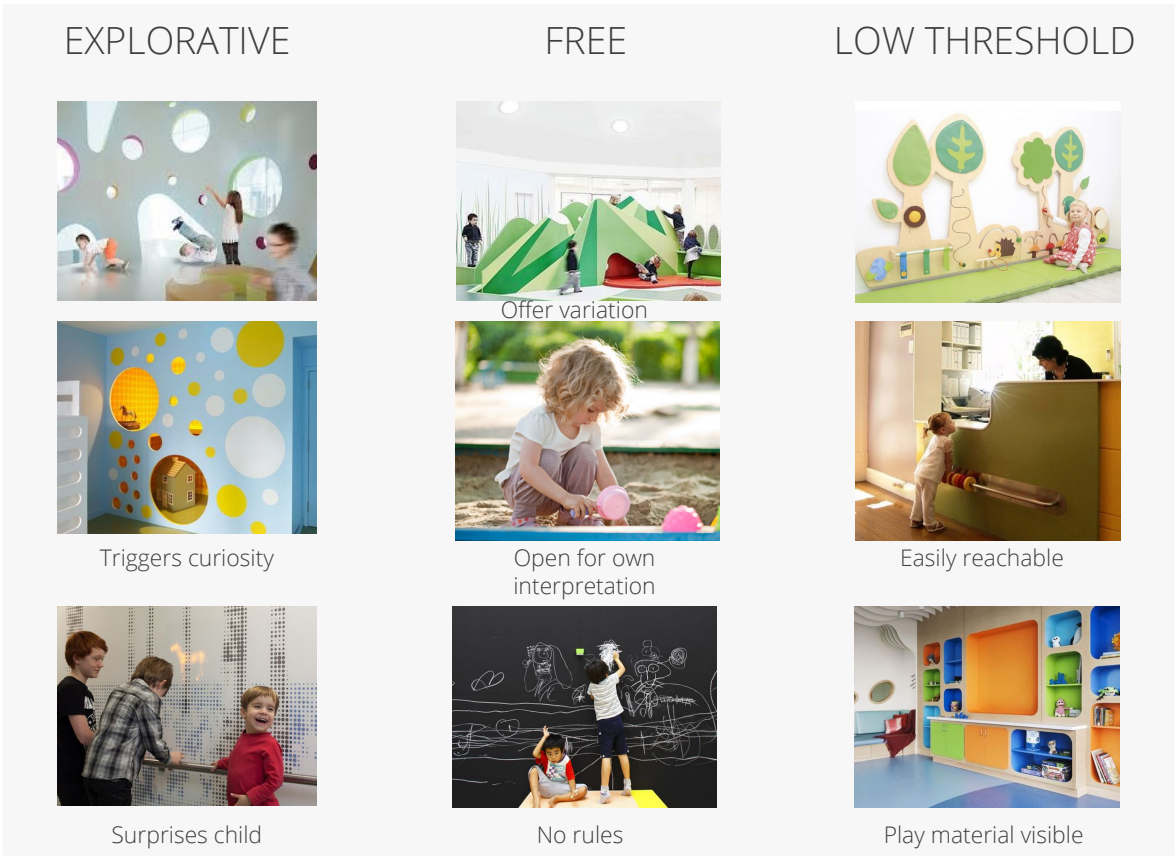


Figure 5.9 Visual representation interaction qualities of a stimulant environment

A stimulant free environment

A stimulant free environment does not distract the child and allows him/her to focus on the task assigned by the psychologist. The environment does not encourage impulsive behaviour of the child and the psychologist feels in control. This all improves the quality and efficiency of a session.

It is mainly important that the child can focus during EMDR therapy and a psychological test. But also when the psychologist and child are going to work together on the problem during a therapeutic session or intake session, the psychologist wishes the child to concentrate on that activity. All these activities are difficult for children, they have to do challenging assignments or talk about difficult matters. Participants indicate it is natural that children tend to search for something that is more fun and less difficult at those specific moments.

All stakeholders can benefit from a more stimulant free environment (psychologists, parents and children). A more stimulant free environment will distract the child less and therefore the psychologist feels more in control. Besides, the psychologist needs to correct the child less which leads to a more relaxed situation. During the workshop the participants indicated that the parents could benefit from a more stimulant free environment as well. They are also distracted by elements in the room (e.g. the one-way mirror) during difficult conversations and EMDR therapy of their child.

During the session the participants emphasized that it is important for the child to feel at ease in the environment. As learned from the literature study and the field research, there is a thin line between creating a stimulant free environment and an environment the child feels not at ease. It should be avoided the child feels not at ease.

Appearance

When taking a look at the mood boards the participants created of a stimulant free environment, a clear vision is shown (figure 5.10). The collages show many natural materials and colours. These represent the desire for a certain calmness which allows the child to concentrate and relax. Simple and minimalistic design is shown in the collages. When the participants explained their collage, the desire for a unity became apparent. This was also seen as important for a stimulant environment. They think the current room feels chaotic due to the use of many different styles and colours. A coherent style and colour scheme is wished. The play elements included in the collages represent the wish for an environment that is appealing to the child. It should have a friendly and not too sterile appearance in order to not be associated with a doctor's room. However, this should be done in a more subtle way than in the stimulant environment.

Figure 5.10 Mood boards of a stimulant free environment

Qualities of interaction
Certain qualities of interaction for children as well as psychologists can be identified. Figure 5.11 shows how these qualities could be represented in an environment.

Interaction of the child with a stimulant free environment

• **Restrained**
The environment should not evoke impulsive behaviour of the child.

Interaction of the psychologist with a stimulant free the environment

• **Dominant**
The environment should allow the psychologist to control the environment and influence it in a way he/she wishes.

• **Free**
The environment should offer the possibility to interact in a way the psychologist prefers and is natural to him/her.

• **Effortless**
The psychologist can interact with the environment in an easy way that does not require much time and mental and/or psychical strain.

RESTRAINED

No distraction

Figure 5.11 Visual representation interaction qualities of a stimulant free environment

Comparing the visual representations
When analysing both visual representations of the qualities of interactions of a stimulant and a stimulant free environment, it can be seen that the appearance of the environments is not that far away from each other and a good combination is possible. Besides, it shows that a stimulant environment is not necessary a sterile white room that reminds you of a doctor's room.

Target group new environment
During the session it became clear that the appearance of the environment is most crucial for young children (≤ 7 years). They are easier distracted and therefore more in need of a more stimulant free environment. Besides, they often need more encouragement to start playing and its takes more time to make them feel at ease (Chapter 3.4). Therefore the new concept for the environment will be focused on children between 4 and 8 years old.

Conclusion

With help of the workshop, a better understanding of the terms stimulant and stimulant free was obtained. The definition of each environment can be best captured with the qualities of interaction it should have and the goal it should reach. A stimulant environment should be explorative, free and low threshold. This should lead to an inviting play environment where the child can behave in a way that is natural to him/her (e.g. behave as at home). A stimulant free environment restrains from interaction and does not evoke impulsive behaviour. It enables the child to focus on a task assigned by the psychologist.

The psychologist should feel in control in the stimulant environment as well as in the stimulant free environment. He/she should be able to switch between these environments in an effortless way. Furthermore, it is important the psychologist can interact with the environment in a way that is natural to him/her.

The environment as a whole should feel like a unity, should be appealing to the child and have a friendly appearance. It is important the room does not look or feel like a doctor's room. An intrinsic contradiction is that a stimulant free environment is simple and straightforward, where a stimulant environment is more playful and offers variety. However, a combination of these two environments seems possible.

The insights gathered during this workshop and the insights that were earlier obtained about the environment will be translated to a master plan for a new playroom. The focus will be on children between 4 and 8 years old since these children are most influenced by the environment.

5.3 THE DESIGN CHALLENGES

In this section the two design challenges will be presented which will form starting points for the design phase of the project.

a) Rethinking the environment

Current situation
At the moment the different sessions that take place in the playroom are not supported to their full potential. On one hand, the psychologists indicate children are easily distracted by elements in the room such as the curtain and the free standing play material in the room. This is considered problematic when the child should concentrate on a certain activity. This is the case during a psychological test, EMDR therapy and when the child and psychologist work together on the problem during a therapeutic session or intake session. On the other hand the psychologists indicate the current environment does not sufficiently invite the child to play. They indicate the current environment is too neat.

At the moment a middle ground is established of an environment where the child can concentrate and an environment where the child is invited to play. However, this middle ground does not offer the desired atmospheres and does not provide the psychologist with a feeling of control.

Research shows that children between 4 and 8 years old are the most perceptive of their environment. They are easily distracted and need more encouragement to start playing.

Desired situation
The psychologists desire an environment that allows the child to concentrate and invites the child to play. Since the psychologists indicated that it is not possible to create these environments in separate rooms, both environments should be present in one room. Within this room the psychologists are in control of adjusting the environment to the activity that is performed and the characteristics of the child. The environment could be easily and quickly adjusted during the session. In addition, the environment supports the psychologist in making the child feel confident and relaxed in order to talk, play or perform a certain activity without feeling nervous.

Design goal
I want to create an environment where children (4 to 8 years old) feel comfortable and relaxed and can talk, play or perform a certain activity without feeling nervous or anxious. The environment could be easily and quickly adjusted by the psychologist to create an atmosphere that supports their performances during the sessions. The environment offers the possibility to let the child focus on a certain activity as well the possibility to let the child freely express himself/ herself by playing.

b) Supporting the patient journey

Current situation

Research revealed that all children are nervous when visiting the department for the first time. The extent of the nervousness depends on several characteristics of the child (chapter 3.4) and on the journey before entering the playroom (chapter 4). In order to perform a session to its full potential, it is important the child feels confident and relaxed to be able to talk, play or perform a certain task without feeling nervous or anxious. At the moment the nervousness of the child is increasing during the journey. When the child enters the playroom he/she needs to get used to an unfamiliar environment, person and procedure. Besides, the parent that played an important role during the journey has a more passive role in the playroom or is not present at all. All these factors influence the amount of time the child needs to feel at ease in the playroom. The psychologist needs to invest a lot of time in making the child feel at ease when entering the playroom for the first time. Research showed that the group of children that is most nervous before entering the playroom are young children (≤ 7 years old) that are treated for their medical anxiety.

Desired situation

In the desired situation the child feels relaxed and confident when entering the playroom for the first time. This could be achieved by supporting the child during the journey and thus creating a more gradual transition to the playroom. As indicated above, in the current situation the transition to the playroom is quite abrupt with a lot of changing factors (figure 5.12). By making the transition more gradual, nervousness will be reduced and it will take less time for the psychologist to make the child feel at ease before starting the therapy session (figure 5.13). As a side effect, the parents will also feel more confident and relaxed because they see their child is less nervous for the appointment.

Figure 5.14 shows that if a tool that facilitates the transition towards the playroom is introduced earlier, the transition to the playroom will be more gradual. This also decreases the nervousness of the child in an earlier phase of the journey.

Design goal

I want to make children (4 to 8 years old with medical anxiety) confident and relaxed when they enter the therapy room for the first time by supporting the children during the entire patient journey and thus making the journey more gradual.

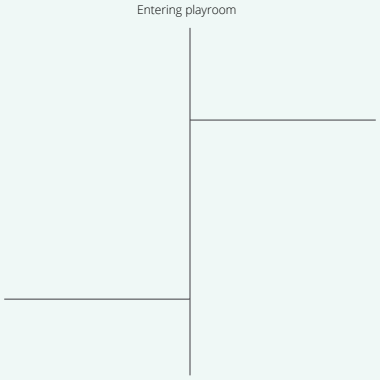


Figure 5.12 The transition to the playroom is currently quite abrupt

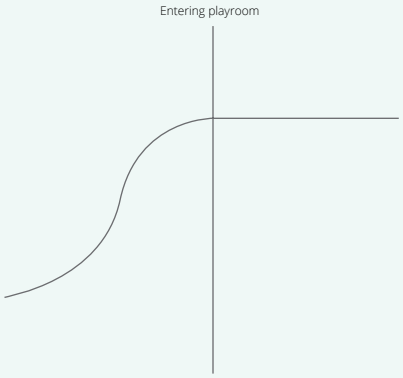


Figure 5.13 A more gradual introduction to the playroom is preferred

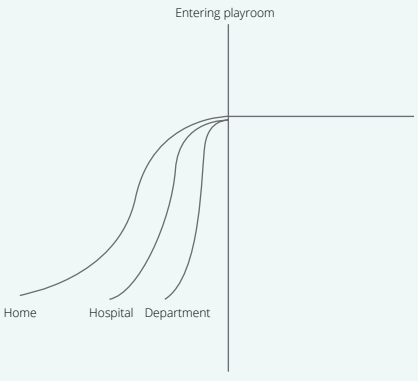


Figure 5.14 An earlier introduction leads to a more gradual journey

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6. SPECIFYING THE RESEARCH

The initial research focused on the direct context of the design challenges and the stakeholders within this context. However, when taking a closer look to the design challenges, more important aspects and stakeholders were identified that need to be taken into account during the design process. In this chapter a new stakeholder will be introduced, Tinker Imagineers, that is creating a new vision for the WKZ in parralel to this project. Besides, designing for tactfulness and the development of children are researched to create a suitable design.

6.1 A NEW EXPERIENCE VISION FOR THE WKZ

Design agency, Tinker Imagineers, is currently working on improving the experience of the whole WKZ. The result of this project will be more feasible if it could be combined with the plans of Tinker Imagineers.

In this chapter Tinker Imagineers will be introduced, the vision they created for the WKZ and how this fits within this project. During the project two meetings with a designer of Tinker Imagineers took place in order to share knowledge and create a feasible concept.

Tinker Imagineers
Tinker Imagineers is an experience and production agency situated in Utrecht. They are mainly active in the museum industry, but they also create new experiences for children's hospitals. In 2015, Tinker enhanced the experience for the new building of the Juliana Children's Hospital in The Hague. They introduced five little characters that help the children, distract them and make them laugh. These characters come back through the whole hospital and children can interact with them. An impression of the experience Tinker created for the Juliana Children's Hospital is shown in figure 6.1.

New vision for the WKZ
The WKZ asked Tinker to create a new experience for the whole hospital. When the WKZ took up residence in its current building, a vision for the experience was created. However, this vision disappeared during the years. Therefore, the different projects that were undertaken to improve the experience of children within the hospital were not in line which resulted in an incoherent identity of the hospital and a messy whole (Tinker Imagineers, 2018). Furthermore, a small study that was performed by Tinker in the WKZ shows that the child does not feel in control in the hospital.

The new vision for the WKZ should create a positive experience for children that visit the hospital. Tinker envisions that every level of the hospital represents a natural environment where so called 'marvellous animals' live. Five different environments will be distinguished: water, sand, grass, forest and sky Since the Medical Psychology and Social Work department is situated at the ground level of the hospital it is situated in the natural environment 'water'.

In each environment live 'marvellous animals'. They help children to feel more in control of their hospital visit or hospitalization. The animals help the child to feel more at home and to find the way in the hospital. Besides, they trigger the child to play, help the child when needed, provide a feeling of safety and will give the child the feeling that he/she is not alone.

Everyone can see the marvellous animals, but only children can explore their unique characteristics (figure 6.2). In order to do so, children get tools to explore these special powers. For example. children could experience how it is to see as a fox in the dark. The marvellous animal of each department was chosen with help of a questionnaire where all employees could vote for the animal they considered

Figure 6.1 An impression of the experience Tinker Imagineers created for the Juliana Children's Hospital

most suitable for their department. The animal that was chosen by the employees of the Medical Psychology and Social Work department became known during the project and will be presented in chapter 7.3.

Conclusion

The new vision for the WKZ should create a more positive experience for children that visit the hospital. In order to achieve this, Tinker Imagineers wants to introduce so called 'marvellous animals' that all live in their own natural environment. These animals help the child when needed and provide distraction. Children are able to explore the super powers of the animals with a special tool which provides them with a feeling of control.

The vision is considered in line with the design goal for the creation of a supportive patient journey for the child. In addition, it is in line with the desire of the employees of the department to be linked to an animal (Chapter 5.1).

The marvellous animals can help children during the journey by guiding them through the hospital, help them when needed, make the child feel safe and at ease, and distract them. The marvellous animal and its natural environment can also act as connecting elements during the journey. The animal and its natural environment provide an interesting direction to explore during the ideation phase of this project.

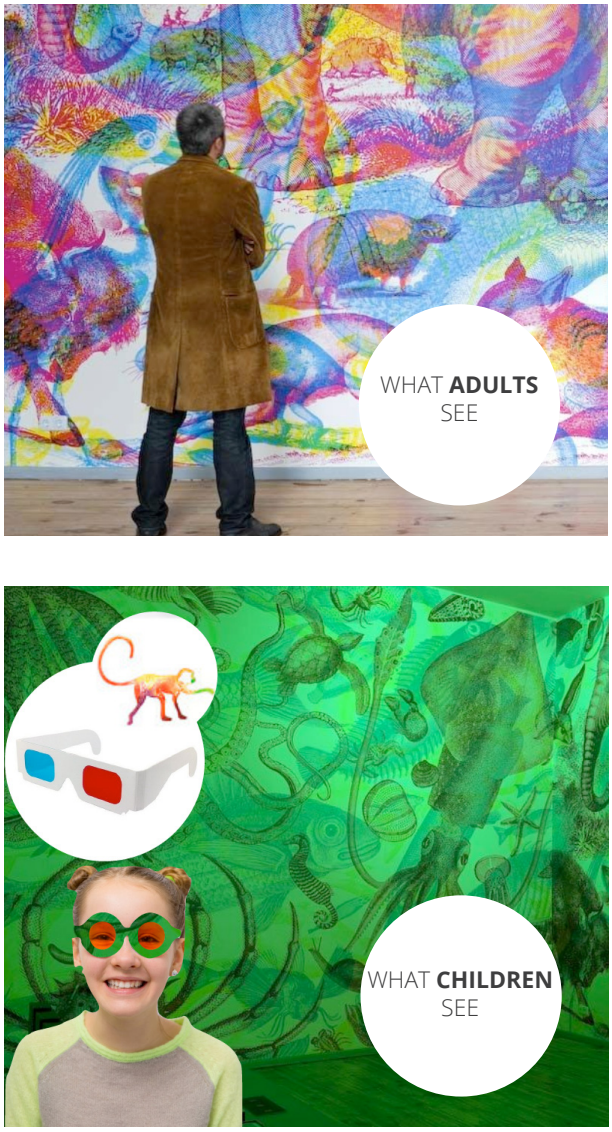


Figure 6.2. Only children can explore the super powers of an animal

6.2 DESIGN FOR TACTFULNESS

The sensitive context of this project demands a tactful and sensitive approach, especially if the new designs will make use of technology and interactivity. Therefore guidelines developed by Patrizia D'Olivo, (PhD candidate in Industrial Design Engineering / Design for Interaction at the Technical University of Delft) will be used. The thorough research performed for this project in combination with the guidelines will ensure a meaningful outcome of the project that fits the context.

In this section the guidelines will be introduced and linked to the research results of this project. At the end of the chapter it will be discussed how the guidelines will be applied during the project.

Guidelines for the design of tactful objects

The guidelines are a result of the dissertation *"Designing tactful objects: a research through design approach for sensitive settings"* by Patrizia D'Olivo (2018). The guidelines have been developed to enable designers to design interactive objects for sensitive settings with various users. Four guidelines are developed which state the effect the object should have, the qualities of the object, how the use of the object should be experienced and how it should be embedded in the user's context. The guidelines will be presented and linked to the project. The guidelines were slightly adjusted to fit the context. The original guidelines talk about 'tactful objects', for this project 'tactful designs' will be used which can be an environment, object, experience or system.

Impact

Tactful designs empower people by helping them to change their behaviour in a positive way over time.

In this project the child will be empowered by supporting him/her at different moments in the patient journey and by providing an environment where he/she will feel at ease. In this way the child is empowered before and during the first therapy session. Empowerment of the child could have a positive effect on the other people involved as well. When the child feels at ease in the environment and around the psychologist, the therapy session can be conducted in a more optimal way. In addition, when the family sees the child feels at ease, they will also feel more at ease themselves.

Object

Tactful designs are partners that are friendly and that you can trust.

It is important to create a friendly and trustworthy atmosphere from the first moment of contact between the child and the department. This should be prolonged during the entire journey and in the new therapeutic environment. In order to create a trustworthy atmosphere, the principles to make the child feel at ease could be implemented. By involving the child and being transparent from the first moment, a trustworthy atmosphere will be created. Adding a familiar element can enhance the trustworthy atmosphere as well.

Use

Tactful designs foster collaboration in a simple and enjoyable way.

Tactful designs foster collaboration. The definition of collaboration provided by the Cambridge Dictionary is '*the situation of two or more people working together to create or achieve the same thing*'. In this case the child and design should work together to achieve the same goal: making the child feel at ease. The interaction with the object should be simple. The child should be able to interact with the design in a way that (almost) no explanation is needed. In addition, the interaction should be enjoyable. The interaction with the design should create a positive experience.

Embedding

Tactful designs embedded in the user's context include all people involved and become part of their everyday life.

During the patient journey, the context constantly changes. At different moments of the journey, different people in different environments are involved. It is important that the design includes all these different people. In addition, it is important that for every moment in the journey a suitable design is created that fits the environment. The patient journey starts at the family's home after which it proceeds in the hospital, it is important that the interventions fit in the routine of the family as well as the routine of the appointment.

Implementation in the project

The design guidelines for designing tactful objects will be applied to both design challenges. During the design process the guidelines will serve as inspiration, not as regulations in order to be able to generate ideas freely. The concepts will be evaluated on the guidelines.

By appling the guidelines to both design challenges, insights can be gathered on how the guidelines can be used to design an environment, objects and a system of objects in the hospital context.

Conclusion

The project takes place in a sensitive context and therefore a tactful and sensitive approach is demanded. Therefore guidelines developed for the design of tactful objects will be applied to the project. These guidelines will be used to develop a new therapeutic environment as well as a supportive patient journey. By applying the guidelines to this project, insights can be gathered on how the guidelines can be applied to designing environments, objects and systems for a hospital context.

6.3 THE DEVELOPMENT OF CHILDREN

In order to create an environment and product that fit the developmental stage of the child, a closer look will be taken to how a child develops in different areas. All children follow the same sequence of development, but at what specific moment the child moves from one to another developmental stage differs from child to child (Sharman, Cross & Vennis, 1995). The different aspects of the development are strongly affected by the child's environment and the experiences they encounter. Every child is unique and therefore develops in his/her own tempo. In the literature, several aspects of the child's development are distinguished: physical, intellectual, language, social and emotional development. Although this distinction is made, the different aspects develop simultaneously. An overview of the development milestones of children in the age range 4 to 8 is provided in figure 6.3.

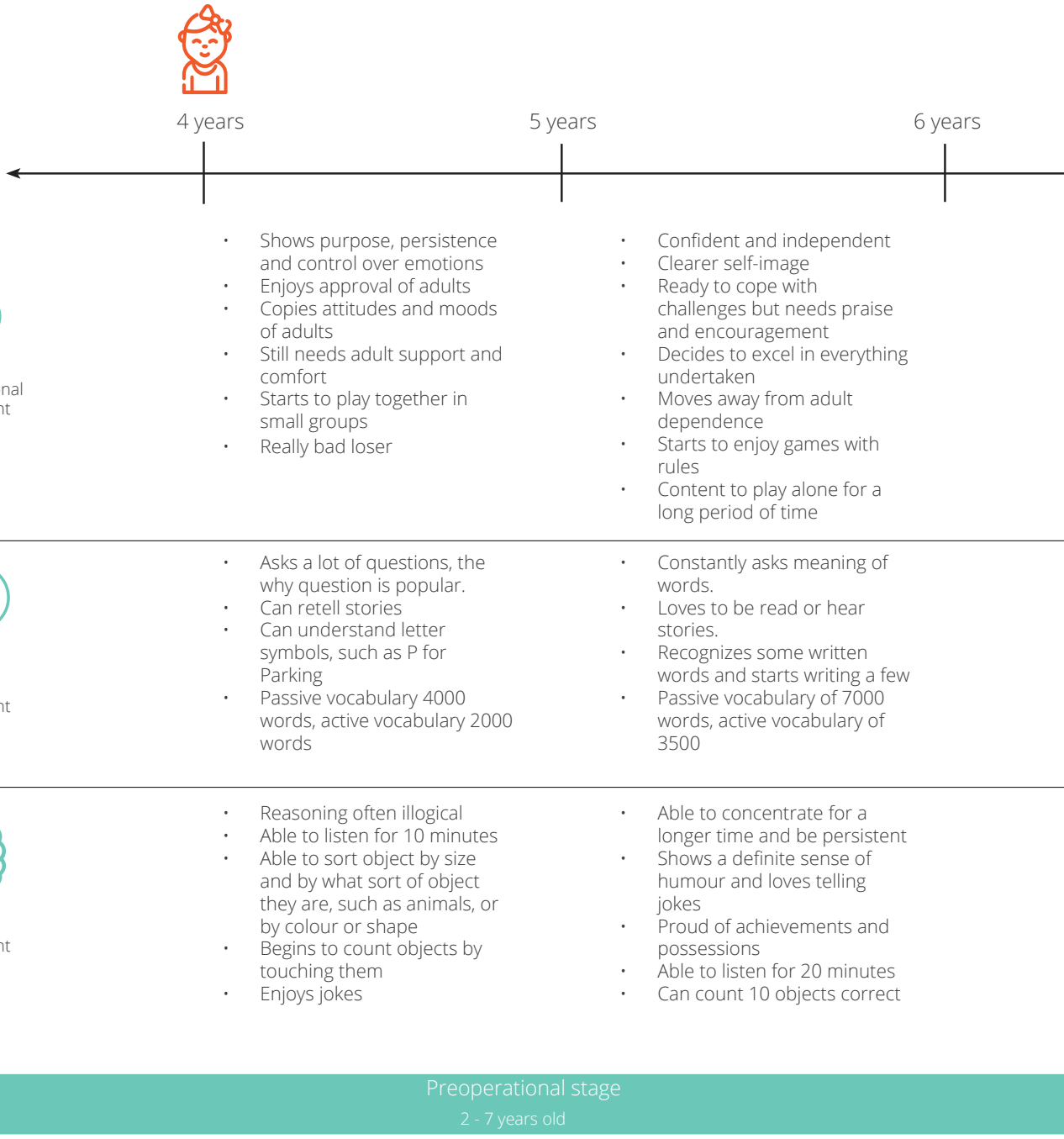


Figure 6.3 Overview of the development of the children between 4 and 8 years old.

7 years | 8 years | 9 years

- Not stable, mood swings
- Swings from love to hate
- Sense of shame develops, can be ashamed of inadequate abilities
- Attention of an adult will spurt him on, but sometimes has difficulties with corrections
- Very dependent on adults for direction and guidance.
- Fears (nightmares)
- Stronger need for pears

- More stable personality
- Feeling of responsibility
- Starting to self-evaluate and often has a critical view on self.
- Less focus on self and more concern for others

- Compares himself to others
- Can better describe experiences and talk about emotions
- Constant feeling they need to prove themselves
- Need for more privacy, do not tell anything anymore
- Play more often in groups

- Loves riddles and stories
- Interesting in learning to read
- Can read words with 3 letters

- Can read short and simple stories
- Can answer questions after reading a story (receptive reading)

- Can read short sentences, long words maintain difficult.

- Can set goals and fulfil them
- Can concentrate for 15 to 20 minutes.
- Can count till 20 objects correctly.

- Clearer thinker
- Increased ability to think about what is likely to occur and therefore experiences more fears for new situations

- Can easily concentrate for one hour in a row
- Enjoys activities driven by categorizing things and collecting
- Starts to thinks certain activities or things are too childsh for them

Concrete operational stage

7 - 12 years old

Piaget is seen as one of the leading researchers considering cognitive development of the child (Frost et al. 2005). He distinguishes four developmental stages: the sensorimotor stage, preoperational stage, concrete operational stage and the formal operational stage. Corresponding with these developmental stages, Piaget distinguishes three types of play. First characteristics of each developmental stage will be explained after which the corresponding types of play will be described.

Sensorimotor stage (2-7 years)
The first developmental stage Piaget distinguishes is the sensorimotor stage which takes place from birth till the age of 2. During this stage, the child acquires knowledge through sensory experiences and manipulating objects. The child develops basic reflexes, senses and motor responses that make it possible to interact with the environment and to discover new things. It is during this phase that the child goes through great developmental growth. Piaget divided the sensorimotor stage in 6 sub-stages. In the last phase the child starts to think symbolically. This means the child is able to see an object as something else. The child develops an 'object persistence' which means that he learns that the object does not disappear when he cannot longer see it. At this point children also start to attach names and words to objects.

Preoperational stage (2-7 years)
The next stage starts when the child is about 2 years old and continues till the age of 7. Key in this stage is the symbolic thinking acquired in the last stage of the sensorimotor. Children in this stage are really egocentric and experience problems with putting themselves in someone else's position. Children in this stage have problems separating fantasy and reality. What they do not understand, they fill in with their fantasy. They have the tendency to believe inanimate objects have thoughts and feelings

Concrete operational stage (7-12 years)
The concrete operational stage starts around the age of 7 and lasts until the age of 12. During this stage the child the child gets a sense of self and becomes less egocentric. Piaget considered this stage as an important turning point in the cognitive development since it marks the start of logical and operational thought. This means children can figure things out in their head without physically trying it out.

Formal operational stage (12-20 years)
The final stage starts when the child is around 12 years old and lasts until the age of 20. In this stage logic increases and the child starts to understand abstract ideas and situations. Children are able to see that there are multiple solutions can be found for a problem and look to the world from a more scientific point of view.

Types of play per stage
Piaget identified three types of play that correspond to the first three stages of human development: functional play, symbolic play and games with rules. During the first stage of development mainly functional play is present. In this stage the child plays by practising sensory and motor capacities on the environment. Sensory play starts when the child is able to see an object, situation or person as something else which develops during the second stage. This allows the child to perform pretend play. During this second stage, the child already starts to show interest in games with rules. However, this play type starts to become dominant during the concrete operational stage. By playing games with rules, children become able to explore social relationships.

Conclusion

Children between 4 and 8 years old go through a major developmental grow. Within this age range an important transition of developmental stage occurs. At the age of 7, the child moves from the preoperational stage to the concrete operational stage. This is an important moment in a child's development, since it marks the start of logical and operational thinking. This means children can figure things out in their head without physically trying it out. With the transition of development stage, the type of play the child prefers also changes. In the preoperational stage, children have a preference for play where they can use their fantasy. During this stage the interest for playing games with rules slowly grows. In the concrete operational phase this type of play is dominant. During the design process it is important to take the abilities and preferences of children within the whole age range into account.

7. THE DESIGN PROCESS

This chapter discusses the design process that was performed to create feasible concepts for both design challenges. First an overview of the whole process will be provided after which the design process for each design challenge will be discussed seperately.

7.1 OVERVIEW PROCESS

In order to fulfil both design goals that were formulated for this project, a process was followed. This process is shown in figure 7.1. First an overview of the process will be provided, after which each individual design process will be discussed more in detail.

As a basis for the generation of ideas, the results of the research performed for this project were translated into a list with design wishes and requirements for both design goals.

To kick-start the ideation process, several How-Tos were formulated for each design goal. These are small problem statements formulated as questions intended to stimulate creativity and are seen as a suitable method to start an idea generation (Delft Design Guide, 2013). An individual brainstorm was performed where ideas were generated for every How-To. Besides, the How-Tos were used in a creative session with four Master students of the faculty Industrial Design Engineering which broadened up the idea space. The outline and the results of the session could be found in appendix 11.

After this, both design tracks were conducted separate from each other. For the master plan of the playroom, two concepts were created. With help of the company mentors one concept was chosen and slightly adjusted in order to fully meet the wishes of the department. In order to make the master plan complete, recommendations are provided concerning light, colour and sound.

In order to create a supportive patient journey a more elaborate design process was performed. Several evaluation moments took place with the company mentors as well as with Tinker Imagineers to create a concept in line with the new vision for the WKZ and the wishes of the department. During the process it became clear it is important the marvellous animal is leading in the design in order to fit within the new vision for the WKZ. The animal that was allocated to the Medical Psychology and Social Work department changed during the project from penguin to seahorse and therefore iterations with both animals are shown in this report. From each iteration the strong elements were subtracted and translated into a new design. This resulted in a final design that was evaluated in the context.

In the end, both design tracks come together in one final journey design which is presented in chapter 8.

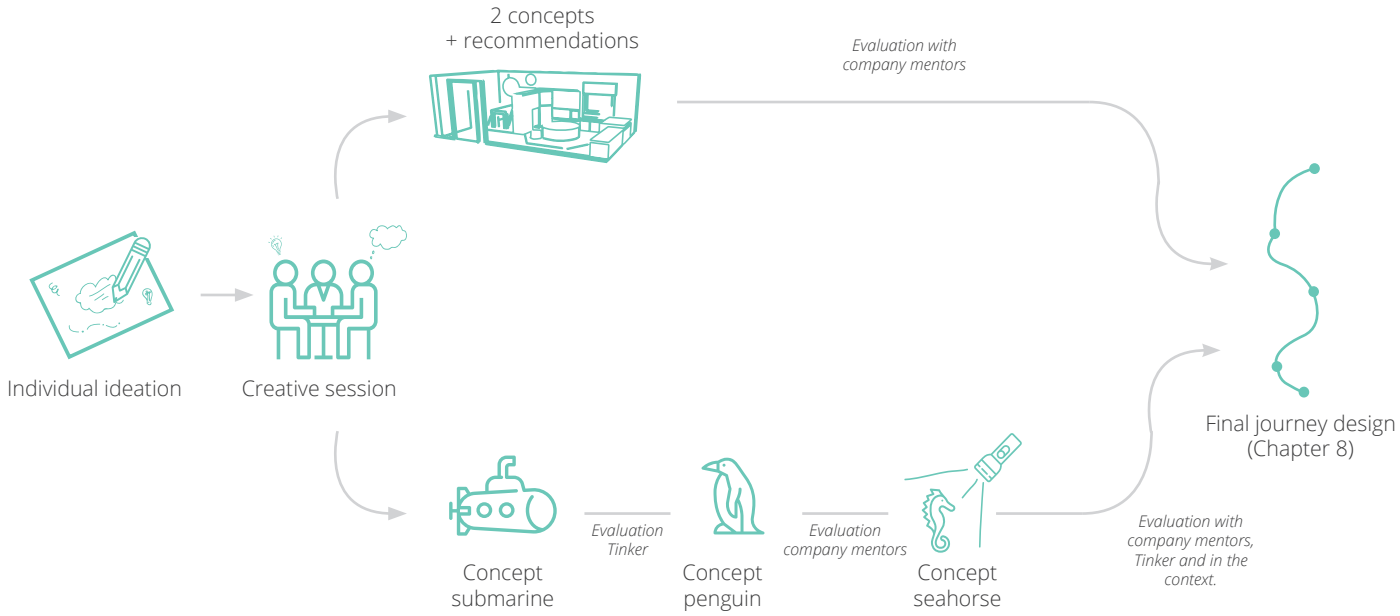


Figure 7.1 Overview of the design process

7.2 MASTER PLAN PLAYROOM

In this section the master plan for a new playroom will be presented and the steps that were taken to come to this plan. The aim of the master plan is to provide a strong basis for the creation of a new therapeutic environment. Two concepts will be presented that show how the findings of the field research could be translated into tangible designs. These concepts are evaluated with the company mentors in order to come to a final design proposal. To deliver a complete plan, recommendations are provided concerning colour, light and sound.

Design guidelines

Several aspects were taken into account to create the new playroom. These are presented in figure 7.3 on page 82. The figure shows a list of design requirements and wishes, the principles to make the child feel at ease (Chapter 5.1) and the qualities of interaction (Chapter 5.2). In this list the wishes are presented in italic.

Exploring two environments in one room

How two environments can be created in one room, with the possibility to easily switch between them, will be explored in this paragraph. First the optimal composition of the room will be explored after which two solutions for creating two environments in one room will be presented.

Composition of the room
An explorative study was performed to identify the optimal composition of the playroom. This study can be found in appendix 12. It was learned that the environment where the child needs to concentrate, should be situated at the left side of the room (where the room is entered). In this way it is situated close to the door, which makes it less probable the child will start exploring the entire room before the start of the session. Besides, it is beneficial that the one-way mirror is situated on the other side of the room since this is considered as a very distracting element.

The right sight of the room is considered more suitable for play, since the kitchen is situated here. In this way, water that is collected for sand or water play does not need to be transported through the whole room. The ideal composition of the playroom is shown in figure 7.2.

Solutions
To find a suitable way to create two environments in one room, an individual brainstorm was performed followed by a brainstorm during a creative session. Two options that were considered interesting were selected:

- Dividing the room
- One adjustable set-up

Both directions were believed to provide a suitable solution to solve the design challenge and can show the width of the solution space to the employees of the department. Both options will be described more elaborate in the next paragraphs.

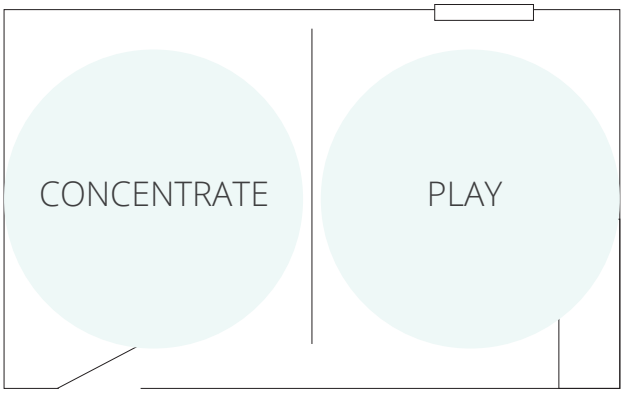


Figure 7.3 Ideal composition of the playroom

DESIGN REQUIREMENTS & WISHES

1. Psychological test

1.1 The child can sit at a suitable height at the table where the psychological test is conducted in order to make sure he/she can perform the assignments.
1.2 The playroom offers a place where the material that is brought by the psychologist for a psychological test can be stored during the test. This place should be out of sight of the child and easily to reach for the psychologist.

2. Equipment

2.1 The playroom offers a wide variety of play materials that appeals to both boys and girls in the age range of 2 to 10 years old.
2.2 The playroom contains a kitchen counter at children's height.
2.3 The playroom contains a high and low table in order to make sure the child can sit at a suitable height during therapeutic sessions.
2.4 As well the high as low table is big enough to allow the psychologist and child to work together on a big paper sheet (A1).
2.5 The playroom should offer a place where the child can withdraw himself.

3. Safety

3.1 The materials satisfy the rules of the JCI (appendix 7).

4. Storage

4.1 The playroom offers enough space to store the small play materials as well as the big play materials.
4.2 The playroom offers a structure that allows the psychologists to quickly find the different play materials.

5. Space

5.1 The playroom offers enough space to allow parents to enter with a stroller.
5.2 The playroom offers children in a wheelchair to manoeuvre around.
5.3 The playroom offers open space to perform physical play.
5.4 The playroom offers space to play at the ground.
5.5 The playroom should facilitate playing at the ground in a comfortable way.

6. Seating

6.1 The playroom offers seating for 5 people (4 adults, 1 child).
6.2 The playroom offers a place where the parent can sit during a therapeutic session.
6.3 The playroom should offer a place where the psychologist and child can talk in a more relaxed setting.

7. Lightening

7.1 The playroom offers proper light at the high table where the psychological tests are conducted.
7.2 The playroom should offer daylight or lamps that mimic daylight.

8. Sound

8.1 Sound from the hallway cannot be heard in the playroom in order to avoid distraction and anxiety of the child.

9. Users

9.1 The playroom is appealing and suitable for children in the age of 2 to 10 years old.
9.2 The playroom should be also appealing for children for children older than 10 years.

10. Entering the room

10.1 When the child enters the room for a psychological test or EMDR therapy, he/she is minimally distracted by the playroom.
10.2 The child should have a feeling of recognition when entering the playroom for the second time.

11. Dimensions

11.1 The new concept fits within the dimensions of the current playroom.
11.2 The new concept fits with the elements that have a fixed position in the room (door, one-way mirror and kitchen counter).

12. Appearance

12.1 The new concept looks more modern than the current playroom.
12.2 The new design looks gender neutral in order to be appealing for both boys and girls.

QUALITIES OF INTERACTION

Interaction of the ***child*** with the room:

- **Explorative**
- **Free**
- **Low threshold**

Interaction of the ***psychologist*** with the room:

- **Dominant**
- **Free**
- **Effortless**

PRINCIPLES TO MAKE THE CHILD FEEL AT EASE

- **Involvement**
- **Gradualness**
- **Familiarity**
- **Transparency**

Figure 7.3 List of aspects that were taken into account for the design of the playroom.

Option 1: Dividing the room
One way to create two environments in one room is to divide the room in two spaces. Therefore a partition can be placed in the room. The ideal position of the partition is shown in figure 7.4. As can be seen, the area to concentrate is situated at the left side of the partition and the area to play at the right sight. Since the activities where concentration is required are mainly performed at the table, only a small part of the room is needed for this.

It is important that the side of the partition that faces the area where the child needs to concentrate, is free from distraction. This also means that the child should not be able to look through the partition when sitting at the table in order to not distract him/her with elements in the play area. Since the room is not that spacious, placing a closed partition can diminish the feeling of space. Therefore it considered important to make the partition only high enough to block the view of the child when sitting at the table.

Using a closet as a partition is seen as an efficient way to use the space. Besides, a (partly) open closet can add to the playful atmosphere in the play area.

Option 2: One adjustable set-up
Instead of dividing the room into two spaces, designing a flexible room that can be adjusted to the wished atmosphere is an option. A closet that can be easily transformed from non distracting to playful can facilitate this. A small idea generation was performed to see how this closet could take shape. Two ideas to transform the closet were considered interesting. The first idea is to have turnable panels in the closet that on one side have a neutral colour and on the other side an appealing image. This image could be fitting with the water theme and/or marvellous animal that is proposed by Tinker Imagineers. The second idea is that several panels of the closet can be opened to reveal play material. Both interactions are simple and can be performed quickly in order to transform the room in a short amount of time. It is also interesting to transform the room together with the child. This will add to the explorative character of the room, an important quality of interaction for a stimulant environment. However, it is important to not make it too inviting to flip and slide the panels in order to not distract children that need to concentrate.

Concepts
Two concepts were created: 'Split' and 'Switch'. These concepts and their characteristics will presented on page 84 to 87. A reference will be made to all characteristics of the environment that fulfil a wish or quality mentioned in figure 7.3. In the first concept several elements will be introduced that are also applicable to the second concept. These will be indicated with an asterisk (*).

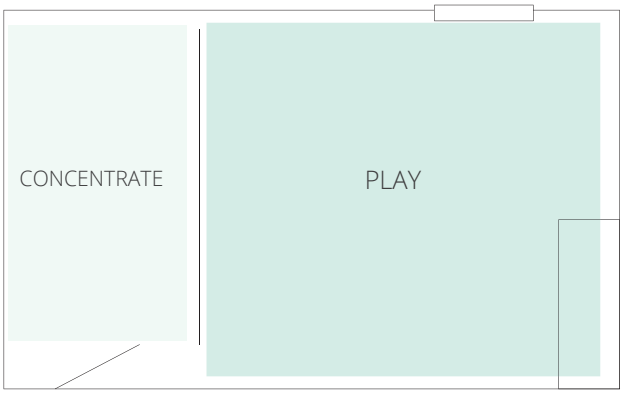


Figure 7.4 Ideal place for the partition

CONCEPT 1: SPLIT

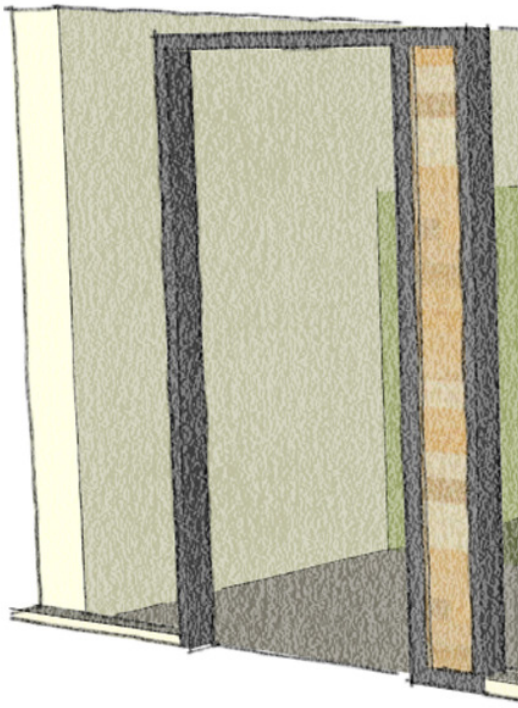
In the first concept, the room is divided into two areas: an area where the child is able to concentrate and an area where the child is encouraged to play. The room is divided by a closet that is partly open at the side where play is performed and neutral on the side where activities are performed that require concentration. On this page (84) it will be discussed how the stimulant and stimulant free environment are realised. On the next page (85), the characteristics of the environment will be presented.

An area to concentrate

An area that allows the child to concentrate is situated across from the entrance. The area is free from distraction. It has a neutral appearance, but the use of colours and the circles placed on the wall make the area look friendly. The neutral appearance of this part of the room makes it is also suitable for children older than 10 years ***(9.2)***

An area to play

An area where can be played and activities can be performed where it is less important the child is concentrated, is situated on the other side of the partition. In the open closet play material can be placed to create an inviting and appealing environment. All the play material is stored in this part of the room and is easily accessible for the child.



Communicative colours

In the room, colour is used to clearly communicate to the child when it is time to play (orange) and when it is time to concentrate (green). This provides the psychologist with a feeling of control ***(dominant)***.

A place to withdraw
In the corner of the closet a place is created where the child can withdraw when he/she is very nervous or anxious. ***(2.5)***

Easy access to play material*
The boxes allow children to easily access the play material ***(low threshold)***. On the boxes, icons can be placed in order to communicate what is inside. This provides ***transparency*** and can trigger ***curiosity***.

Talk in a relaxed setting
A bench is created to allow the psychologist to talk in a more relaxed and informal setting with the child **(6.3)** ***(free)***.. To make optimal use of the space, the bench is created as a part of the closet . Underneath this bench toys can be stored.

A whiteboard that opens up many possibilities*
A large whiteboard is placed on the wall. This whiteboard can be used in several ways. The whiteboard can be used to give a personal character to the room, the child can create his/her own artwork on the wall. The psychologist can write a personal message or make a nice drawing to brighten up the room. ***(familiarity)***. During observations it was seen that the child and psychologist often draw together in order to enable the child to better express himself. In addition, the psychologist uses drawing as a way to explain health procedures. A whiteboard can make these activities more dynamic which is one of the requests of the psychologists. The whiteboard can also be used to play games such as tic-tac-toe or become a creative playground with magnetic figures ***(free)***.

A personal touch*
Drawings the child made during an earlier session could be placed on the wall to give a personal touch to the room and make the child feel more at ease ***(10.2)***. The child can also be asked to bring a drawing for the first appointment ***(familiarity)***.

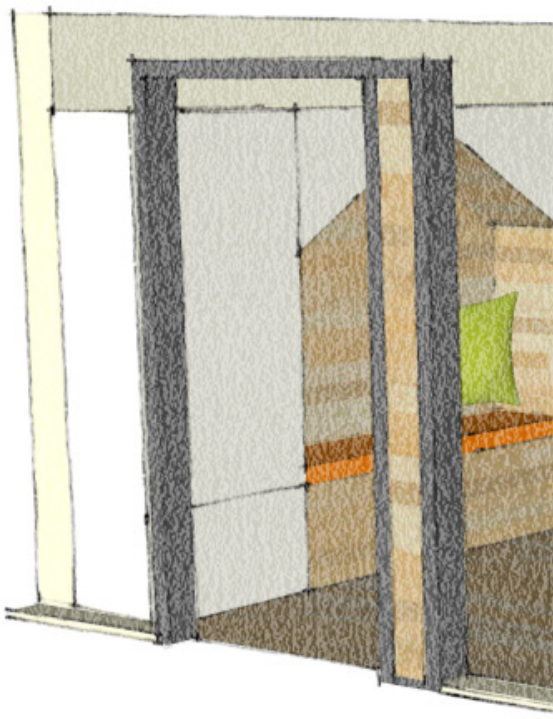
Covered one-way mirror*
The one-way mirror can be covered when no observation is performed. In this way the mirror does not unnecessary distract the child.

CONCEPT 2: SWITCH

In the second concept, the room can be easily adapted to the activity by transforming the closet. In this way the room can be easily switched from stimulant to stimulant free. On this page (86) it will be discussed how the stimulant and stimulant free environment are realised. On the next page (87), the characteristics of the environment will be presented.

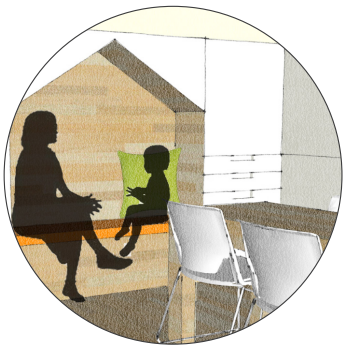
Setting where the child can concentrate

In order to allow the child to concentrate on a certain task, the closet has a neutral appearance. The colourful panels in the closet give the room a friendly appearance. Free standing play elements can be placed behind a small partition in the corner of the room to not distract the child.



Setting where the child is encouraged to play

To create a setting that encourages the child to play, panels of the closet can be turned and opened to reveal appealing images and play material. The transformation of the closet can be done by the psychologist before a session to make the child feel at ease when he/she enters the room. The transformation of the closet can also serve as an ice breaking activity at the start of the session. The partition can serve as play element (e.g. a puppet theatre).

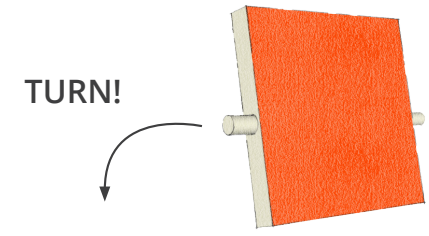


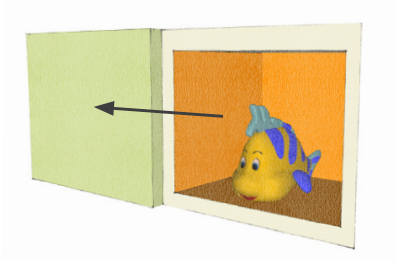
Talk in a more relaxed setting

In the closet a place is created where the psychologist and child can talk in a more relaxed setting ***(6.3) (free)***.. By creating this space in the closet and giving it the shape of a house, it feels like a sheltered and safe space. Besides, the house shape adds to the friendly appearance of the room.

A place to withdraw, play and store play material

A place in the corner of the room is created where the child can withdraw ***(2.5)***. The child can hide himself/herself behind the partition to feel more safe and in control. In addition, this place can serve as play element, it can for example be used as a puppet theatre or to play shop. The partition also allows to store play material in order to not distract the child when activities where concentration is needed are performed.





Adjustable closet

By adjusting the closet, the atmosphere in the room can be changed. Several panels can be turned. These panels have on one side a neutral colour which fits the more stimulant free atmosphere and on the other side an appealing image is shown to create a more playful environment. The images will be in line with the animal or environment assigned to the department. Alongside turnable panels, several other panels can be slid open to reveal play material.

Evaluation of the qualities of interaction

Chapter 5.2 shows the qualities of interaction that are desired in the playroom. This paragraph reflects on how these qualities are represented in each concept.

Concept 1: Split

Interaction of the child with the room

The partition in the corner adds to the ***explorative*** character of the room. It can make the child curious and make him/her wonder what can be found behind the partition. The explorative character could be enhanced by adding a surprising element to the hiding place such as glow in the dark stars or a nice wall painting.

In order to make the child interact in a ***low threshold*** way with the room, the environment allows the child to reach the play material himself. A lot of the play material can be stored in boxes that can be easily taken by the child. On the boxes, icons can be placed in order to communicate what is inside. This provides transparency and can trigger curiosity (***explorative***) what the toys look like that are stored in the box.

The child should feel ***free*** in how to interact with the stimulant part of the room. The whiteboard has certain qualities that support this free interaction. The child can freely draw on the wall and give a personal touch to the room. Besides, the white board can be used to play games such as tic-tac-toe or become creative with magnetic figures.

As defined in chapter 5.2, the interaction with the more stimulant free area should be '***restrained***'. Therefore nothing that can distract the child is placed in this area or in the sight of the child when sitting in this area. This allows the child to fully focus on the activity prescribed by the psychologist.

Interaction of the psychologist with the room

The psychologist will feel in control (***dominant***) in the environment because he/she can determine in which part of the room a certain activity will take place. He/she can easily and quickly switch between these two different atmospheres ***(effortless)***. The more stimulant free part does not contain any distracting elements and there are no distracting elements in the sight of the child. The more stimulant free area is placed near to the entrance in order to prevent the child from exploring the whole room and diminishing the ability to concentrate during for example a psychological test. The psychologist can easily steer the child.

In this concept, colour is used deliberately on the walls and floors, to make a clear distinction between the two areas. This will support the psychologist in making clear to the children when it is time for serious activities and when it is time to play. This adds to the feeling of control ***(dominant)***

The design offers several places to interact with the child. The psychologist can choose the most suitable setting at different moments of the therapy session. As a result, the psychologist will feel more ***free*** in how to make use of the room.

Concept 2: Switch

Interaction of the child with the room
Several elements add to the ***explorative*** character of the room. Opening elements of the closet and turning panels can be done by the psychologist before the session starts, but it can also be seen as an activity together with the child. It will make children curious what they will find behind the panels. When the panels are not opened and flipped, the closet has a neutral appearance. It should be not apparent for the child that the panels can flip. Besides, free standing play material can be stored behind the partition in the room. This allows the child to fully focus on the activity the psychologist wants (***restrained***).

Just like concept 1, a place where the child can withdraw is created. The opening in the partition gives the child the possibility to use it in the way he/she wants (***free***). For example, it can be used as a puppet theatre or it can be used to play shop.

In order to enable the child to interact with the room in a ***low threshold*** way, the same principle is used as in concept 1. The play material will be stored at a height easy reachable for the child. Boxes with pictograms will be also used in this concept.

Interaction of the psychologist with the room
The psychologist can control the state of the room by simply adjusting the appearance of the closet (***dominant & effortless***). The room can be prepared by the psychologist before entering the room, but it can be also seen as an activity to transform the room together with the child. As indicated above, this adds to the explorative character of the room. The psychologist can determine himself/herself to what extent the room is stimulant by revealing less or more stimulant parts of the closet which makes the psychologist can ***freely*** interact with the room. Besides, just like concept 1, the room offers several possibilities where interaction can take place with the child.

Recommendations

Recommendations concerning colour, light and sound will be provided.

Colour
Colour is an important aspect in environmental design. It has an influence on how people experience an environment and can support in creating a certain atmosphere. A recommendation will be provided for the use of colour in the new playroom.

An analysis of the mood boards (Chapter 5.2) and a small literature study were performed in order to come to a suitable colour scheme. It should be noted that many theories around the effects of colour are controversial. However, on several theories there is a general agreement by researchers and therefore these could be used to support the choice for a certain colour. In order to make the playroom fit with the rest of the department, the colour scheme that is created for the ground level of the WKZ was taken into account (figure 7.5).

Figure 7.6 shows the colour scheme that is recommended for the playroom including the pantone numbers. These colours are applied in the concepts presented on pages 84 to 87. The choice for each colour will be explained.

Green is preferred as colour to allow children to concentrate. This colour was suggested by the participants in the second workshop and is described in the literature as a colour that could enhance the ability to concentrate and is restful for the eye (Tofle et al., 2004). Besides, it is a gender neutral colour. A shade of the colour green is included in the visual plan of the WKZ. However, this shade of green is considered a bit dark and not friendly. Dark colours are not desired in a room without windows. Therefore a more bright and saturated shade of green is chosen.

Next to green, the colour ***orange*** is selected. According to the literature this colour encourages verbal and emotional expression, and creativity (Tofle et al., 2004). Due to its comforting and reassuring quality, it is often used in healthcare environments (Tofle et al., 2004). These qualities are all preferred in the playroom. Besides, just like green, it is a gender neutral colour. The visual plan for the WKZ shows a shade of the colour orange. However, this colour is also considered too dark. A more bright and saturated colour orange is recommended for the playroom to create a friendly and light appearance. In order to create the balanced environment that is desired by the employees of the department, it is important to use ***off-white*** next to the colours. It is important that the colours and the off-white are well distributed over the room. Too many colours can easily cause overstimulation. Besides, the usage of a lot of white makes an environment look clinical. White is perceived as unfamiliar and strange to people (Tofle et al., 2004).

By making use of ***wood*** or materials with a wood look, a homely and friendly atmosphere can be created where the child will feel at ease. It will make the room look different from other treatment rooms in the hospital.

Figure 7.5 Colour scheme presented in ´Beeldkwaliteitsplan WKZ´ May 2018

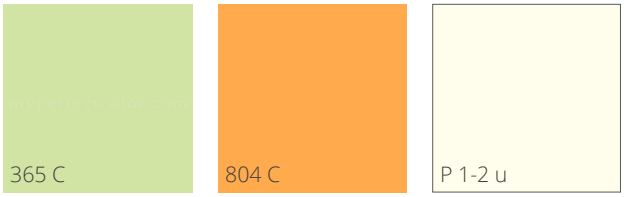


Figure 7.6 Recommended colour scheme playroom

Light

Psychologists indicated that they are not happy with the current lightening in the room. Since the room has no windows, the psychologists desire light that comes closer to natural daylight. Besides, the light is not sufficient to conduct psychological tests. They do appreciate the warm atmosphere the current light creates to make children feel at ease. In this section, two interesting options to improve the lightening of the playroom will be presented. However, it is still advised to let a professional make a tailored light plan for the room. The options presented in the report combined with the research results concerning lightening, can help to clearly communicate what is important.

Option 1: Light panels that mimic daylight

A solution to create a feeling of daylight in the playroom are light panels with nature images from for example *Plafondverbeelding*. These light panels are used more often in hospital treatment rooms without windows to mimic daylight (figure 7.7).

Figure 7.7 What the panels look like in other hospital environments.

The light panels have a colour temperature of 5500 Kelvin which is comparable to average daylight (Abramowitz & Davidson, n.d.). This light can be dimmed to create softer lightning. Besides, it is possible to choose for dynamic lightening which means the light changes over the day just like natural light.

The panels are showing a nature scene. Research shows that the view on nature (also a simulation) makes people feel more relaxed and adds to the extent that they feel at ease in an environment (Van den Berg & de Boer, 2015). This is beneficial since the field research showed that children do not feel at ease when entering the room. In order to make sure the light panels will not distract the child during activities that require concentration, the panels that show the sky are seen as most suitable (figure 7.8).

Figure 7.8 The panels that show the sky are considered most suitable.

Jochum de Boer, owner of Plafondverbeelding, advices to create a light band in the middle of the room. This could be 2 or 3 times 8 panels of 60x60 centimetres. These fit in the current suspended ceilings of 120x60 centimetres with help of a profile placed in between. To create a warm atmosphere the spots in the room could be maintained. A lamp with focused light can be placed above the table where psychological tests are performed in order to guarantee good lightening.

Option 2: Philips schoolvision
Philips Schoolvision is used in school environments and allows teachers to switch between different light settings that mimic the natural pattern of daylight (Philips, n.d.). The system makes it possible to create the right atmosphere for every activity. Therefore it is seems a suitable solution for the playroom. Four predefined light scene settings are available that are composed by varying the light intensity and the temperature of the light.

The following settings are available:

1. ***Normal***
   For regular classroom activities.

2. ***Energy***
   When children can use more energy, for example in the morning or after a break.

3. ***Focus***
   Allows children to concentrate on a challenging task such as a test.

4. ***Calm***
   Creates a relaxed atmosphere and calms children down.

Especially the settings 'focus' and 'calm' seem to be very suitable for the playroom. The setting 'focus' will create the right atmosphere for activities that require concentration (figure 7.9). The option 'calm' can be used during talking and playing (figure 7.10). A panel will allow the psychologist to simply switch between the different light settings which is in line with the desired qualities of interaction (figure 7.11).


Figure 7.9 The 'focus' light setting


Figure 7.10 The 'calm' light setting

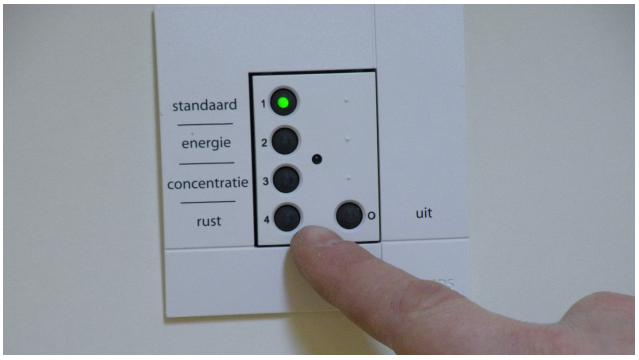


Figure 7.11 A panel allows the psychologist to easily swith between the different light settings.

Sound
Sound coming from adjacent rooms is seen as a significant problem in the playroom. It distracts children when they need to concentrate and can reinforce anxiety. However, after contacting several experts, a solution such as sound reducing panels would not be sufficient. They declare the walls of the room are too thin and should be isolated in order to resolve the problem.

Evaluation with the company mentor

The two concepts were presented to one of the company mentors, Irene Dorrestijn, and evaluated. Both concepts were received with enthusiasm. She indicated that the concepts clearly show solutions for the problems that are currently encountered and the wishes they have to improve the environment.

"The concepts clearly show that you listened very well to our wishes!"
- Irene Dorrestijn, company mentor -

Both concepts have elements that were valued and elements that could be improved. An overview of these is shown in figure 7.12.

"When a child has had his birthday, we can decorate the room by making nice drawings at the whiteboard!"
- Irene Dorrestijn, company mentor -

"I think the psychologists of the Psycho Trauma Centre will be very happy that there is a place where the children can withdraw themselves."
- Irene Dorrestijn, company mentor -

In concept 1 the clear separation between an area where the child can concentrate and an area where the child can freely play was valued. However, mainly during psychological tests , it can occur that someone is observing the session. Therefore, it was considered less convenient that this part of the room is not visible from behind the one-way mirror. The option to use a camera to observe sessions was considered not feasible.

Irene valued the second concept more, because of its openness. The closet that can easily change the appearance of the room from stimulant to stimulant free is also appreciated. This provides the psychologist the control to determine the amount of stimulants in the room. However, a partly sheltered space, as shown in the first concept, is missed. This allows to create a more secure setting during for example EMDR sessions. The challenge to improve the second concept is to make it possible to create a sheltered space that does not (permanently) block the view from the one-way mirror and does not diminishes the feeling of an open environment.

Conclusion

Both concepts were received with enthusiasm and have elements that are valued. Irene valued the second concept more because of its open space and flexibility. The challenge in improving this concept is to create a partly sheltered space within this open environment that does not (permanently) block the view from the one-way mirror.

EVALUATION CONCEPT 1	EVALUATION CONCEPT 2
+ Clear separation between an area where the child can concentrate and an area where the child can freely play.	+ The openness of the room.
+ The availability of a sheltered corner of the room to perform psychological tests and EMDR-therapy.	+ The closet that can easily change the appearance of the room from stimulant to stimulant free (psychologist in control).
+ The friendly, but not distracting appearance of the more stimulant free area.	+ The option to transform the closet together with the child as ice breaking activity.
+ The partly open closet provides the psychologists with control to determine the right amount of stimulants.	+ The underwater theme implemented in the room.
+ Possibility to cover the one-way mirror	+ The multifunctionality of the small partition in the corner: place to withdraw, play element and place to store free standing play material.
+ The pictograms on the boxes	− Lack of a partly sheltered space.
+ The place where children can withdraw	− More difficult to make a distinction between 'work' and 'play' than in concept 1.
+ The whiteboard	
− The part of the room where psychological tests are conducted, is not visible from behind the one-way mirror.	
− The idea to hang drawings on the wall to give a personal touch to the room is not possible in practice due to privacy reasons.	

Figure 7.12 Overview of elements in that were valued or could be improved in each concept.

Iteration

The feedback provided by the company mentor was used in order to improve the design. Since it became apparent the second concept was more valued, this was token as starting point for an idea generation.

A flexible partition was seen as a good solution to create on one hand a sheltered space when required and on the other hand an open environment to observe every part of the room when needed.

Several options for a flexible wall partition were explored. In order to make sure the interaction with the room remains effortless for the psychologist, it is important the partition can be easily placed and removed. Besides this, it is important that the partition is not too high to maintain the open character.

A moveable whiteboard was seen as a good solution (figure 7.13). It combines the wish of a flexible wall and the much appreciated whiteboard. The whiteboard can be placed near the high table to create a more sheltered place or against the wall next to the door to maintain the openess. There it can also be used as a whiteboard during the therapy sessions. This idea is integrated in the final journey design that will be presented in chapter 8.

Figure 7.13 A moveable whiteboard is a good solution for a flexible partition in the playroom.

7.3 A SUPPORTIVE PATIENT JOURNEY

A supportive patient journey will be designed in order to make the child feel more at ease at the start of his/her first therapy session. This section discusses the steps that led to the design of this journey.

Design guidelines

A framework was created to design a supportive patient journey. This framework includes sub-goals for every step, guidelines how to fulfill these goals and what things need to be avoided. The framework is shown in figure 7.15 on page 96 and 97.

In addition, the four design principles to make the child feel at ease will be taken into account (Chapter 5.1) and the guidelines for the design of tactful objects (Chapter 6.2).

Ideation

In order to kick-start the ideation process, four How-Tos were formulated that were related to how the child could feel at ease at different moments in the patient journey (being at home, entering the hospital, waiting in the waiting room and entering the playroom). An individual brainstorm was performed where ideas were generated for every How-To. Furthermore, the How-Tos were used in a creative session with four Master students of the faculty Industrial Design Engineering. The students generated ideas for every How-To after which they were asked to select the most interesting ideas for every step of the journey and to combine these ideas into concepts. Two of the concepts created during the session are shown in figure 7.14.

The ideas generated during the individual brainstorm and creative session were combined. For every step the best ideas were selected and combined in order to create a gradual journey that makes the child feel at ease. Several concepts were generated in line with the guidelines presented in the framework. The concept that was considered most suitable according to the design goal, framework and principles to make the child feel at ease, was selected and will be presented in the next paragraph. The other concepts can be found in appendix 13.

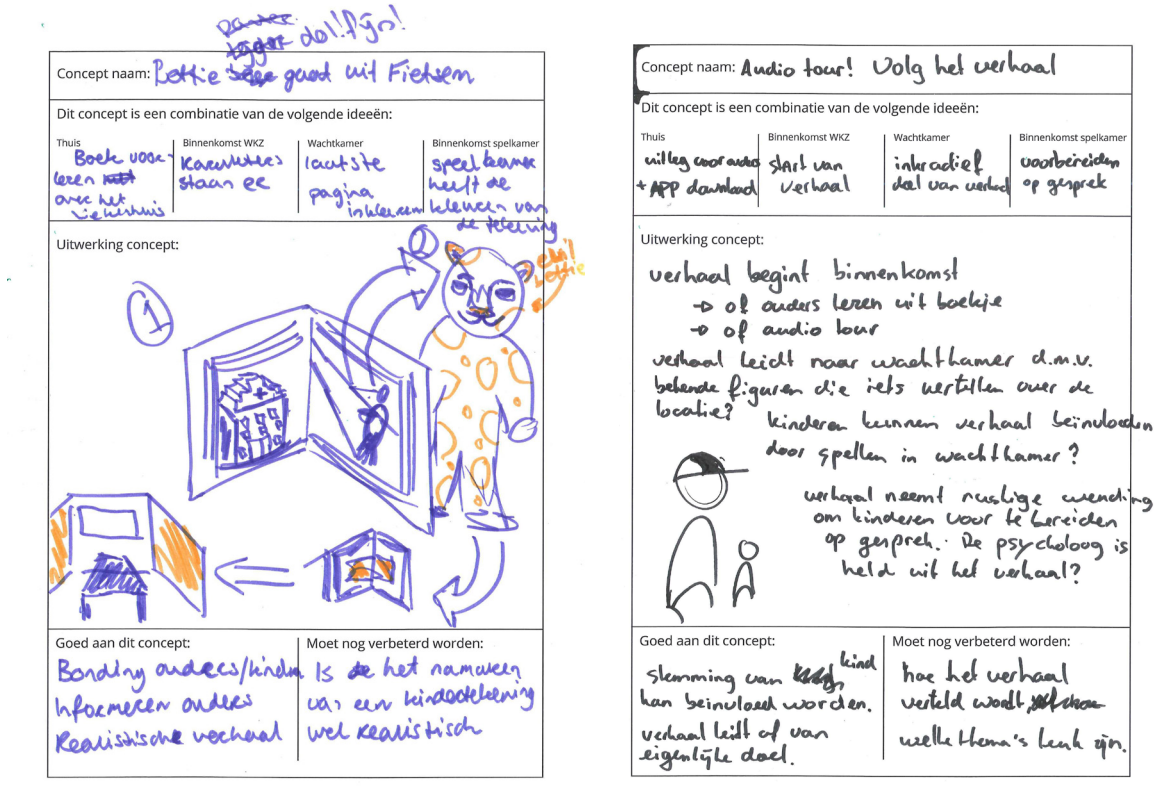


Figure 7.14 Two of the concepts that were created during a creative session with students of the faculty Industrial Design.

FRAMEWORK FOR DESIGNING A SUPPORTIVE PATIENT JOURNEY

Overall patient journey

		Preparation at home	Entering the hospital
GOAL	The child should feel at ease at every moment in the patient journey.	The child has a clear idea what and who to expect and has a positive additude towards the appointment.	It is clear for the parent and child where to go. The child feels in control by finding the way himself.

HOW	• The different steps of the journey are connected in order to create a gradual transitions between the steps.
	• The journey is in line with the vision of Tinker Imagineers (Chapter 6.1).
	• The designs in the patient journey are friendly and create a trustworthy atmosphere (Tactfulness, Chapter 6.2).
	• The designs in the patient journey support the child in a simple and enjoyable way (Tactfulness).
	• The journey involves all the people that are involved in the different steps of the journey (Tactfulness).
	• The journey fits the routine of the family as well as the routine of the appointment (Tactfulness).
	• The designs in the patient journey are in line with the developmental level of children between 4 and 8 years old (Chapter 6.3).
		• Information is provided about the psychologist, environment and procedure.
		• The provided information supports parents in preparing their child for the first appointment.
		• The provided information fits the development level of the child.
		  • The provided information is communicated as visually as possible.
		  • The information is provided in vocabulary that is understandable for the child.
		• The information is provided in style that is appealing to the child.
		• The provided information communicates that the department is different from the rest of the hospital. It shows that it is also a place to play.
		• The design helps the child to develop a possitive additude towards the appointment.
		  • It makes the child slightly curious about the appointment.
			• The child is guided to the department by visual cues.
			• The child is able to find the way to the department with (almost) no guidance of the parent(s). This provides them a feeling of control.

TO AVOID	• The different steps should be not dependent on each other. A bad example would be that the child has to collect something in the waiting room that serves as element to start the therapy session.	• Do not provide the parent extra stress. So make sure the element that is send along with the letter does not ask too much attention of the parent. So a complicated construction box is not the way to go. Besides, it should be no problem when the parent forgets to bring along the element.	

Figure 7.15 Framework for designing a supportive patient journey

Register at reception	Waiting in the waiting room	Start therapy
The child feels welcome at the department and is involved in the process.	The child is distracted in a positive way and prepared for the appointment.	The child feels quickly at ease when entering the playroom for the first time and the psychologist is supported in achieving this goal.
• The desk is at a height that the child is able to register himself/herself and ask questions directly to the person behind the desk.	• The design offers a positive distraction during the waiting. • The design offers a positive distraction for at most 20 minutes. • The child can easily stop with the activity when the psychologist comes for the appointment. • Children in a wheelchair are able to interact with the design. • The activity remains interesting when visiting the department for the second time. • The design allows more children to interact at the same time. • The design allows interaction between the parent and child. • The interaction with the design is simple. The child can start interacting with (almost) no explanation and can interact with the design without help of an adult. • The design invites the child to start interacting.	• The activity does not take more than 2 minutes to complete. • The child can easily stop with the activity to start with the session. • The activity adds to creating trust in the psychologist. • The activity adds to getting to know the environment.
	• The design should not produce sound in order to not interupt the session in the playroom and the parents that have to wait for their child. • The interaction with the design does not make the child too active and energetic. It should not be the case that the psychologist has to spend the first minutes of the session on calming the child down. • It should not be frustrating for the child. It should boost his/her confidence and make him/her feel relaxed.	• The activity does not make the child too active and energetic.

Concept: Submarine

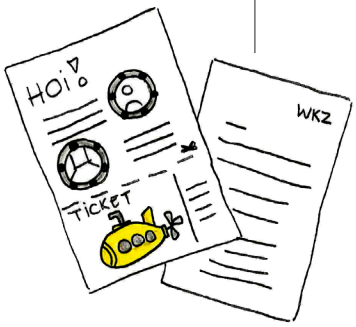
In this paragraph the concept called 'Submarine' will be explained. In this concept the playroom is represented as a submarine in an underwater world. The submarine is used as connecting element throughout the journey. The concept will be explained more elaborately for the different steps of the journey.

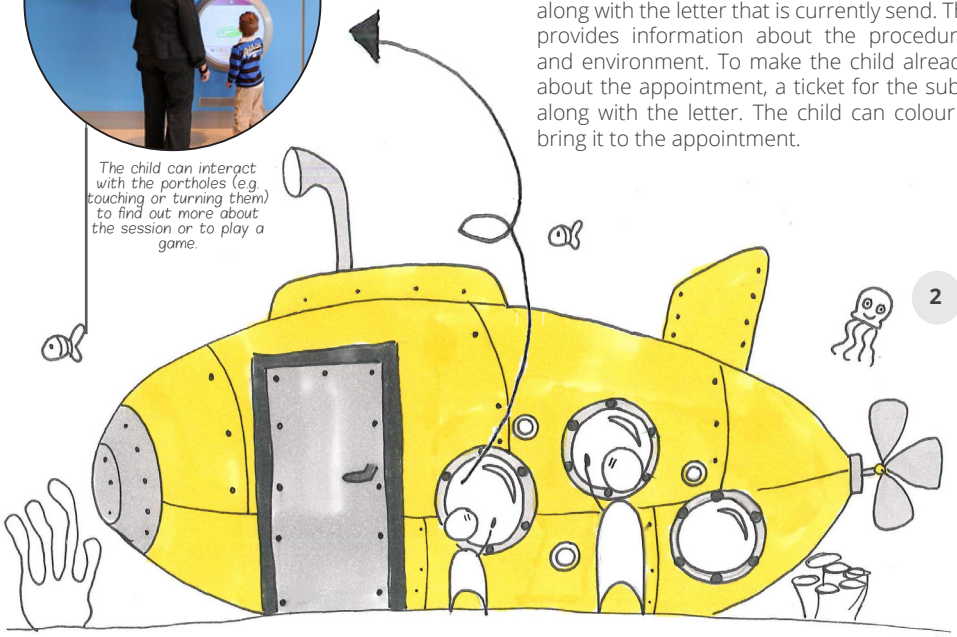
CONCEPT SUBMARINE

The child can interact with the portholes (e.g. touching or turning them) to find out more about the session or to play a game.

1 **The child receives a special letter with a ticket for a submarine**

A special letter that is targeted towards the child is send along with the letter that is currently send. The special letter provides information about the procedure, psychologist and environment. To make the child already a bit curious about the appointment, a ticket for the submarine is send along with the letter. The child can colour this ticket and bring it to the appointment.



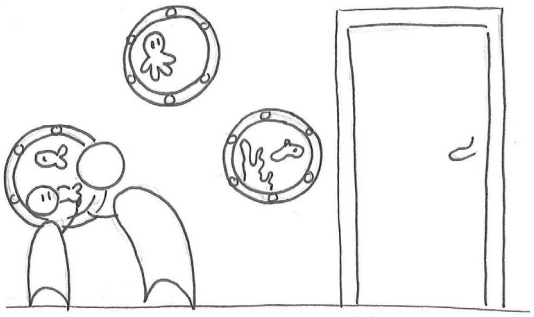


2 **The portholes provide information and distraction in the waiting room**

When entering the department, a big yellow submarine in the water environment is immediately catching the eye. The submarine has portholes where the child can interact with. In this way, the child can get a glimpse of what he/she can expect inside 'the submarine': the child can find out more about the psychologist and the playroom. Besides the portholes allow the child to play a game.

3 **Enter the submarine with the ticket**

The entrance of the playroom is visualised as the door of the submarine. This implies that the playroom is situated in the submarine. This makes the playroom feel like a safe space where you can talk about difficult matters. Besides, it supports the psychologist in making the transition to the playroom easier. The psychologist can invite the child in the submarine and ask for the ticket the child has brought. This ticket can support the first moment of interaction between the psychologist and child. The psychologist can give the child a compliment about the coloured ticket



4 **Look together through the portholes as ice breaking activity**

When entering the playroom the child and psychologist can watch trough portholes together where they can see the ocean and all kind of things can be discovered. They serve as a so called 'kijkplaat'. This can be used as ice breaking activity.

Evaluation
The concept will be evaluated with help of the design principles. The whole journey is connected by one element: the submarine. By already introducing the submarine in the letter that the child receives before the appointment, it becomes a ***familiar*** object and will be a point of recognition when entering the department for the first time. In the letter as well as in the waiting room more information can be found about the appointment which makes the whole journey more ***transparent*** and ***gradual***. The child knows what to expect. Furthermore, the letter is targeted towards the child which makes him/her feel ***involved*** from the first moment. The ticket that is send along with the letter already makes the child slightly curious and therefore the child will have a more positive attitude towards the appointment. By presenting the door of the playroom as the door of a submarine and asking for the submarine ticket when entering the room, the transition to the playroom will be easier and a playful experience for the child.

Evaluation with Tinker
The concept was evaluated with Tessa Lavrijsen, creative consultant and designer at Tinker Imagineers. She indicated that the current concept does not fit with the vision of Tinker on one point. According to their vision, the animal should have a leading role in the design while in this concept the submarine has a leading role. She indicates to be afraid that the submarine will create confusion about the name of the department. The animal that was chosen at the moment of the meeting was the penguin which was later changed to the seahorse.

Although the submarine as a subject did not fit the vision, the other aspects of the concept were valued. Tessa liked the main idea that the child is supported during the whole patient journey. The idea to send something along with the letter to make the child a bit curious is valued. Furthermore, she liked the connection that is made between the hallway and the playroom by providing the feeling of being inside and outside the submarine. In order to make this connection even stronger, she advices to include some elements of the animal and water theme into the playroom.

During the meeting it became clear that the WKZ does not have the money to implement the vision throughout the whole hospital at once. The vision will be first implemented where the WKZ thinks it is the most important. This is not the case for the Medical Psychology and Social Work department. This department and others will follow when the budget allows this. Tessa advised to make use of really low-tech solutions to make it more likely that the concept will be implemented.

Conclusion

The meeting with Tinker made clear that the concept has a higher chance of realisation if it fits with Tinker's vision and visual language. The animal chosen for the department should be the leading subject in the concept. In addition, children should be able to explore the super powers of this animal. At the time of the meeting, the suggested animal was the penguin, this later was changed to a seahorse. A low-tech solution is preferred, due to the limited budget the hospital has available for implementing the vision throughout the hospital.

The fundamental elements of the concept were considered strong and can be subtracted and translated into a new concept that is more in line with Tinker's vision. The strong elements are presented in figure 7.16.

STRONG ASPECTS OF THE CONCEPT 'SUBMARINE'

1 **One connecting theme**
During the journey there is one leading theme: the submarine. This becomes a familiar object and point of recognition for the child. It facilitates a gradual journey.

2 **Special element in the letter**
By sending a submarine ticket along with the letter the child already becomes a bit curious about the appointment.

3 **A playful transition to the room**
Psychologists can invite children in the submarine and ask for their submarine ticket when entering the room. This creates a more playful transition to the playroom.

4 **Feeling of a safe space**
By representing the door of the playroom as the door of the submarine, children will feel they enter a safe space where they can freely talk about their feelings.

Figure 7.16 Strong aspects of the concept ´submarine´

Iteration I: Penguin

From the concept 'submarine' it was clear that the fundamental elements of the concept were strong, but the subject and design should fit with the vision created for the hospital. Therefore, a new concept was created where the penguin is used as leading theme and where the child is able to explore the super power of this animal with help of a tool. This tool should enable a simple and enjoyable interaction as stated by the guidelines to design for tactfulness. The aspects that were considered interesting about the 'submarine' concept are translated into a new concept.

Super powers of the penguin

Penguins are really curious and not afraid. They have almost no natural enemies that live on the land and therefore they are not shy in approaching people. This was seen as a nice message to communicate towards the children: be curious and not afraid of the appointment. Besides, the penguin lives on the land as well as in the sea. However, in the ocean he feels most at ease. He can see in both environments very well (Seaworld, n.d.). This super power was used as starting point for ideation.

Figure 7.14 Super powers of the penguin

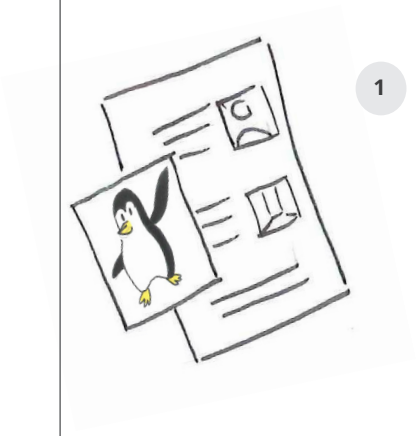
How the child can explore the super powers

Different low-tech tools to give children the possibility to explore the super power of the penguin were explored. Lenticular was considered interesting. Lenticular is a printing technique in which lenticular lenses are used in order to make printed images that can provide an illusion of depth or the ability to change or move when looked from a different perspective. This simple technique allows the child to see all kind of things in the water that adults cannot see due to their higher point of view (figure 7.15).

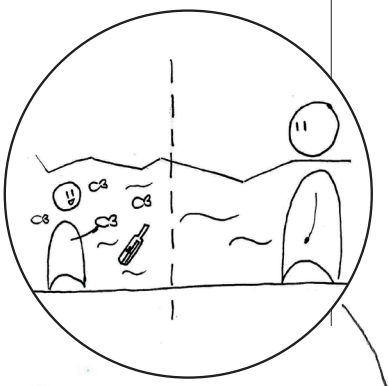
The concept is shown on page 101.

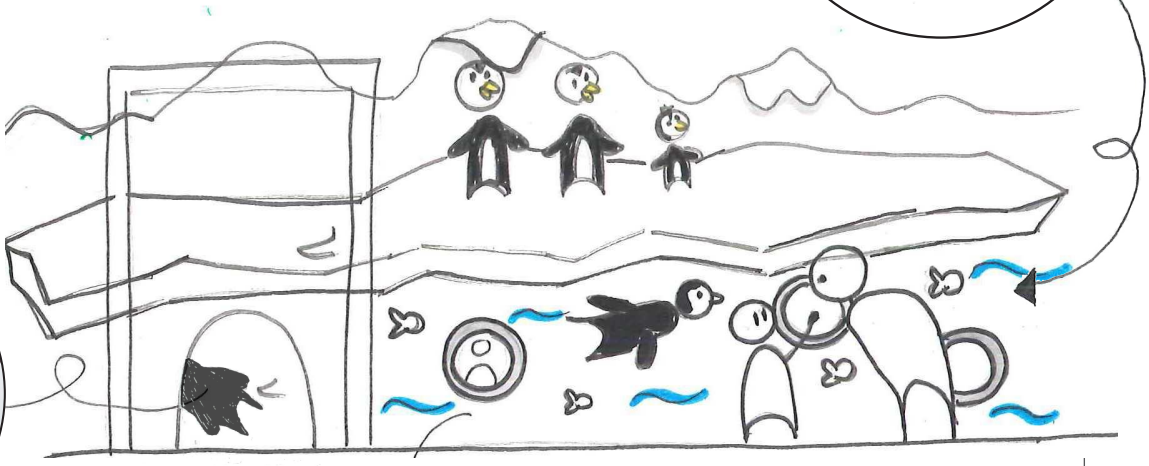
Figure 7.15 The technique lenticular allows children to see different things than parents due to their lower point of view.

CONCEPT PENGUIN



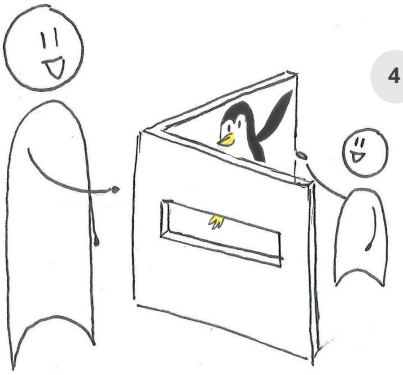
1 **The child receives a special letter that makes him curious**
A special letter that is targeting the child is added to the letter that is currently send. This letter provides information about the appointment and gives a visual impression of the environment and psychologist. In order to make the child already a bit curious about the appointment a card will be send where the penguin and the technique 'lenticular' is introduced.





2 **Experience the special eyes of the penguin in the waiting room**
In the waiting room the lenticular technique is applied to the wall. This allows the child to see all kind of things in the water that adults cannot see due to their higher point of view. They can experience the special eyes of the penguin that allow them to see everything underwater. The child can see so clearly in the water that he can even get a glimpse of the playroom behind the wall. Portholes in the water allow the child to explore the playroom, see the psychologist and play some games for distraction.

3 **A penguin leads the child into the playroom**
When the psychologist comes to get the child he can invite the child to come through the small door that is situated in the water to the playroom. This was done since the penguin feels most at ease in the water. The scene on the wall shows a penguin that is sneaking into the room. This can be used to make the transition to the room easier. The psychologist could say: *"Hey do you see that penguin sneaking into the room? Let's find him!"*



4 **The psychologist and child search together**
As a starting activity the child and psychologist could search together for the penguin that sneaked into the room.

Evaluation

In this iteration the concept was adjusted to better fit with the vision of Tinker while keeping the strong elements of the 'submarine' concept. Again, it was important to keep the design principles in mind. All of these aspect will be reflected on in this evaluation.

This concept is more in line with the vision of Tinker since the concept has the animal as leading theme and the child is able to explore the super power of this animal. The child can experience the good eyes of the penguin with help of lenticular which allows them to see things that adults cannot see.

The penguin serves as connecting element throughout the journey. It can become a ***familiar*** character for the child that supports him/her at several moments in the journey. It offers support at home, in the waiting room and again in the playroom. The penguin is considered stronger in this than the submarine, since the child can feel more connected to an animal than to an object such as the submarine. It can become a friendly partner that the child can trust. This is in line with the guidelines for tactfulness.

Just like in the 'submarine' concept, ***transparency*** and ***involvement*** are provided by the special letter that is send to the child. The child is made a bit curious by the card where he/she is introduced to the technique lenticular. The journey is build-up step by step and with one coherent story which makes the journey ***gradual***.

In order to create the feeling of a safe space, as was realised with the submarine, the scene with the ice block and water is prolonged over the door of the playroom. The child can enter the playroom via a door in the water. In the water the penguin feels most at ease. This representation of a safe space was considered less strong than in the submarine concept since it feels less as entering a closed and secure environment. A connection between the waiting room and the playroom is created by a penguin that is sneaking into the playroom. This penguin can be searched for in the playroom as ice breaking activity at the start of the session.

Evaluation with company mentor

The concept was presented to the company mentor, Irene Dorrestijn, and evaluated in order to find out what could be improved. It was believed that the concept could help to reduce the nervousness of the child

"I really think that the nervousness children experience before entering the room will be reduced with this idea."

"I think when you send something nice along with the letter, children are more excited to visit the department. It will make them a bit curious."

She liked the idea of the penguin that sneaks into the room and has to be found in the playroom. She thinks this will make the first contact easier for the child, but also for the psychologists.

However, it is important that the activity at the start of the therapy session does not take too long since the time to perform the session is short and therefore valuable. It can take maximal one to two minutes. Besides, Irene mentions that it is important that the idea that will be implemented in the waiting room does not make sound. As mentioned earlier in the report, inconvenience of sound from the hallway is experienced in the playroom.

Conclusion

The concept includes the design principles to make the child feel at ease and fits the design vision of Tinker. In addition, the concept was received with enthusiasm by the company mentor and is believed to reduce the nervousness of the child during the journey. This all confirms the main elements in the concept are strong. In the concept 'penguin', the connection between the waiting room and ice breaking activity in the playroom was appreciated.

During the meeting several points of attention came up that were already included in the framework but could be made more specific.

STRONG ASPECTS OF THE CONCEPT 'PENGUIN'

1. **Clear connection hall and ice breaking activity**
   The penguin is sneaking into the room and needs to be found by the child and psychologist in the playroom. This creates a playful transition to the playroom and a clear connection between the waiting room and playroom.

Figure 7.16 Strong aspects of the concept 'penguin'.

Iteration II: Seahorse

One more iteration was performed since the animal was changed from a penguin to a seahorse. As proven in the concepts above, the fundamental elements are strong and can be easily translated into a new design. In this iteration a new journey will be created around the seahorse.

From the last iteration 'penguin' was learned that the idea about the penguin sneaking into the playroom and finding this penguin in the playroom as starting activity was considered as a nice transition from the waiting room to the playroom (figure 7.16). This can be translated into this new concept.

Super powers of the seahorse

Just as in iteration performed around the penguin, the super power of the animal was used as starting point for the ideation process. An interesting characteristic of the seahorse is that it is able to change its colour. The seahorse can change colour to mimic the surroundings in order to hide for predators, but it can also change colour to show off during courtship (Doggett, 2018) (figure 7.17). This characteristic of the seahorse was used as super power and starting point for the ideation.

How the child can explore the super powers

Different low-tech tools to give the child the possibility to explore the super powers of the seahorse were explored such as the use of colour filters and heat pigments. The use of UV light combined with invisible ink was considered interesting to enable children to explore the super power of the sea horse (figure 7.18).

SUPER POWERS SEAHORSE

The seahore has the ability to change its colour. Therefore it can hide itself very well!

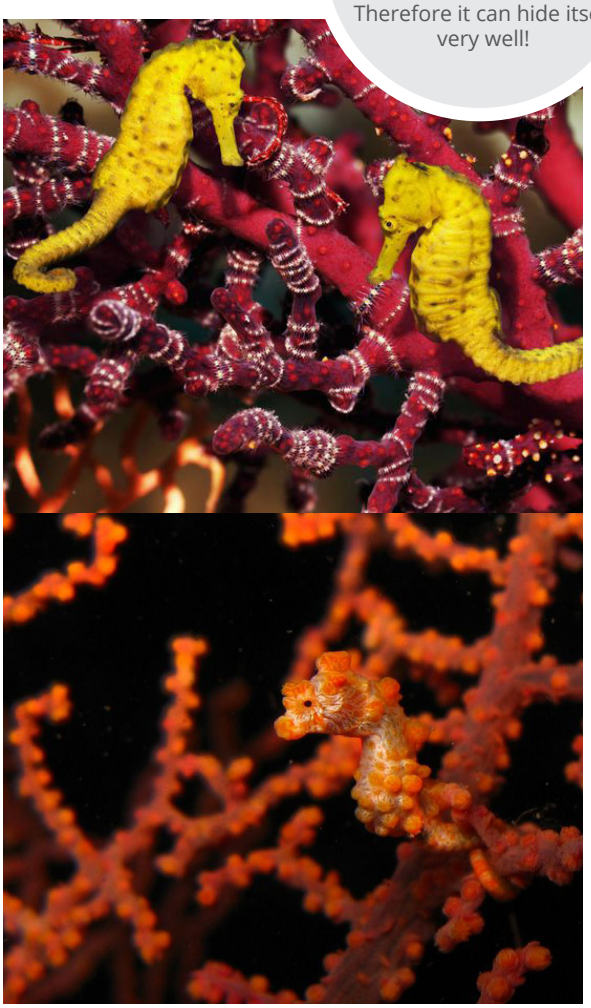


Figure 7.17 The seahorse has the ability to change its colour.

EXPLORE THE SUPER POWER

• UV light

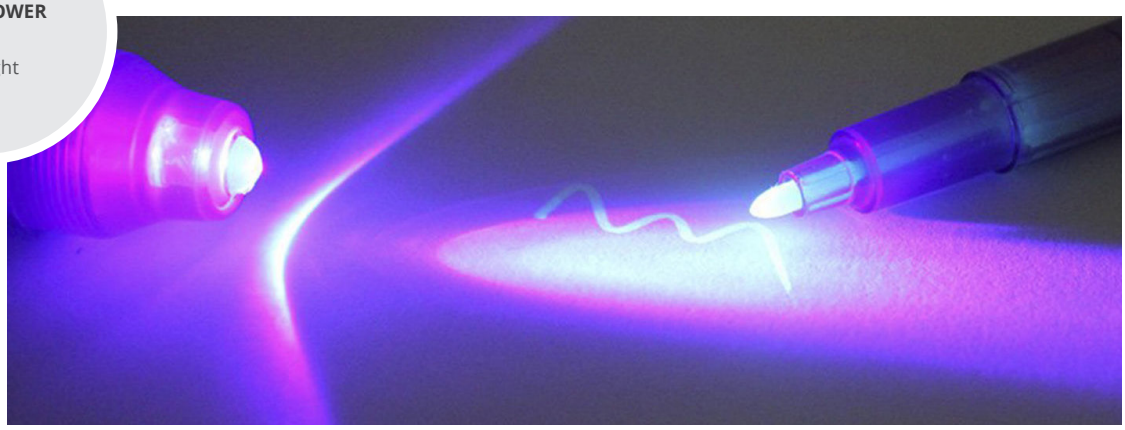
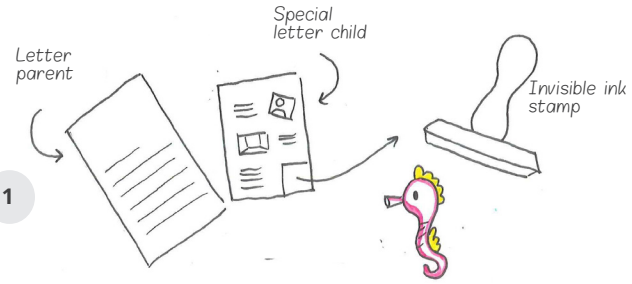


Figure 7.18 UV light allows the child to explore the super power of the seahorse

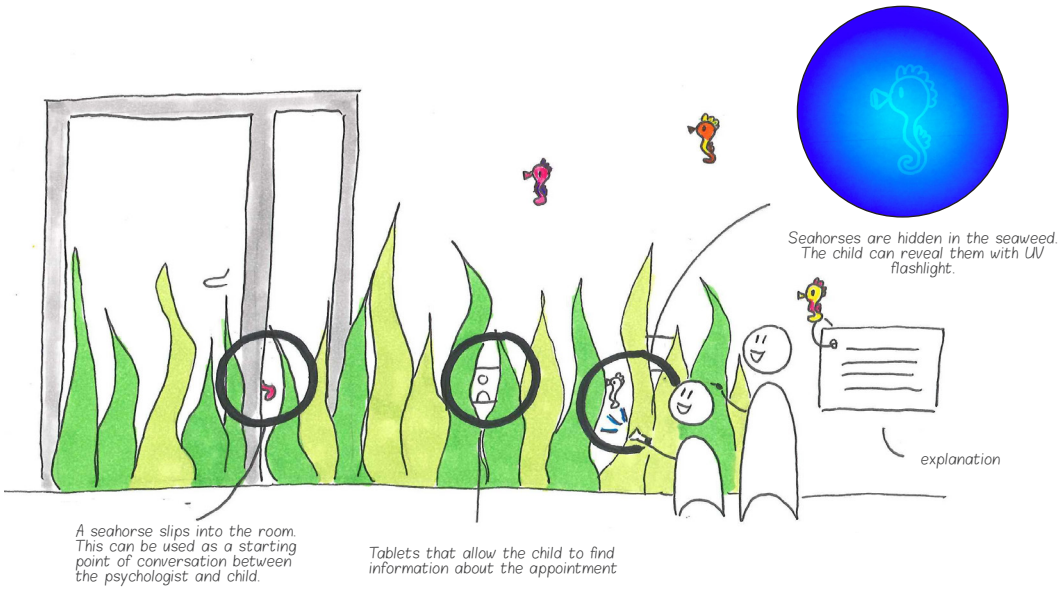


1

The child receives a special letter that makes him curious
Just like in the submarine concept, a special letter will be send to the child along with the letter that is currently send. This letter provides information about the appointment and gives a visual impression of the environment and the psychologist. In order to make the child already a bit curious about the appointment, a stamp with invisible ink is used to create an invisible image on the letter. Next to this, a text is placed with: *"Curious what we have hidden in this letter? Bring the letter and find it out!".*

2

The child receives a magic tool at the reception
When registering at the reception of the department, the child receives a UV flashlight. This allows him to reveal the hidden seahorses in the waiting room.

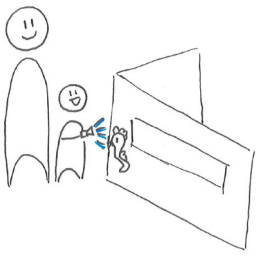


3

The child searches the hidden seahorses in the waiting room
The child can search for the seahorses that are hidden between the seaweed placed on the wall of the waiting room. The children can reveal these seahorses by moving the seaweed aside and pointing the UV flashlight on the seahorse. Only the child can see the seahorses, which gives him a feeling of power. The design also allows searching together and includes in this way all people involved. This is in line with the guidelines for tactfulness. For example, parents can hold back the seaweed to help the children in their search. Children that are playing next to each other can help each other and show their findings. In order to create the feeling that the playroom is a safe space, just like in the concept 'submarine' and 'penguin', the seaweed is displayed over the door. Besides, tablets are hidden in the seaweed. These allow the child to explore the playroom and see his psychologist.

4

The seahorses lead the child to the playroom
When the psychologist comes to get the child for the appointment, (s)he can use the seahorse that is sneaking into the room as starting point of the conversation. This principle was also used in the concept 'penguin'and appreciated by the company mentor. The psychologist can say something like *'Hey do you see that seahorse sneaking into the room, shall we search for it together in the room? Bring your flashlight, because only then we can see it!".*



5

The psychologist and child search together for the seahorse in the room to break the ice
A seahorse of invisible ink will be hidden somewhere in the playroom. The child can find it with the flashlight. This can serve as ice breaking activity.

Evaluation

Again it was tried to maintain the strong elements of the previous concepts, to make it fit with the vision of Tinker and to keep the design principles in mind.

This concept is more in line with the vision of Tinker since the child really gets a tool to explore the power of the animal. Just as in the concept 'penguin', the animal is used as connecting element throughout the journey. In addition, in this concept the super power of the animal is taken as the leading element. The animal as well as its super power come back in every step of the journey which creates a certain ***gradualness*** and ***familiarity***. In order to create the feeling of a safe space, the seaweed is also covering the door of the playroom. Again, this representation was considered less convincing than the submarine, but concessions needed to be made to fit within the theme. A connection with the playroom is made by the seahorse sneaking into the room and that can be found in the playroom with help of the same tool the child used to find the seahorses in the waiting room. By also making use of the tool in the playroom, this connection was considered stronger than in the previous concept.

Transparency and ***involvement*** are again provided by sending a special letter to the child with information. The child will feel even more involved because he/she receives a special tool at the department where only he/she can see the seahorses with. This makes the child feel important.

Evaluation with Tinker
The concept was evaluated with Tessa Lavrijsen from Tinker. She indicated this concept is in line with the vision they have. She values that the connection between the different steps in the journey is created with help of the animal and its super power.

Since the last evaluation, Tinker's vision for the WKZ was further developed. Tessa explains they distinguish three layers in their design:

1. Environment layer
This layer shows the natural environment. For this department this is water.

2. Storytelling layer
This layers exists of elements that transform the natural environment into a story and trigger the child's curiosity. For example, what is written in the letter in that bottle on the bottom of the sea?

3. Interaction layer
With this layer children can actually interact: with help of a tool they can discover the super powers of the animal.

According to Tessa the environment layer and interaction layer are covered in the concept. However, the storytelling layer is missing at the moment. When this layer is added, the design would fully fit with the vision of Tinker.

Evaluation with company mentors
The seahorse concept was evaluated with both company mentors. The concept was received with enthusiasm. They believe the concept will help to reduce the nervousness of the child and creates a more gradual transition towards the playroom.

" I think this will be a really nice transformation for our youngest children. It will certainly make the transition from the hall to the playroom much easier!"

"I like that the whole setting looks calm, but still appealing for the children!"
Jet - company mentor & head of the department

They mentioned it would be a benefit if the placement of the invisible seahorse can be changed in the playroom. It can then be used as a starting activity in the next sessions or it can be used to do a game at the end of the session or in a break.

Conclusion

It can be concluded that the concept fulfils the design goal and is also in line with the vision of Tinker and the wishes of the department. This makes this is a feasible concept direction.

Points of improvement were provided by Tessa Lavrijsen as well as the company mentors. Tessa Lavrijsen mentioned that the concept would fit even better with their vision if the so called 'storytelling layer' is added to the design. Including this in the concept, would not only make it fit better with the design vision of Tinker, but it could also enhance the concept. How it can enhance the concept, will be explored on page 108. The company mentors suggested that the element that needs to be searched for in the room should be moveable. In this way it can be used at different moments of a session.

Further detailing the design

Now the concept direction is validated with the company mentors and Tinker Imagineers, the concept can be detailed further. Several elements of the concept needed to be more detailed in order to be able to evaluate it in the context.

The special letter for the child

In order to be able to create the special letter for the child, it was important to identify the wishes of the department first. The current letter that is send to children and their parents was discussed including the flyer with more information that is often send along with the letter. Besides, the part of the children's website of the WKZ where information is provided about the department was discussed. Here some information about the department is provided and some photos of the hallway and the playrooms. This provided some new guidelines that were not included in the framework yet (pages 96 and 97).

- ***Avoid words that can evoke negative emotions***

It is important to avoid words that could evoke negative associations. For example the word 'therapy room' is currently used on the website. Children with medical anxiety could have negative associations with this word.

- ***Play should be minor***

It should be clear that the primary goal of the appointment is to talk about difficult matters. The fact that there will be also some time to play should be minor.

- ***Format in line with flyer parents***

An A5 format is preferred in order to make it easy to send along with the letter and to make it in line with the flyer that is currently send to inform parents.

With the input of the department in mind and the guidelines included in the framework, the special letter for the child was created which is shown in figure 7.19. The most important design considerations will be discussed on the next page, page 107.

Figure 7.19 Flyer for children in the age 4 to 8 years old that will visit the department for an intake session

FRONT SIDE

The header of the flyer is made similar to the flyer that is send to the parents in order to create a coherent package.

The main message is provided on the front of the flyer (reason of the appointment and the procedure during the first session).

Research showed young children are most nervous because they do not know who to expect, therefore a photo of the psychologist is shown. In this way it can become already a familiar face before the appointment.

Subtitles are added to create a clear overview and enhance the readability.

The seahorse is introduced in the flyer. In this way the child can already become familiar with this animal and therefore can provide recognition during the rest of the patient journey.

BACK SIDE

The journey of the first appointment is presented in text supported by images to provide an idea of what the child can expect and will see.

The flyer introduces the seahorse search in the waiting room and the special tool to reveal the seahorses. This will trigger the child's curiousity.

A view questions are applied in the text in order to evoke a conversation between the parent and the child and can help to make the child feel more involved.

The letter is created in a visual style that is appealing to children in the age 4 to 8 years old.

The child is made a bit curious by a hidden element on the flyer. In this way the child can develop a positive additude towards the appointment.

Seahorse search in the waiting room
The search for the seahorses in the waiting room was developed more in detail. As indicated above, the concept would fit better with the vision of Tinker if so called 'storytelling elements' are added to the design. These elements can give more character to the animals and can translate the underwater scene into a story. Certain elements in the scene make the child fantasize about what these elements are doing there. This helps to create a world where the child can easily immerse in. Adding storytelling elements will not only make the design better fit with the vision of Tinker, it can also enhance the concept. Storytelling elements will be implemented in several ways in the design.

1. Guide the search
Instead of only triggering curiosity, storytelling elements will be applied in the concept to guide children in their search. This ensures the children will not get frustrated. Besides, it can trigger them to start searching. An example of how this could be realized is shown in figure 7.20.

2. Enhance the game play
Next to guidance, storytelling elements are used to enhance the game play. As indicated in chapter 6.3, children in the targeted age range are in two different developmental stages and are therefore interested in different kinds of play. Children till the age of 7 are mainly interested in fantasy play. The storytelling elements can be used to trigger the children's fantasy. Children in this age range also develop an interest in playing games with rules. From the age of 7, this type of play is preferred. Small assignments or puzzles could be used to enhance the search.

During the evaluation in the context, a first attempt of implementing the storytelling elements will be made in order to find out its effect. This evaluation will be presented in the next paragraph.

Seahorse hiding in the room
In order to be able to find the seahorse in the playroom within two minutes, a clue could be added. The children have already learned that the seahorses hide themselves behind the seaweed. Therefore the seahorse will be placed behind seaweed to give a hint on where the seahorse could be found. This will be tested in the evaluation in the context.

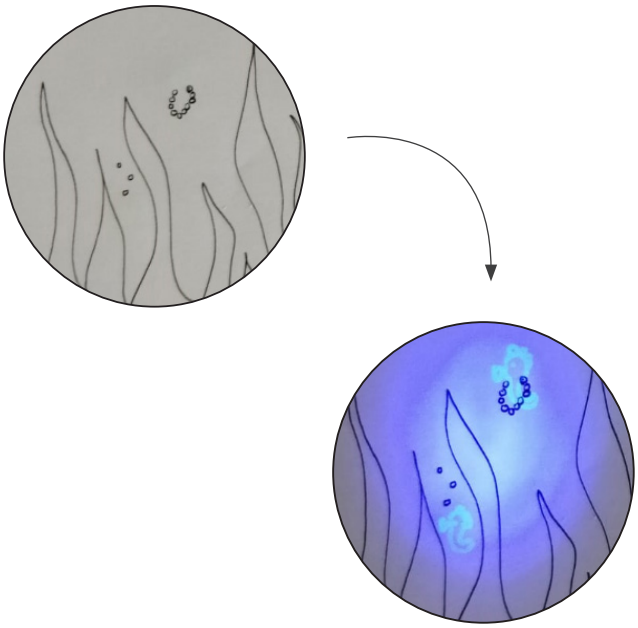


Figure 7.20 Adding 'storytelling elements' can help to guide the children in their search for the seahorses.

Evaluation in the context

The concept was evaluated at the Medical Psychology and Social Work department in order to find out if the design goal was fulfilled and to identify how the current design can be improved.

Method

The designs that were created to support the child at different moments in the patient journey were evaluated by conducting interviews with the different stakeholders (children, parents and psychologists) and by observations.

An outline for the evaluation study was created which can be found in appendix 14. Due to circumstances which are inherent to testing in a hospital environment, it was not possible to test all the steps of the journey and not as extensively as indented. The transition to the playroom and the ice breaker as start of the session could not be tested. These steps were discussed with several psychologists. As indicated above, psychologists are not only users of the design, but can also be seen as experts of the experience of children.

Procedure

The following procedure was followed. The children and their parents were waited for when arriving at the department. When enough time was left before the start of the appointment, 15 minutes or more, they were asked if they wanted to participate in the evaluation study. When less time was available they were asked if they were available to participate in the study after their appointment.

The evaluation started with showing the letter to the parent and the child after which some questions were asked. Next, the new design for the waiting room was briefly introduced and the flashlight was provided to the children. While the child and parents were interacting with the prototype, the graduation student observed them. At the end some questions were asked to the child and the parent about how they experienced the interaction with the prototype.

On the evaluation day, several psychologists and social workers came by to talk about the concept which also provided insights. Furthermore, the letter was discussed during a weekly meeting with several psychologists. At this meeting the graduation student was not present, but the most important conclusions of this meeting were discussed with the company mentor.

Participants

Prior to the evaluation study, together with the company mentor several children were selected to participate. These children were seen as suitable participants because they have the right age and the reason for their visit to the department is in general considered less severe than others.

In total three evaluation sessions were conducted in which the letter for the child and the element in the waiting room were evaluated. In total 5 children participated in the test under which the sister of a patient and her sister's friend. An overview of the characteristics of the participants is shown in figure 7.21.

Prototypes

Several prototypes were created to evaluate the new patient journey.

Figure 7.21 Characteristics of the participants

Figure 7.23 Examples of the seahorses that were hidden.

Figure 7.22 The prototype of the play element for the waiting room including storytelling elements and small assignments.

Figure 7.24 The prototype to facilitate the transition towards the playroom.

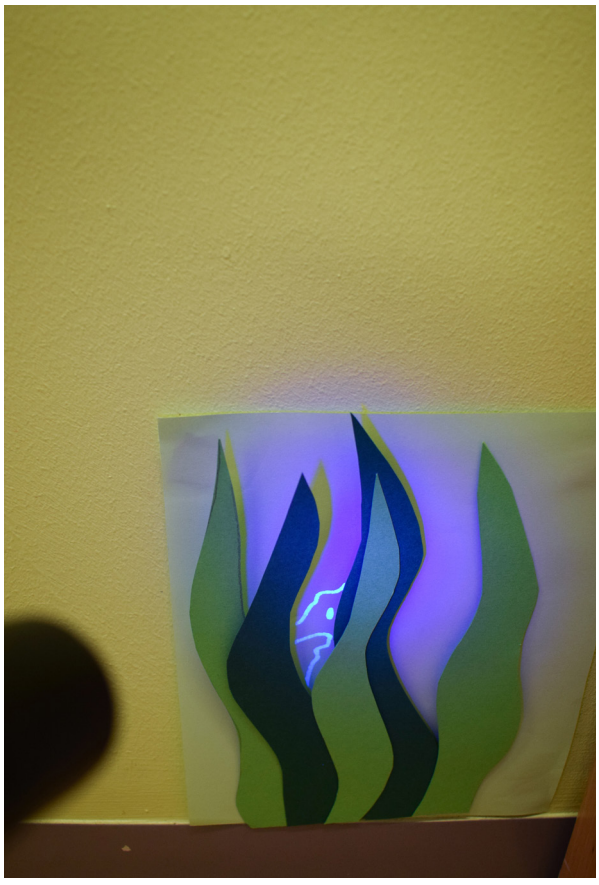


Figure 7.25 The prototype to facilitate the search for the seahorse in the playroom.

1. The special flyer for the child with the psychologist of the children that were planned to participate in the research was printed.

2. The prototype of the play element for the waiting room was created out of paper (figure 7.22, page 110). The prototype was mainly focused on evaluating the interaction, the aesthetics were considered less important. With invisible ink 10 seahorses were hidden behind the seaweed. A story was created that some of seahorses had stolen treasures out of a treasure chest on the bottom of the sea. As story elements, several treasures were displayed floating in the sea to provide the child a first hint. In figure 7.23, some of the seahorses are shown. Some small assignments were placed next to the play element (e.g. How many seahorses have stolen something out of the treasure chest? What did they steal? How many seahorses can you find?). A booklet with pictures of the playroom was placed between the seaweed to provide the child with information about the appointment.

3. Seahorses cut out of paper were placed on the door of playroom one to evaluate the playful transition towards the playroom (figure 7.24, page 110).

4. An prototype was created to evaluate the search in the playroom. An element with an invisible seahorses hidden between some seaweed was made (figure 7.25, page 110).

Results & discussion

The results of the evaluation study will be discussed for each step of the journey for every stakeholder.

Special letter for the child

All parents indicated that the letter could be helpful in preparing the child for the first appointment and they all mentioned the photo of the psychologist as the most positive aspect of the letter.

"I did not exactly know what to explain to her on forehand, but I think such a flyer can definitely support parents in explaining their child what they can expect."
- Father of a 6 year old girl with developmental obstructions -

I think it is really positive that there is a picture of the psychologist on the letter. We visited the department before a long time ago, I was able to remember what the psychologist looked like, but my daughter not. I think this letter could have helped."
- Mother 9 year old girl with medical anxiety -

The psychologists also think the letter can help the children to feel more at ease before an appointment. They think it is nice that the child feels involved from the first moment. Involvement was seen as an important design principle to make the child feel more at ease (chapter 5.1).

"I think it is really nice to send something specially targeting the child, this will make they feel taken seriously. It feels like an invitation for them."
- Irene, Psychological assistant -

The visual style of the letter is considered inviting and appealing to the child. Some small suggestions for the text were provided in order to make it more in line with the developmental level of the child. Furthermore, the possibility to add two pictures is preferred because sometimes two psychologists are present at the first session.

The biggest point of discussion among the psychologists was the picture on the letter. They agreed it could help to reduce the nervousness of the child. However, some psychologists see some practical issues. The main issue is that the psychologist can be replaced by someone else due to illness. The psychologists are afraid that it can be difficult for the child to adapt to sudden changes. In addition they foresee more work for the receptionists in making the flyer and whenever there is a new psychologist, new stickers need to be made.

The initial research shows that the most important cause of nervousness for young children is not knowing who to expect. In addition all evaluation studies show that the photo of the psychologist is seen as the most valuable element of the letter. Therefore it is still advised to include the photo. Whenever there is a change of psychologist, a solution is proposed. When the child arrives at the department the receptionist tells the child the psychologist is unavailable and therefore another psychologist will help the child. The receptionist suggest the child to search for the pictures of the psychologists hidden in the seaweed to find his/her new psychologist. The little extra time that is needed to prepare the special letter, will not only provide a smoother journey for the child and parents, but

also helps to make the processes at the department more smooth.

Play element waiting room
The design for the waiting room was evaluated with all 5 children. Several insights were obtained.

• Interaction between children in multiple ways
In the first session the prototype in the waiting room was tested with the sister of a patient and her friend. This provided insights in how the design could be used by multiple children at the same time. The prototype enabled several different interactions between the children.

They both started at one side of the paper and told each other what they saw. Some of the storytelling elements were a bit ambiguous which resulted in a discussion between the children that ended with laughter.

"A seahorse with a jumping rope!"
"Nooooo that is a pearl necklace!"
- Sister of a patient and her friend, 7 years old -

Furthermore, the assignments presented on the wall led to a nice interaction between the children. For example, the children both counted the seahorses and came to a different number, therefore they tried again by counting together. The questions: "Which seahorses are part of the same group?" and "Which seahorses are doing something sneaky?" really triggered the fantasy of the children.

"The seahorse with the crown can pop the balloon with its crown!"
- Sister of a patient and her friend, 7 years old -

When the child and mother were finished with the appointment and came to take a look, the sister and her friend showed the child and mother all the seahorses they found. This triggered the child to try it out herself.

As can be seen, the design allows children to interact together. It should be stated that these children are friends/sisters which can lead to a different interaction than when two children that are not familiar to each other play together. However, the evaluation did provide multiple insights in the possibilities of playing together.

• The child and parent work together
The girls participating in the second and third session were a bit shy. Therefore in both sessions father and daughter searched the seahorses together. In the second evaluation, the child and parent held the flashlight together and explored the different

Figure 7.26 Interaction between parent and child during one of the evaluation sessions

seahorses. The father moved the seaweed so they were able to find all the seahorses. This was again observed in the third evaluation as could be seen in figure 7.26. In both sessions the different seahorses and their activities were discussed between child and parent. The parents created small back stories to expand on elements seen in the design.

"Look this one also stole something out of the treasure chest!"
- Father of a 6 year old girl with developmental obstructions -

As observed, the design supports interaction between the parent and child. Since searching and moving the seaweed at the same time can be challenging for a child, the design encourages some sort of teamwork between parent and child.

• A positive distraction
All the children were eager to find all the seahorses and perform the little assignments. Having a goal to focus on immersed them in the design. Furthermore, the children laughed and had fun when seeing some of the seahorses do unexpected activities. In the secondy session, the girl was really shy. When she saw the seahorses playing soccer she laughed and opened up a bit more.

• Easy and inviting
The children understood what to do and were eager to start exploring, sometimes with a bit of encouragement from the parent. The flashlight with a button on the back was a bit difficult for the children, but with some help they were able to start exploring. The flashlight used in the test was not designed specifically for children and can be changed.

• No attention was paid to the information hidden in the seaweed
It was interesting to see that the children paid no attention to the booklet with pictures of the playroom. Not even when finding the seahorse that was partly covered by the booklet. This can be caused by different reasons. All the children that participated in the study had visited the playroom before, so they already knew what it looks like. Furthermore two evaluation studies were conducted after the session. Besides, it was not clear that it was a booklet and more photos could be seen. It can be also questioned if this is the right place to provide this information. Children are immersed in the playing and maybe do not want to stop with their search to look at the room.

• Transition towards the playroom and ice breaker in the playroom
As indicated above, it was not possible to test the transition to the playroom and the ice breaker to start the session. However, the concept was explained to several psychologists in order to get their expert view on it. They indicated that the concept could make the transition to the playroom easier especially for children that are really nervous and shy. By using the seahorses sneaking into the room and the ice breaking activity the children will be distracted from the fact that they are going to an unfamiliar environment with unfamiliar people. This will lead to a more relaxed start of the session.

A psychologist of the PTC also indicated that the new supportive journey could be of great value for their children.

"I think for children that are really nervous, especially children between 4 and 10 years old that are sexually abused, this new journey can be of great value!"
- Lisa, psychologist PTC -

Conclusion

The evaluation provides several indications that the new patient journey supports a more gradual transition towards the playroom and therefore reduces the nervousness of the child. The letter was received positively by parents as well as psychologists. Parents indicated that the letter could support them in preparing the child for the first appointment. Especially the picture of the psychologist was seen as an important element in the letter to reduce the nervousness of the child. The new waiting room experience provided a positive distraction for children. Children are distracted by the goal of finding all the hidden seahorses and often have to laugh about the strange things the seahorses do. Furthermore, the design allows and encourage children to play together with their parents or other children. Playing together and cooperating can help to reduce the nervousness of the child. Although it was not possible to test the transition towards the playroom and the ice breaker in the playroom, positive reactions from the psychologists were received. Multiple psychologists indicated that these elements could help to make entering the playroom easier for the child and to create a smoother start of the session.

Adjustments for the final design

Some final adjustments for the final design can be pointed out. The psychologists indicated that the flyer should provide place for pictures of two psychologists. In addition, they suggested some textual changes. These suggestions will be implemented in the final design. The evaluation study showed that the storytelling elements and the assignments enhanced the experience. However, in order to create a gradual journey, the elements should be more embedded in one coherent story that has a closer connection to the context. This will be realized in the final design. The information provided in the waiting room was not used by the children during the evaluation. Since the children are encouraged to bring the flyer to the first appointment, the information in the waiting room was considered less neccessary and will therefore not implemented into the final design.

8. THE FINAL DESIGN

In this chapter the final design will be presented named 'Gentle First Contact': a tactfully designed patient journey and therapeutic environment in order to make the child feel at ease to improve psychosocial therapy sessions. The elements that are designed to support the child during the patient journey and the new therapeutic environment will be discussed, after which they will be connected into one storyline. In addition, it will be described how the designs can be implemented. The chapter will be closed with a conclusion, a discussion and a number of recommendations.

8.1 GENTLE FIRST CONTACT

Gentle first contact is a tactfully designed patient journey and therapeutic environment to make children feel at ease to improve psychosocial therapy sessions. Several elements are designed to support the child at different moments of the patient journey in order to make him/her feel at ease at the start of his/her first therapy session. In addition, a new design for the therapeutic environment is created that supports the psychologist in making the child feel at ease. In this environment the psychologist can easily switch between different atmospheres to support different sessions and children with different characteristics. In order to create a gradual journey, the marvellous animal related to this department, the seahorse, is used as a connecting element throughout the journey and in the therapeutic environment. The seahorse supports, guides and distracts the child at moments he/she needs this.

In this section, the final design of the elements that are created to support the child, and other stakeholders, during the patient journey will be presented. In addition, the final proposal for the design of the playroom will be shown. After this, a scenario will be provided to show how the different elements are connected. Lastly, it will be discussed how the different elements can be realised.

The supporting elements during the patient journey

1) A special flyer to prepare the child

A special flyer is created that children will receive before their first therapy session at the department. The aim of the flyer is to prepare children for the appointment and to support parents in preparing their child. With the letter the child is ***involved*** from the first moment. The child will feel important and taken seriously. The flyer explains and shows visually what the child can expect (***transparency***). Pictures of the psychologist, the department and the playroom will give the child a good impression what he/she will see during the first appointment. The child knows what to expect and will feel confident. In addition, he/she will be less focused on each person passing by in the waiting room because he/she already knows what his/her psychologist looks like.

The flyer introduces seahorses that are hidden at the department, which the child can find with a magic light. In addition, a similar hidden element is placed on the letter. This element can only be revealed with the magic light the child receives at the department. The child will become a bit curious and will develop a positive attitude towards the appointment. The seahorses introduced in the letter are the connecting theme throughout the journey. By already introducing the seahorse in the flyer, it becomes a ***familiar*** element for the child that makes him/her feel at ease during the rest of the journey. The flyer is designed in a way that it is appealing to children in the target group and shows the child that this department is different from the rest of the hospital. This will reassure children with medical anxiety.

Figure 8.1 The flyer to prepare the child for the first appointment: a hidden element on the flyer can be explored with a UV light.

2) Seahorse search in the waiting room

When the child and the parent enter the hospital, they are guided towards the department by seahorses displayed throughout the halls. At the reception the child receives the magic UV flashlight which allows him/her to reveal the seahorses that are hidden in the waiting room environment (figure 8.2).

The hidden seahorses have stolen play material out of the playroom and the child is asked to help the psychologist to find them. The seahorses have hidden themselves behind the seaweed and the child can reveal them by moving the seaweed aside and shining the UV flashlight on them. All the seahorses between the seaweed are playing with play material that can also be found in the playroom (figure 8.3). In this way the child is already introduced to the play elements in the room.

The design invites parents and children to work together since two tasks need to be performed at the same time: moving the seaweed and pointing the flashlight. Playing together will make the child and the parent feel at ease.

The seahorses are displayed doing funny things to further intrigue the children once they have found them (figure 8.4). They can make the child laugh, which makes him/her feel more relaxed. Small assignments can evoke conversations and ensure children can entertain themselves for a longer period of time (figure 8.5).

The child will become immersed in the search for the seahorses which will distract him/her from thinking about the appointment. The flashlight provides the child with a feeling of control and confidence.

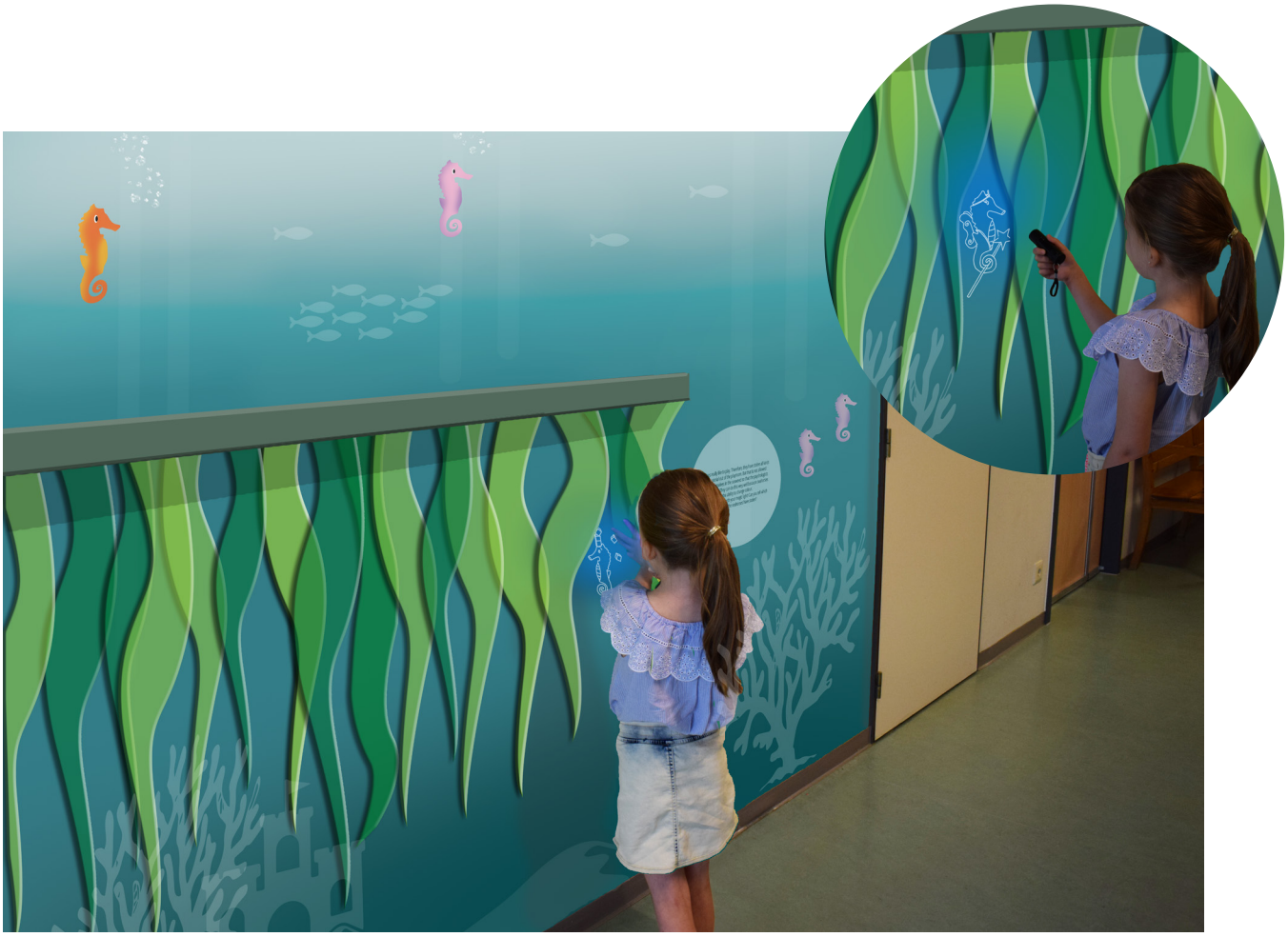


Figure 8.2 The child can reveal the seahorses by moving the seaweed aside and point the UV flashlight on the seahorse.

Figure 8.3 An overview of all the seahorses that are hidden behind the seaweed: they all have stolen play material out of the playroom.

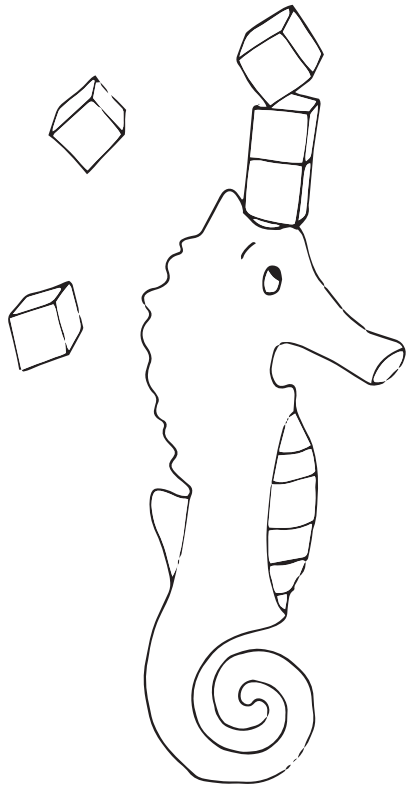


Figure 8.4 An example of one of the hidden seahorses that does something funny.

Figure 8.5 Sings on the wall: the introduction and small assignments

3) A playful transition to the playroom
When it is time for the appointment, the psychologist comes to meet the child in the waiting room and invites him/her in the playroom. Although the psychologist as well as the playroom are already introduced by the photos on the flyer, this will still be a difficult moment for the child. Therefore, a more playful transition to the playroom is created.

The hidden seahorses in the waiting room can be used as a starting point for conversation between the child and the psychologist. The psychologist can ask the child if he/she has seen which play material the seahorses had stolen. Stickers of seahorses placed on the door of the playroom continue the storyline and support the psychologist in creating a smooth transition to the playroom (figure 8.6). The psychologist can point out seahorses on the door that are sneaking into the room to steal more play material and ask the child if he/she wants to help her to find the seahorse hidden in the room with the special tool. In this way a connection is made with the first activity in the room and again the child is empowered by giving him/her a feeling of responsibility and some form of control. By continuing the storyline, a gradual transition towards the playroom is facilitated.

4) Search for the seahorse as ice breaking activity
The psychologist and child can search together for the hidden seahorse that tries to steal play material out of the playroom. By performing the searching activity at the start of the session, the child will already become more familiar with the psychologist. This will make it easier for the child to talk to the psychologist during the session. In addition, he/she will become more familiar with the environment. The seahorse is hidden near the play material and looks a bit guilty when the child discovers it is stealing the play material (figure 8.7). After this, it is time to start with the therapy session. The child will feel confident and relaxed and therefore the session can be performed in an optimal way.

The search element is moveable so it can be used multiple times and at different points in the therapy session (e.g. as a closing activity at the end of the session).

Figure 8.6 The seahorses on the door support the psychologist in creating a playful transition towards the playroom.

Figure 8.7 The seahorse that is hidden in the playroom.

A new therapeutic environment

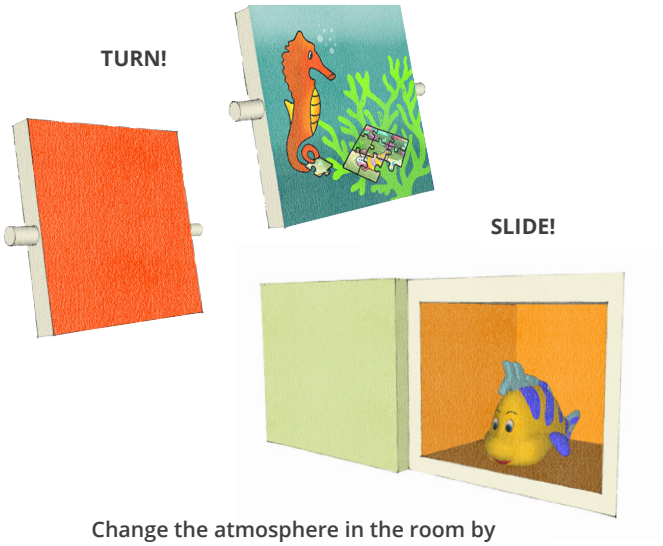
At the end of the introduction journey the session takes place in the playroom. This playroom is redesigned to further strengthen the child's feeling of being at ease. Furthermore, the room is optimized for the psychologist to facilitate the sessions. The psychologist can easily switch between different atmospheres to support children with different characteristics and different sessions in an optimal way.

A flexible environment is created which can be switched from an environment that allows children to concentrate to an environment where the child is encouraged to play. The environment can be adjusted by transforming the closet.Several turnable panels in the closet have on one side a neutral colour which suits activities where concentration is required, and on the other side an appealing image with playing seahorses which suits the playful environment. Alongside turnable panels, several other panels can be slid open or closed to respectively reveal play material or to hide it. Additionally, different elements are created that offer more flexibility in the room. There is a moveable whiteboard that can serve as a partition or a playful element. There are different seats (e.g. high table, low table, bench) to allow different settings of conversations between the psychologist and the child.

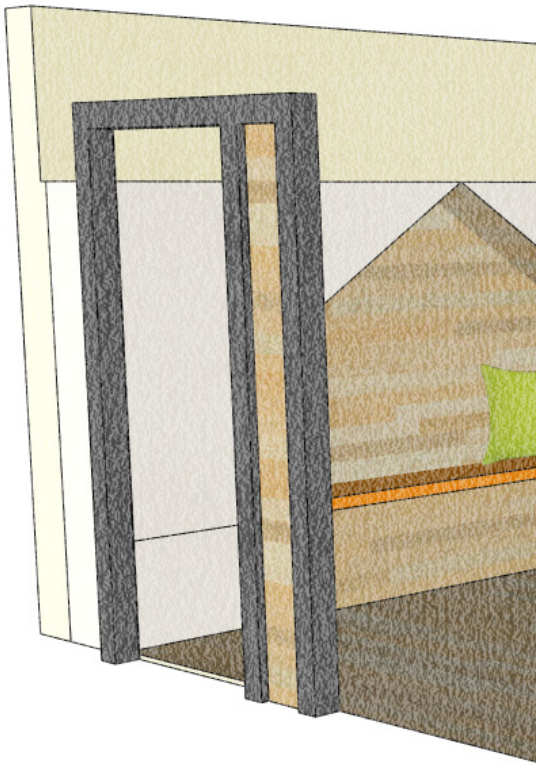
The child will feel at ease in both environments due to the homely atmosphere and appealing use of colour. It looks different than a doctor's room which is important for children with medical anxiety. For the more shy children, a place is created where they can withdraw. In the playful setting the child will feel at ease by seeing the seahorses that have become familiar during the journey. Besides, seeing play material will make the child feel relaxed.

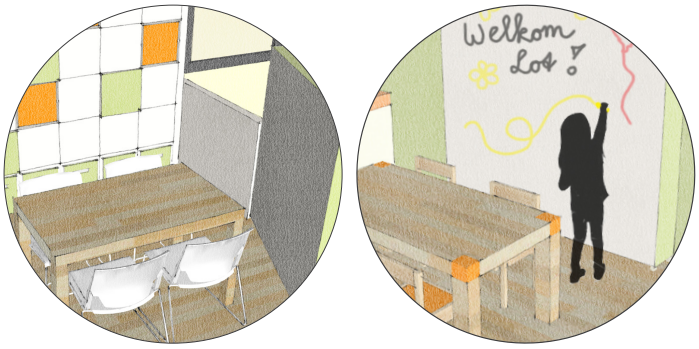
These different elements of the room
are highlighted in the visualisation on this page.

Recommendations concerning colour, light and sound are provided in chapter 7.2, page 90 to 92.



Change the atmosphere in the room by transforming the closet

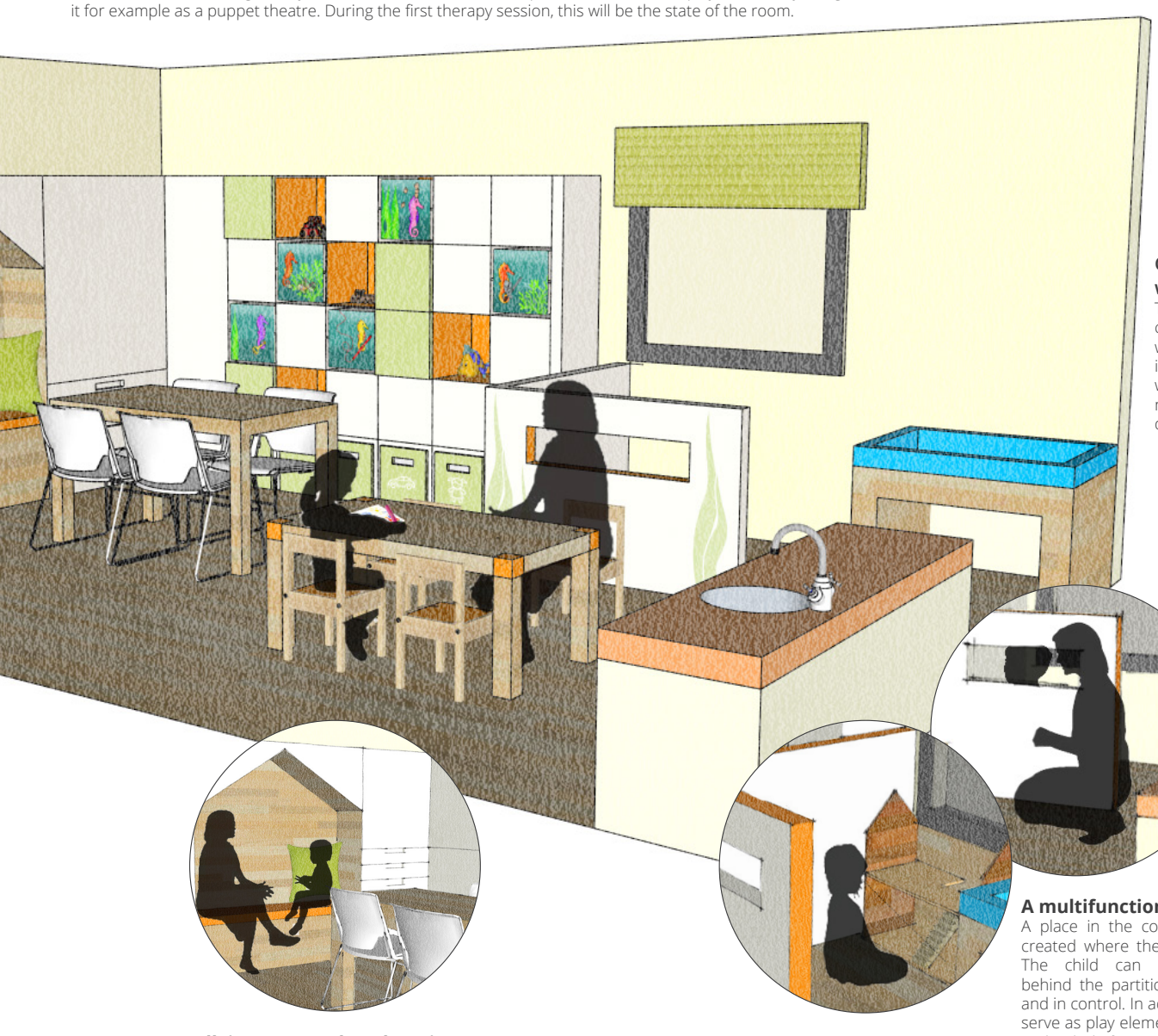




A multifunctional moveable whiteboard
The whiteboard can be used to create a more sheltered space in the open space. This is wished during EMDR sessions and psychological tests. The whiteboard can be used during therapeutic play sessions as play element. Children can make drawings or play with magnets. The psychologists can write a welcome message or make a drawing to make the child feel welcome and at ease.

Setting 1:
An environment where the child can concentrate
In order to allow the child to concentrate on a certain task, the closet has a neutral appearance. The colourful panels in the closet give the room a friendly appearance. Free standing play elements can be placed behind a small partition in the corner of the room.

Setting 2:
An environment where the child is invited to play
To create a setting that encourages the child to play, panels of the closet can be turned and opened to reveal appealing images and play material. The transformation of the closet can be done by the psychologist before a session to make the child feel at ease when he/she enters the room. The transformation of the closet can also serve as ice breaking activity at the start of the session. The partition can serve as play element by using it for example as a puppet theatre. During the first therapy session, this will be the state of the room.

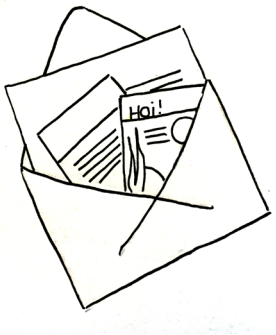


Covered one-way mirror
The one-way mirror can be covered when no observation is performed. In this way the mirror does not unnecessary distract the child.

Talk in a more relaxed setting
The psychologist and child can talk in a more relaxed setting on a sheltered bench.

A multifunctional partition
A place in the corner of the room is created where the child can withdraw. The child can hide himself/herself behind the partition to feel more safe and in control. In addition, this place can serve as play element (e.g. to play store) and to hide free standing play elements. In this way, they will not distract the child during activities where he/she needs to concentrate. Hiding the seahorse for the starting activity behind the partition is seen as a suitable hiding place.

8.2 THE STORYLINE



1 The family receives a letter from the hospital

The family receives an envelope at home. It is addressed to the parents and therefore one of the parents opens the envelope. It containts three documents: (1) a letter with the appointment details, (2) a flyer aimed to the parents with information about the department and (3) a flyer aimed to the child. The parent reads all the documents carefully.

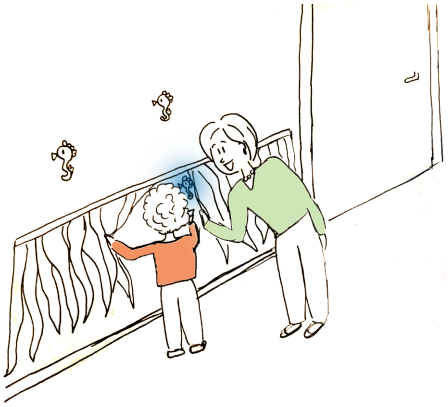
2 The parent prepares the child

The parent shows the flyer to the child at a suitable moment. They are going to sit together and the parent reads the text on the flyer and together they look at the pictures of the psychologist, the department and the playroom. Questions presented in the text can lead to a small conversation between the child and the parent. The child is made a bit curious by the introduction of the seahorse search and the hidden element on the letter.

When the child is around 7 years old, he is able to read the flyer or parts of the flyer by himself (Chapter 6.3). This changes the interaction. The child will read the flyer himself, but the questions in the text can still trigger a conversation with the parent. The child will ask the parent some questions about things he does not understand.

3 Time to leave for the appointment!

It is time to leave to be on time for the appointment. The parent takes the letter and the flyer with her and they are ready to go!



7 The child (and parent) search(es) for the seahorses in the waiting room.

The child and parent start with their search in the waiting room. The parent reads out loud the introduction that is placed on the wall. They read that they have to find the seahorses that have stolen play material out of the playroom. They move the seaweed and shine with the flashlight in order to find the seahorses.

8 The psychologist invites the child in the playroom

When it is time for the appointment, the psychologist comes to get the child and parent. The child recognizes her from the photo on the flyer and therefore immediately knows this is his/her psychologist. The psychologist introduces herself. The psychologist asks if the child has seen what the seahorses have stolen from the room. The child names several objects. After that, the psychologist points out the seahorses that are sneaking into the room to steal more play material and asks the child if he wants to help her to find the seahorse hidden in the room.

4 The parent and child enter the hospital and search the way to the department by following the seahorses.

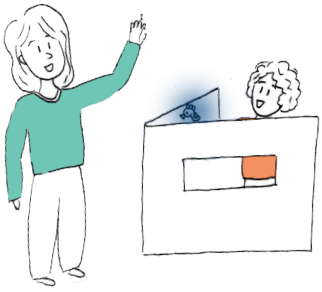
The parent and child enter the hospital. The flyer reminds the child that they have to follow the seahorses. He searches for the seahorses which leads him and the parent towards the department.

5 The parent and child register at the reception and receive the magic UV light.

When entering the department, the child and parent walk towards the reception where they register themselves. The receptionist tells them they can wait in the waiting room until it is time for the appointment. She also informs them about the hidden seahorses in the waiting room and gives the child a special tool, a UV flashlight, to find these hidden seahorses. Finally, she suggests to find out what is hidden on the flyer.

6 The parent and child reveal the hidden element on the letter.

The parent takes the flyer out of her bag and together they look at what is hidden on the flyer. The child and parent are surprised and their curiosity is triggered on what they will find in the waiting room.

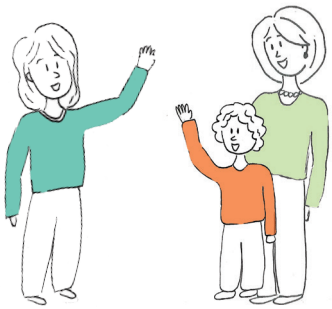


9 The psycholgist and child search together for the seahorse as ice breaking activity

The psychologist and child enter the playroom where they search together for the seahorse. When exploring the room, the child sees that the environment is different from the other rooms he has seen in the hospital. The colours, play material, children's furniture and pictures of seahorses make him feel at ease. When the seahorse is found, the psychologist thanks the child for his help and they start with the therapy session.

10 The child has his first therapy session with the psychologist

The psychologist starts with the therapy session. The child feels confident and relaxed to talk about difficult matters to the psychologist and to play together.



11 The child leaves with a positive feeling

The session is ended with a nice activity to ensure the child leaves with a positive feeling.

8.3 THE IMPLEMENTATION

This section discusses how the different elements of the journey could be realised. Next steps for realising the newly designed environment are provided in the recommendations, page 130.

Visual style

During the project, Tinker Imagineers developed a new visual style for the WKZ. However, this style was not yet finalised when the final design was created and is therefore not applied to the design. A first impression of the natural environment that Tinker created and the visual style of the animals can be seen in figure 8.8. To fit within the new visual style of the hospital, the designs created during this project should be translated into Tinker's style. When doing this, it is important that the core of the designs will be maintained. In addition, one coherent style should be carried through in the design of all the elements in the journey in order to make the whole journey gradual.

One coherent visual style was created for all the elements in the patient journey. This style was considered suitable for the hospital context and appealing to children in the age range 4 to 8 years.

1. Special flyer for the child

The flyer is designed as A5 format and can be printed at the same paper as the current flyer for parents (matte paper, 160 grams) in order to create unity. The photos of the psychologists are printed on round stickers with a diameter of 40 mm. The receptionist puts the sticker of the concerning psychologist on the flyer. There is also space for two stickers when two psychologists will support the child (appendix 15). With a stamp that is specially made for the department and a stamp-pad with invisible ink, the receptionists can place an invisible stamp on the flyer. The flyer for the child should be send together with the flyer for the parents and the letter.

It is adviced to send the flyer to children between 4 and 8 years old that will visit the department for the first time for an intake session and to children that have not visited the department in a long time and will come for a therapeutic play session or EMDR therapy.

2. Seahorse search in the waiting room

Positioning

It was intended to place the element directly next to playroom 1 and prolong the scene over the door of the playroom. However, it became clear that the department has plans to separate the waiting room in two parts in order to create an area for young children and an area for teenagers. The area for the younger children will be situated at the end of the hallway. Therefore, the employees of the department wish that the play element will be placed here. In addition, the initial suggested place was considered too close to the secretariat. Here, confidential information is shared about patients and therefore they do not want children and parents too close. The place that was considered most suitable is highlighted in orange in figure 8.9. Beneficial about this place is that it allows to place a bench facing the play element. In this way children can easily interact with their parents while playing.

Figure 8 8. A first impression of the style Tinker Imagineers created for the WKZ

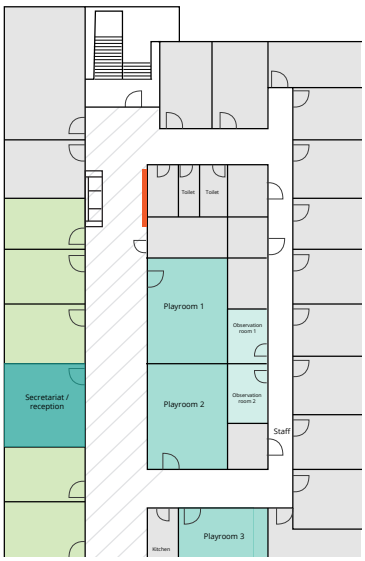


Figure 8.9 Positioning of the play element in the waiting room

In addition, by placing the play element a bit further from the playroom, sound pollution in the playroom is reduced.

Dimensions

The wall where the play element will be placed is around 4 meters wide. This entire wall can be transformed into a underwater world where the play element will be placed. Figure 8.10 shows the suggested dimensions for the play element. The length of the element (2,20 meters) is chosen in a way that children are required to move to find the hidden seahorses in order to keep it explorative. However, it is not overwhelming to not frustrate the child. Next to the play element some space is left to place the instructions and small assignments.

The height of the element (1,40 meters) is at eye level for children between 4 and 8 years old. By pointing the flashlight up and down the seahorses can be found by children of different heights and children in a wheelchair.

The seaweed leaves differ in length to give the whole scene a playful appearance. The longest seaweed string is 1 meter. The dimensions of the seaweed strings can also be seen in figure 8.10.

Materials

It is suggested to make the seaweed of soft and transparent PVC with a mat look (thickness 0,5 mm). Figure 8.11 shows how the seaweed leaves will look with this material. The material allows children to easily move the leaves to search for the seahorses and cannot harm them during playing. The strokes can be cleaned with a damp cloth or in the washing machine.

Figure 8.11 Transparent PVC is the advised material to make the seaweed

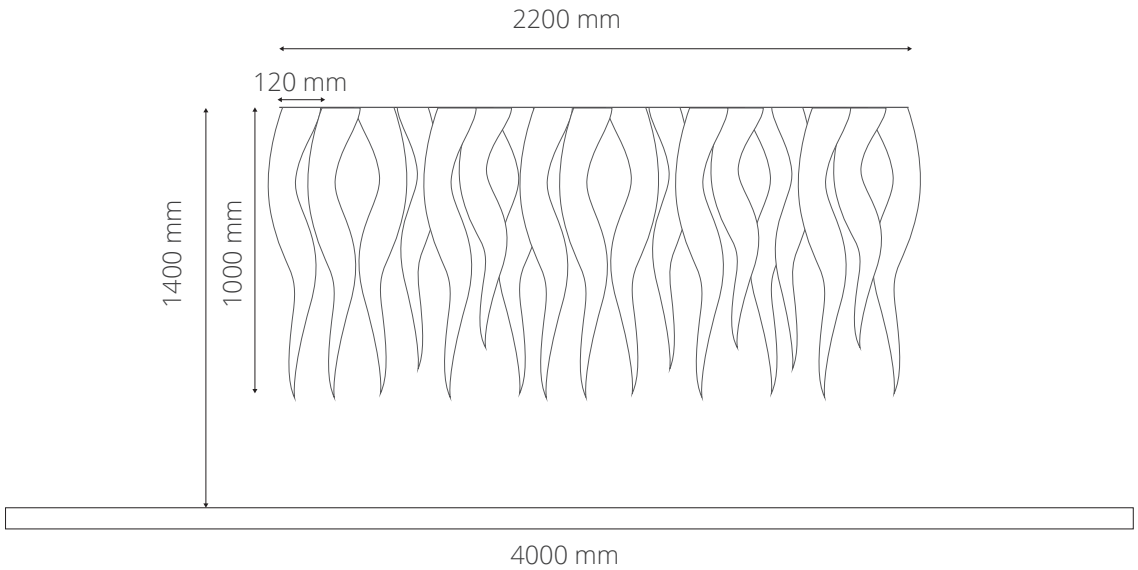


Figure 8.10 Dimensions of the play element on the wall

Fabrication

The seaweed strings will be cut out and connected to each other. The entire stroke with seaweed is pressed between two metal plates (figure 8.12). It is important to keep the element on the wall as thin as possible in order to avoid that children can hurt themselves when falling. In addition, the corners of the plates should be rounded. The plates are attached to each other with screws. Once in a while, the front plate can be unscrewed in order to remove the strings for a more thorough cleaning. They can be machine washed for example. This way of cleaning is preferred according to the JCI rules (appendix 7).

Invisible seahorses

The ´invisible´ seahorses can be created on the wall with invisible paint that lights up under UV light (figure 8.13).

It is advised to place thirteen ´invisible´ seahorses behind the seaweed in order to allow the children to explore a variety of seahorses. The seahorses should be equally distributed over the surface in order to encourage movement. Several of the seahorses play together and should therefore be placed near to each other. In addition, some seahorses are playing with the scene that is presented on the wall in order to make it more interesting. The advised dimensions of the seahorses is shown in figure 8.14. How the seahorses could be spread over the wall is shown in figure 8.15.

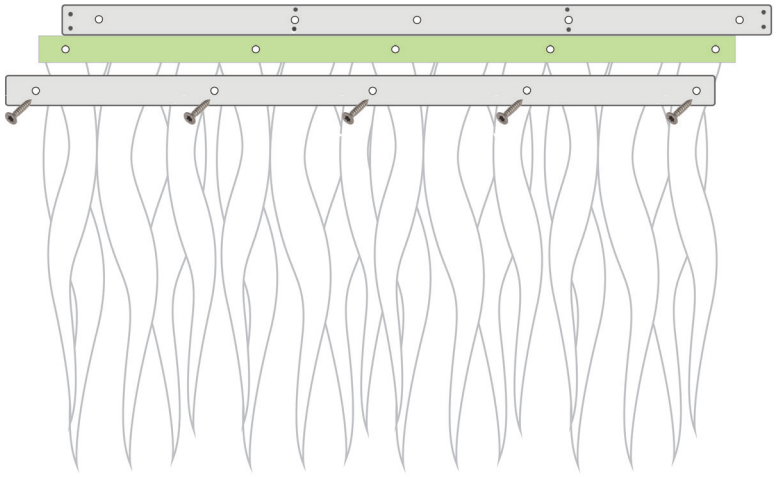


Figure 8.12 The construction of the wall element in the waiting room

Figure 8.13 The invisible seahorses can be painted with invisible paint that lights up under UV light

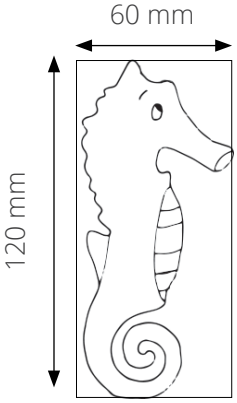


Figure 8.14 Dimensions seahorse

Figure 8.15. Proposed distribution of the seehorses over the wall

Flashlight
It is important there are enough flashlights available for all the children. It is advised to have at least fifteen flashlights at the department. The flashlights can be collected in the room after the start of the session in a box. This can be done for playroom 1 and 2. During the break and end the end of the day the receptionists can collect the flashlights in the two rooms and bring them back to the reception.

The light will not harm the child when shining directly into the eyes, only when the eyes of the child will be exposed to the light for a long periods of time on a frequent basis, which is not the case. However, it is not advised to look directly into the light (Glowspecialist, n.d.) Before implementing the system it is advised to contact a professional to make sure the light cannot harm the child (see 'Recommendations').

It is possible to start with flashlights that are on the market now. However, these are not specifically designed for children. It is advised to think about a more child friendly design of the flashlight with clearer use-cues and reduced intensity of the light (see Recommendations).

Introduction and questions
The texts for the introduction and the questions on the wall can be cut out of vinyl.

3. Transition to the playroom
Stickers of seahorses that are sneaking into the room will only be placed on the doors of playroom 1 and 2 because these rooms are used to support children between 2 and 10 years old.

4. Search element in the playroom
In order to fulfil the desire of the department to make the search element in the room moveable, the seahorse can be placed on a magnetic surface. At several places in the room small metal surfaces can be placed (figure 8.16).

Figure 8.16 The search element in the room will be magnetic so it can be hidden at different places.

8.4 EVALUATION OF TACTFUL EXPRESSIVE QUALITIES

The design of Gentle First Contact has been developed following the guidelines for tactfulness (Chapter 6.2). In this section it will be evaluated how each aspect of the final design is aimed at embedding tactful expressive qualities.

Impact

Tactful designs empower people by helping them change their behaviour in a positive way over time.

During the new patient journey, the child develops a more positive attitude towards the appointment. The child will be empowered at different moments of the patient journey by providing the child what he/she needs at that specific moment. In addition, the child is provided with a feeling of control. The child will feel confident and relaxed at the start of the therapy session.

Several designs are created that empower children and their family at different moments of the patient journey. The flyer supports the child and the parents in their preparation for the appointment. It informs the child carefully and slightly triggers his/her curiosity. In this way the child can create a positive attitude towards the appointment. Seeing the child has a positive attitude towards the first appointment will also make the family feel at ease. When entering the hospital, the child is able to find himself the way which gives him/her a feeling of confidence. In the waiting room, the child is challenged to find all the hidden seahorses with help of a special tool. This tool provides the child with a feeling of control and confidence. When it is time for the appointment, a playful transition towards the playroom is created. The psychologist asks the help of the child to find the seahorse that sneaked into the room. Since only the child can reveal this seahorse with the tool, the child is again empowered by providing him/her with a feeling responsibility and control. The friendly and welcoming environment shows the child that the room is different from a doctor's room which makes him/her feel at ease. All the elements together make the child feels confident and relaxed at the start of the therapy session. This supports the psychologist in performing the session in a more optimal way.

Object

Tactful designs create a friendly and trustworthy atmosphere.

A friendly and trustworthy atmosphere makes it more likely the child will be immersed in the new patient journey and it will feel as a natural flow to him/her. This will positively affect the family's experience of the journey. The designed elements support the friendly and trustworthy atmosphere.

From the first contact between the child and the department, a friendly and trustworthy atmosphere is established. The letter that is send to the child provides him/her with a clear idea what he/she can expect. The department shows a certain openness and transparency which creates a trustworthy atmosphere. In addition the letter will make the child feel welcome. The letter has a friendly appearance due to the seahorses that are pictured on the flyer, the picture of a smiling psychologist and a picture of the therapeutic environment with play material. The play element in the hallway has an inviting appearance that appeals the child. Furthermore, a playful twist is given to the transition towards the playroom. During the ice-breaking activity, the child is encouraged to explore the room. In this way the child becomes familiar with the environment and therefore trusts it. The room itself strengthens this feeling. The friendly appearance of the room (colours, play material, pictures of seahorses) provides the child with the confidence that this room is different from the treatment rooms in other parts of the hospital and makes him/her feel at ease.

Use

Tactful designs foster collaboration in a simple and enjoyable way.

The seahorse is used as connecting element throughout the patient journey. The seahorse collaborates with the child by supporting, guiding and distracting the child at moments when this is needed. It motivates the child to actively interact with the designs in an easy and enjoyable way. The child knows what to do without almost no explanation.

The letter is created in a way that it is understandable for the child with understandable language and supporting visuals. The introduction of the seahorse search at the department and hidden element on the letter trigger curiosity and make the interaction with the letter enjoyable. The seahorses guide the child in the search for the department. The child can easyily find these seahorses. The play element in the waiting room can be understood by the child with almost no explanation. The technologies that are used to hide and reveal the seahorses (invisible ink and UV light) are simple but enjoyable.

Searching and finding the seahorses and seeing their funny actions provides the child and also parents a positive interaction. The transition to the playroom and search for the seahorse are in line with the game in the waiting room and therefore easy to understand for the child. Where the transition to the playroom was first a big step, this step is now more gradual due to the playful interaction.

Embedding

Tactful designs embedded in their context include all people involved in the context and become part of the everyday life.

During each step of the patient journey, different people are involved next to the child. By involving all the people involved in the context, the usage of the designs will fit the flow of the journey and the children will be more tended to use the designs.

At home, on the way to the department and in the waiting room, the child is accompanied by the parent. The parent will discuss the letter that is send home together with the child. In this way a moment of conversation between the parent and the child is facilitated. When the child registers at the reception, he/she will receive a magic light and is introduced to the hidden seahorses. Hereby the child will experience a positive first contact at the department with the receptionist. The design in the waiting room invites parents and children to work together since two tasks need to be performed at the same time: moving the seaweed and pointing the flashlight. In addition, the funny actions of the seahorses and small assignments can evoke the conversation between parents and child or between several children. When it is time for the appointment the psychologist starts to become involved in the journey. The new transition towards the playroom and the ice breaking activity create a playful interaction between the child and psychologist.

The therapy is an experience that becomes part of the everyday life of families. It is important that the families are supported in their preparation for a therapy session in order to cope with it in a positive way. The new elements are designed along the patient journey to make them fit within the routine of the appointment the family needs to go through. In addition, the elements are designed to fit in the environment they are used in and the specific situation.

8.5 RECOMMENDATIONS

Additional evaluation of the patient journey
The designed elements of the patient journey only had limited testing and were tested separately from each other. In order to draw more profound conclusions, the elements should be tested more extensively as a whole journey. The journey should be tested with children that visit the department for the first time in the whole age range (4 to 8), with different genders and different conditions including children of the PTC. Furthermore, the transition to the playroom and ice breaking activity should be evaluated with several psychologists. It should be evaluated if the new designs have the desired effect but also if they fit with the psychologists' workflow.

More child friendly flashlight
The current UV flashlights available on the market are not designed towards children in usage and appearance. A flashlight design that can be operated more intuitive and looks more child friendly is advised.

Additional aspects that will improve the patient journey
An element that is considered a valuable addition to the new design of the patient journey, is a more accessible reception for children (Chapter 5.1). The current reception is too high and therefore does not allow young children to register themselves or to ask questions. The reception could be lowered or stairs could be created in front of the reception as seen in the Princess Maxima Centre (figure 8.17).

Furthermore, the guidance towards the department by seahorses should be further detailed and positioned carefully to avoid stress caused by searching. This will be developed by Tinker Imagineers.

Further improvement of the waiting room
Currently the department is planning to divide the waiting room in two areas: an area for young children and an area for teenagers. The design that is created during this project is suitable to create a more appealing area for younger children. Further research has to be done on how to create an appealing area for teenagers.

In order to improve the overall waiting room, several points of improvement were indicated during the research. Psychologists indicate that a space should be created in the waiting room where parents and children have more privacy to fill out forms. Furthermore, the psychologists indicate they would like to see more modern furniture and more colour to give the hall a fresh appearance.

Possible implementation of the patient journey at other departments
During the project, Tinker Imagineers showed interest to use the patient journey to create a similar journey for other departments. I think it can be valuable for more departments in the WKZ to create a more gradual journey. However, it should be taken into account that this patient journey is specially created for the Medical Psychology and Social Work department. It should be researched if the journey could be applied to other departments or that adjustments need to be made to make it fitting with that specific department.

Next steps to develop the playroom
For this project a master plan was developed for a new design for the playroom. In order to realize this plan, several steps need to be taken. In order to translate the plan into a concrete design, the exact dimensions of the elements in the room need to be determined. The layout of the closet needs to be determined in a way that a convenient storage place is created for all the play materials. Concerning the lightening of the room, it is advised to consult an expert. Finally, an estimation of the costs can be made in order to raise money for the room with help of the 'Vrienden of the WKZ'. '

Certain elements in the playroom should visually match with the elements in the flyer and the waiting room. In order to create a gradual journey, it is important there is one coherent style. Since Tinker Imagineers is currently developing the new visual style for the WKZ, it is advised to wait till this is finished and include this style in elements in the room.

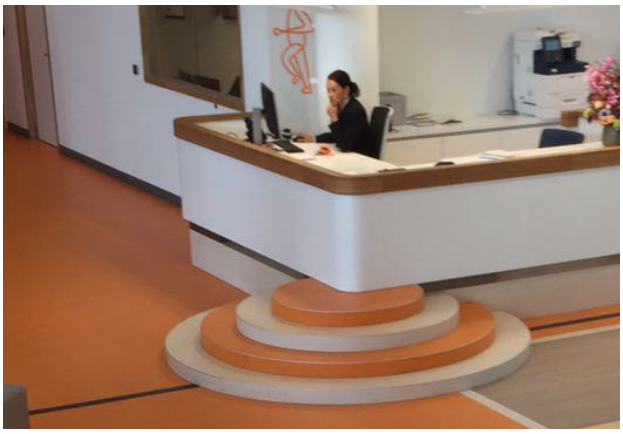


Figure 8.17 The child friendly reception in the Princess Maxima Centre

8.6 CONCLUSION & DISCUSSION

Conclusion

The initial design goal states: Design a master plan for a new therapeutic environment that supports psychologists in performing therapy sessions and enhances the experience of children at the same time. Therefore the project started with obtaining a better understanding of the playroom, its users and how they experience the current environment. The main problem identified for the current environment is that it does not support the psychologists in the different sessions they perform. An environment is desired which can easily be switched from an atmosphere where the child is able to concentrate to an atmosphere that invites the child to play. In addition, the importance of the child feeling at ease at the start of a session became apparent. It was discovered that the journey, the child makes before he/she enters the playroom is of significant influence on this. Children who visit the department for the first time are nervous and do not feel at ease the moment they enter the playroom. Two design directions were identified. One focusing on improving the therapeutic environment and the other on improving the journey towards this environment. This resulted into one final design 'Gentle First Contact' which consists of a tactfully designed patient journey and therapeutic environment.

The master plan for a new therapeutic environment consists of a proposed design for the room and recommendations concerning colour, lightening and sound. A flexible environment is proposed which can easily be switched from an atmosphere where the child is able to concentrate to an environment where the child is invited to play. Evaluation points out that the proposed design meets the needs and wishes of the psychologists and the envisioned interaction qualities. Therefore, I can state that the design for the new room will support the psychologist in performing their wide range of activites and will create a more positive experience for all stakeholders.

In addition, a patient journey was designed to make children feel at ease at the start of their first therapy session. Several elements are designed to support the child at different moments in the patient journey: a flyer with information about the appointment, a new waiting room experience, a playful transition to the playroom and an ice breaking activity as start of the therapy session. The elements are designed in line with the new vision for WKZ in which every department is related to an animal. The animal assigned to the Medical Psychology and Social Work department is the seahorse and therefore this animal is used as connecting theme to create a gradual journey. The seahorse supports, guides and distracts the child when needed. In addition, evaluation of the design points out that it is in line with the principles that were defined to make the child feel at ease and the guidelines to create tactful designs. Furthermore, an evaluation in the context with the different stakeholders provided indications that the designed elements can make the child feel more at ease when visiting the department for the first time, although it was not possible to evaluate the complete journey with the different stakeholders. Since the patient journey is created on the basis of thorough research in the context and developed and evaluated in collaboration with the department, I can state that the new design can contribute to making children more at ease before the start of a session and can support the psychologist in making the transition to the room and the start of the session easier.

Discussion

Although the master plan for a new therapeutic environment and the new design for the patient journey were evaluated positively and received with enthusiasm by the employees of the department, some points of improvement concerning the process can be pointed out.

First of all, the elements designed to support the child during the patient journey were evaluated separately from each other and were limited tested. Although indications were found that the elements can add to the extent the child feels at ease, more extensive research is needed to evaluate the effect of the entire journey and the effect of every individual element in this. Evaluations should be conducted with children of all ages between 4 and 8 years with different genders and different conditions. In addition, it should be tested how the psychologists experience the new transition to the playroom and ice breaking activity. In this way the designs can be optimised.

Secondly, the patient journey was analysed till the moment the child is going home and when he/she returns to the department for next appointments. However, the scope of the journey could have been

broader. When also considering what happens after an appointment and how the visit to the department is established in a sequence of hospital visits, an even more complete patient journey design could have been created.

Lastly, difficulties were experienced with involving children in the project. Therefore, the insights about the experiences of the children were obtained with help of the parents and psychologists. However, as it is second-hand information, these people already have made their own interpretation of how they think the child experiences the situation. It might have provided more interesting insights if it had been possible to interview more children and also to involve them more intensively in the rest of the project.

REFLECTION

This project marks the end of my time as a student. The valuable lessons I learned during the years of my study and during this graduation project, I can now bring in practice in my career as a designer. In this chapter I will reflect on what I learned during this final project.

The project took place within the hospital context. This context required a flexible attitude of me as a designer during the field research and final evaluation. Not all children were suitable to conduct research activities with due to their sensitive case. In addition, it was sometimes difficult to perform the research activities due to the tight schedule of the hospital. This was something I was not really used to. I always like to be well prepared before conducting a research activity, this was also the case during this project. However, when performing the research, it always turned out different than I expected. I often was not able to conduct the research the way I intended and needed to adjust the research on the spot. From this experience I learned to quickly change the approach on the spot.

Furthermore, I often needed to approach parents and children in the waiting room to ask questions or to test the prototype. I found this difficult because I never exactly had an idea who I was approaching which resulted in sometimes unexpected intense conversations. Besides, when I approached people before an appointment, they were often quite nervous and I felt guilty to bother them with my research. When reflecting on this, it would have been better if the receptionists already informed the parents and children beforehand.

Although it was not always easy to conduct the project within the hospital context, I think the contact with the employees of the department was always really positive. They were always willing to help to arrange the research activities and think along with the project. I felt really supported by them during my graduation project.

Another stakeholder that became involved half way the project was Tinker Imagineers. Since their vision will be carried out through the entire hospital, it was important to design something that would fit with this vision in order to create a feasible concept for the department. I think for me as well as for Tinker it was interesting to hear each other's insights and opinion about ideas. I think it was an honour for me as a designer that they want to use part of my research to enhance the experience of other children visiting the hospital.

Although I think the collaboration has enriched the project, I also experienced some difficulties with incorporating their vision without compromising on my own vision. Although it was not easy, I learned to be confident about my own results and to set boundaries what to include and what not to include. Although their input changed over time, I saw that the main principles of my first concepts were strong and could be translated into new designs.

An important thing I learned is that I am a real team player. I learned that I like to discuss the approach of a project and the important decisions that need to be made. Because graduation is an individual project, I sometimes missed a sparring partner for this.

Overall I enjoyed the project a lot. I really appreciate the chance to design for these kind of situations. The situations where you can really make a difference for people. In my further career I hope to proceed with doing these kind of meaningful projects where I can both use my research and design skills to really make a difference for people.

WORD OF THANKS

I want to conclude this report with thanking the people that helped me during my graduation project.

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Thank you Tessa Lavrijsen from Tinker Imagineers for showing interest in this project and thinking along in order to combine our design visions. I think it was inspiring to work with someone who has great considerable experience with creating experiences.

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